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# **MIMIC COMPONENTS**

We believe in bringing the electrical and electronics industry leading edge products that will perform and last, Everything Mimic Components does challenges the industry status quo.

We believe in pushing the boundaries and making products that are future proof.

Mimic Components has a passion for the electrical and the electronics sector

With decades of experience we have developed great skills in design, development and production of PC boards, automation solutions, control panels, control desks and data logging.

We pride ourselves in the products we offer to our customers. Great care is taken to find the right products at the right prices.

Our products are put through rigorous testing before being offered to market, We make sure to offer clients varying levels of products from economy versions all the way to high end products.

Mimic Components products are everywhere, almost any product out there has been close to , monitored by or manufactured by a product of Mimic Components.

We have airport lighting solutions, food monitoring, logistics logging and monitoring, temperature control and monitoring , Power distribution control and monitoring to name a few.

Now you have a brief outline of what we do and are capable of talk to us about how we can help you.

**WWW.MIMIC.CO.ZA**



# CABLE MANAGEMENT



## INDICATORS



This guide is aimed at assisting the user and specifier to obtain the best possible indicator lamp for their application. This guide covers LED Indicators and Pilot Lights only. Mimic Components also offer a full range of NEON Pilot Lights for lower cost, less demanding applications. Neons offer a big price advantage in the higher voltages, but are very dim, are not available in green, suffer from residual glow and do not last as long as LEDs. They are ideal for domestic applications and simple "power on" indications on power supplies etc...

Mimic Components pioneered the use of LED Pilot Lights in South Africa, and with 15 years experience in indicating devices, is well qualified to comment on the practical applications of pilot lights.

This guide is biased toward practical applications: Pilot Lights are arranged in order of cutout size. Some lamps are made especially for  $\phi 30\text{mm}$  but we also offer an adaptor which converts  $\phi 22\text{mm}$  lamps to  $\phi 30\text{mm}$  (YADP30 on pg 1.4).

IT IS MOST IMPORTANT TO BEAR IN MIND THE OPERATING VOLTAGE, AS THIS PREDETERMINES THE VARIETY AND TYPE OF PILOT LIGHT TO BE USED. In the lower range (24V) all of our lights are suitable. In the higher range (220V) only selected lights are suitable, due to the large resistors or voltage converters required for LEDs which operate at approx. 2V per chip. We also offer AC/DC (universal AC or DC on the same device) and only DC, so care must be taken in fully specifying the available voltage and current.

It is a common misconception that Cluster LEDs need to be paralleled to obtain greater reliability. This is not necessarily so; LEDs in series offer the advantage of reduced power consumption and, in the very remote chance of failure, they usually fall into short circuit and thus the others continue to operate.

It is now well accepted that LEDs offer the best illumination / lifetime compromise. They may not be as bright as filaments, but have been found to be very adequate and have a proven reliability 50 times greater than that of filament lamps.

LEDs also have a MTBF (Mean Time Between Failure) of approx. 15 years compared with a typical filament bulb MTBF of one month. LEDs consume less power, generate negligible heat, are immune to vibration and can often withstand severe over voltage.

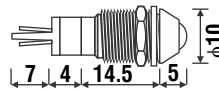
Also included is Mimic Crafts Alarm Indicators which are efficient and aesthetically pleasing on operator information panels. These can be made up in configurations to suit almost any requirement. They are the modern way to display important PLC or other information. In many cases they are far superior to pilot lights and labels as the label is an intrinsic part of the indicator.

### LED INDICATORS

#### KRE105

Chrome plated LED indicators with built in resistor and Solder connections.

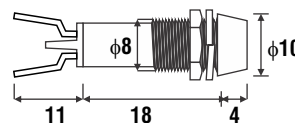
Cutout:  $\phi 8\text{mm}$   
24V DC  
Colours: Red, Green or Yellow



#### ADLED8

Chrome plated LED indicator with built in resistor and solder connections.

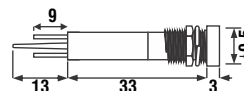
Cutout:  $\phi 8\text{mm}$   
12V, 24V, 48V DC  
Colours: Red, Green, Yellow also available in Blue or White



#### LD1950

Chrome plated LED indicators with built in resistors and 2.8mm fast-on industrial terminations

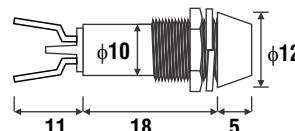
Cutout:  $\phi 8\text{mm}$   
130, 230V AC  
Colours: Red, Green or Yellow



#### ADLED10

Chrome plated LED indicator with built in resistor and solder connections.

Cutout:  $\phi 10\text{mm}$   
12V, 24V, 48V DC  
Colours: Red, Green, Yellow also available in Blue or White



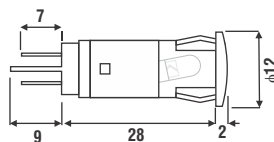
## SKGU....



S - Normally Stock  
L - Limited Stock  
O - Ex Order

Quick & economical snap in mounting.  
Transparent housing  
Super-bright LED's  
2.8mm fast-on industrial terminations

Cutout:  $\phi 10\text{mm}$   
24, 230V AC  
Colours: Red, Green or Yellow



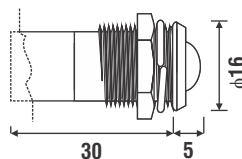
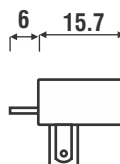
## LD14....

Chrome plated LED indicator using a high tech single 10mm LED with 2.8mm fast-on industrial terminations.

Cutout:  $\phi 14\text{mm}$   
Colours: Red, Green or Yellow

Plug in transformer:-

**AT4000-24D** (24VAC/DC)  
**AT6000-48B** (48-60VAC/DC)  
**AGT700-130B** (130VAC/DC)  
**AGT800-230B** (230VAC/DC)



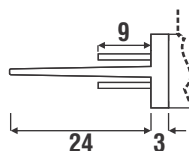
## LD1930

Chrome plated LED indicator using a high tech single 10mm LED with 2.8mm fast-on industrial terminations.

Cutout:  $\phi 14\text{mm}$   
Colours: Red, Green or Yellow

Plug in transformer:-

**AT4000-24D** (24VAC/DC)  
**AT6000-48B** (48-60VAC/DC)  
**AGT700-130B** (130VAC/DC)  
**AGT800-230B** (230VAC/DC)



## KP142F (Body)

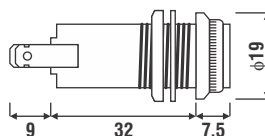
## LN142F2-W (White Lens)

Cutout:  $\phi 16\text{mm}$

12, 24, 48, 110 & 220VAC/DC  
30V DC

Colours: Milky White lens which changes colour when the led lights up.  
See Pg8 for E10 Led options

Japanese made lamp-holder which uses a  $\phi 10\text{mm}$  E10 multichip LED.  
This unit can be made IP65 & vandal proof by using lock-tight to secure the removable lens. The LED is then replaceable from the rear.



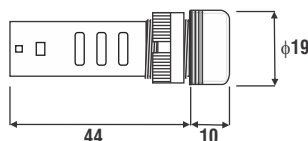
## ND16

Cutout:  $\phi 16\text{mm}$

Voltages: 12V, 24V, 32V, 48V, 110V & 220V

Colours: Red, Yellow, Orange, Green, Blue & White

These Pilot lights offer really excellent value, they use new technology LED's available in bright true colours.  
The lens has a diffuser which lights up well and gives even illumination which is very visible even from a 90° angle.





## LD16....



S - Normally Stock  
L - Limited Stock  
O - Ex Order

Cutout:  $\phi$ 16mm

Plug in transformer:-

**AT4000-24D** (24V AC/DC 14mA)

**AT6000-48B** (48V AC/DC 14mA)

**AGT700-130B** (130V AC/DC 6mA)

**AGT800-230B** (230V AC/DC 6mA)

Colours: Red, Green or Yellow

HIGH QUALITY  
EUROPEAN



The IP 65 MULTI-LOOK LED- element shows a high luminous intensity in connection with the reflector. Solid metal housing with exchangeable screw cap.

Already with interior sealing ring and reflector.

Connections:

\* Bare tab terminals 2.8 x 0.8mm

## D16PL....(Indicator Pushbutton)

DECA

- Size: 18mm, 18x18mm, 18x24mm
- Head Shape: Round, Square, Rectangular
- Various options of different switch type: Standard, Hinge edge
- Terminal: Soldering/Plug-in type
- Lighting: Incandescent 6V AC/DC 200mA, 14V AC/DC 80mA, 28V AC/DC 40mA, 48V AC/DC 25mA, 60V AC/DC 200mA, 33V AC/DC 35mA, 6V AC/DC 40mA
- 14V AC/DC 40mA
- Neon Lighting: 110, 220V AC
- LED Lighting: 6, 12, 24V DC
- Lens colours: Blue, Green, Orange, Red, White or Yellow
- Function: Alternate / Momentary
- Contact: 1NO+1NC



## KRE216 F



S - Normally Stock  
L - Limited Stock  
O - Ex Order

KimDen

Not recommended for new projects and designs

Cutout:  $\phi$ 16mm (Dome Lens)

Resistor block with M16 neck (panel portion). 2 superbright Leds give this pilot light excellent front & sideviews. The front lens/Led can be clipped out to change colour.



## KRE216 A



S - Normally Stock  
L - Limited Stock  
O - Ex Order

Not recommended for new projects and designs

Cutout:  $\phi$ 16mm (Flat Lens)

Colours: Red, Green, Yellow, Amber & White  
Voltage: 12, 24, 30, 48, 60, 110 & 220VAC/DC



## KRE222A



S - Normally Stock  
L - Limited Stock  
O - Ex Order

Dome Lens

Cutout:  $\phi$ 22mm

Voltages: 12, 24, 30, 48, 60, 110, 220V AC/DC



## KRE222F



S - Normally Stock  
L - Limited Stock  
O - Ex Order

Flat Lens

Cutout:  $\phi$ 22mm

Voltages: 12, 24, 30, 48, 60, 110, 220V AC/DC

Colours: Red, Green, Yellow, Amber or White

YADP30A/B Collar options available



Four super-bright LEDs give this top of the range pilot light excellent front & side views.  
The front lens/LED can be clipped out to change colour.

## KRE316



S - Normally Stock  
L - Limited Stock  
O - Ex Order

HIGH QUALITY  
JAPANESE

Model: KRE-316A (dome lens)  
KRE-316F (flat round lens)  
KRE-316Q (square lens)  
KRE-316H (rectangle lens)

Cutout: Ø16.2mm

Lighting Method: Resistor type multi-chip LED

Rated Voltage: 12V AC/DC, 24V, 48V (±10%)

Rated Voltage: 110V AC/DC (90~121V AC/DC)

Rated Voltage: 125V AC/DC (±10%)

Rated Voltage: 220V AC/DC (180~242V AC/DC)

Rated Current: 4~6mA

Protection: Dome and Flat (IP65)

Square and Rectangle (IP40)

Lighting Colour: Milky White, red, green, orange, yellow  
and transparent

Weight: 15g

Lens Shape: Dome, round flat, square and rectangle

Bezel Colour: Black

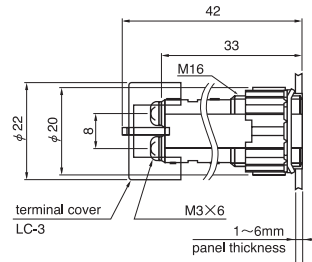
Lens: Polycarbonate resin(milky white, red, green, orange, yellow  
and transparent)

Greater brightness obtained by adding a lens with knurling

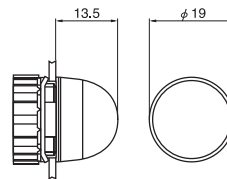
Wide angle of visibility, clearly seen from the side when lit

Terminal protection cover can be attached (optional)

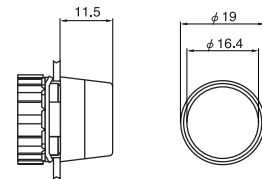
▼ KRE-316



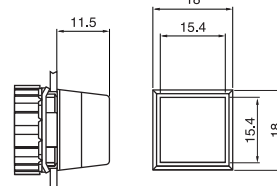
▼ KRE-316A



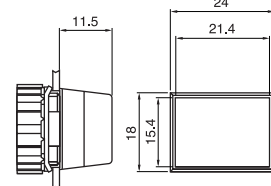
▼ KRE-316F



▼ KRE-316Q



▼ KRE-316H



## KRE322

Model: KRE-322A (dome lens)

KRE-322F (flat round lens)

KRE-322Q (square lens)

KRE-322H (rectangle lens)

Cutout: Ø22.3mm

Lighting Method: Resistor type multi-chip LED

Rated Voltage: 12V AC/DC, 24V, 48V (±10%)

Rated Voltage: 110V AC/DC (90~121V AC/DC)

Rated Voltage: 125V AC/DC (±10%)

Rated Voltage: 220V AC/DC (180~242V AC/DC)

Rated Current: 4~6mA

Protection: Dome and Flat (IP65)

Square and Rectangle (IP40)

Lighting Colour: Milky White, red, green, orange, yellow  
and transparent

Weight: 22g

Lens Shape: Dome, round flat, square and rectangle

Bezel Colour: Black

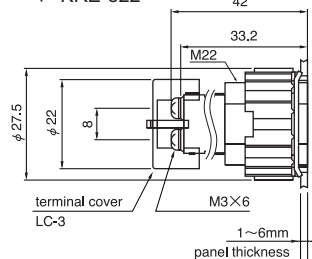
Lens: Polycarbonate resin(milky white, red, green, orange, yellow  
and transparent)

Greater brightness obtained by adding a lens with knurling

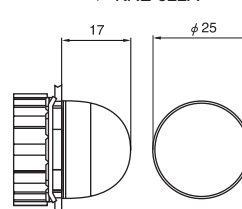
Wide angle of visibility, clearly seen from the side when lit

Terminal protection cover can be attached (optional)

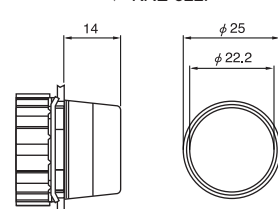
▼ KRE-322



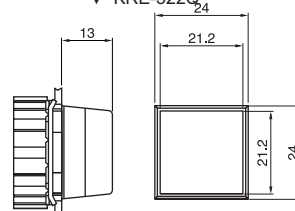
▼ KRE-322A



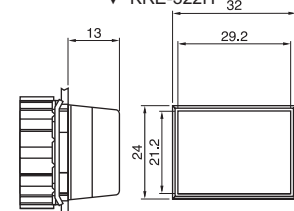
▼ KRE-322F



▼ KRE-322Q



▼ KRE-322H



## MAC22



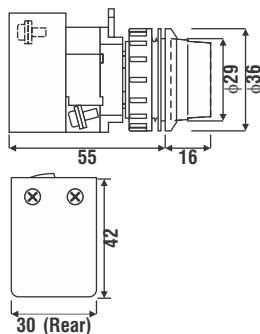
S - Normally Stock  
L - Limited Stock  
O - Ex Order

**ADDA**

Cutout:  $\phi 22\text{mm}$   
Voltages: 110, 220, 380,  
500V-600V AC Only

Colours: Red, Green, Yellow, Orange, Blue, Clear or Milky White.  
(Green LED with a Blue lens) (Yellow LED with a Clear or White lens).

With multichip "Based" led lamp. A locally developed AC ONLY unit that generates less heat. It is totally enclosed in a light green & uses an 8 chip "multichip" BA9S bayonet LED element.



YADP30A Collar



YADP30B Collar

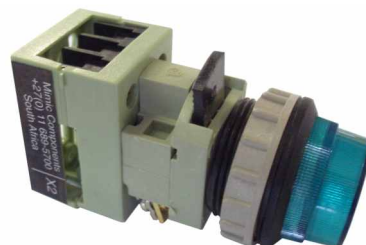
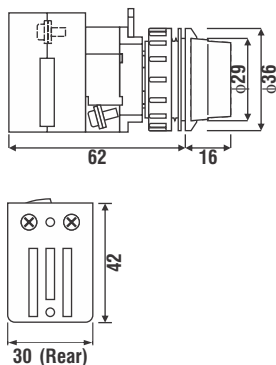
## MRE22

Overvoltage protection

Cutout:  $\phi 22\text{mm}$   
Voltages: 110, 220V AC/DC

Colours: Red, Green, Yellow, Orange, Blue, Clear or Milky White.  
(Green LED with a Blue lens) (Yellow LED with a Clear or White lens).

MRE22 with multi chip "Based" led lamp. These medium cost units are proving an ideal replacement for filament lamps due to its 15 YEAR expected life. The operating voltage supplied to the LED is limited to 24V, thus protecting the LED element against "over-voltage" conditions. (This is also an important safety consideration as the voltage on any accessible part is limited to 24V DC).



YADP30B Collar

## SRE22

As per MRE22 but with new super single chip "BA9S LED".



Standard No Collar

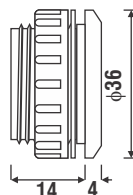
YADP30A chrome Cutout:  $\phi 30\text{mm}$ 

These  $\phi 30\text{mm}$  adaptor for all our  $\phi 22\text{mm}$  Indicators and Pushbuttons.

- (A) This is a chrome-plated collar which allows the MAC/MRE/KRE222 to fit into a  $\phi 30\text{mm}$  cutout.

YADP30B black Cutout:  $\phi 30\text{mm}$ 

- (B) This is a black collar which allows the KRE 222 F/A/ND22/DC/DT to fit into a  $\phi 30\text{mm}$  cutout.



ND22...



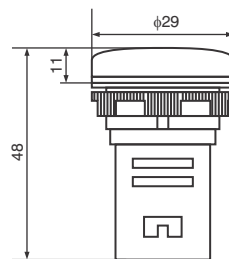
S - Normally Stock  
L - Limited Stock  
O - Ex Order

LED INDICATOR LIGHT

The ND22 series indicators adopt super bright LED technology with low energy consumption. The special locking nut structure allows this indicator to be used for either a  $\phi 22.5\text{mm}$  or a  $\phi 25.5\text{mm}$  panel cut-out. Degree of protection is IP65. (The LED is not replaceable).

- Two types of lens are available for all models.
- Low profile translucent fresnel type.
- High profile fully diffused smooth type.
- $\phi 30\text{mm}$  cut-out adaptor available - see YADP30.
- Colours: Red, Green, Yellow, Orange, Blue or White.

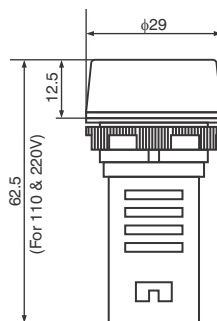
<b>ND22-BS</b>	AC/DC 6V (ex indent)
<b>ND22-BS</b>	AC/DC 12V
<b>ND22-BS</b>	AC/DC 24V
<b>ND22-BS</b>	AC/DC 32-36V
<b>ND22-BS</b>	AC/DC 48V
<b>ND22-B</b>	AC/DC 110V
<b>ND22-B</b>	AC/DC 220V
<b>ND22-B</b>	AC 380V (ex indent)



Low profile lens on Low profile base



Low profile lens on High profile base



High profile lens on High profile base



High profile lens on High profile base

A20P...

DECA

PILOT LIGHTS

A premium high quality range of  $\phi 22\text{mm}$  Pilot lights suitable for all applications. DECA is a world renowned supplier for multiple European first tier companies.

- Cutout  $\phi 22\text{mm}$
- Rated 250 V AC/DC
- Uses BA9 lamp inserts.
- Degree of Protection Ip20
- Ease of assembly
- Wider Light distribution
- Colours: Amber, Blue, Clear, Green, Red, Yellow

LOW PROFILE  
OPTICAL LAYERED

EXTENDED



DOME

LOW PROFILE  
MARKING TYPE

AD26B-22VM AC15-500V Voltmeter

VOLTAGE INDICATION PILOT LIGHT

- Cutout  $\phi 22\text{mm}$
- Operating diameter: 22mm
- Brightness:  $\geq 110\text{cd/m}^2$ , Three LED digits
- Emitting Colour: Red, Green, Yellow, White, Blue
- Measuring Range: AC15V - 500V
- Frequency: 50/60Hz
- Insulation resistance: Greater than 20mW
- Operational temperature:  $-20^\circ\text{C} \sim +55^\circ\text{C}$
- Operational humidity: 45% to 90%
- Pollution grade: 3
- Protection grade: Ip65
- Super pure colour chips
- 100% 48 hour high-low temperature life time testing before shipping
- Certificate: CCC, CE, ROHS, ISO9001

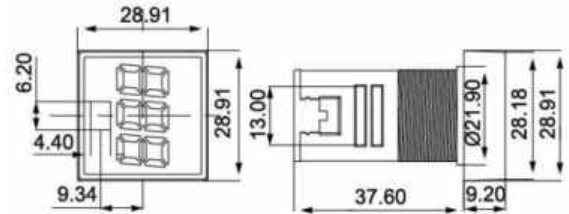




**AD26B-22DVMS DC5-60V Voltmeter**

S - Normally Stock  
L - Limited Stock  
O - Ex Order

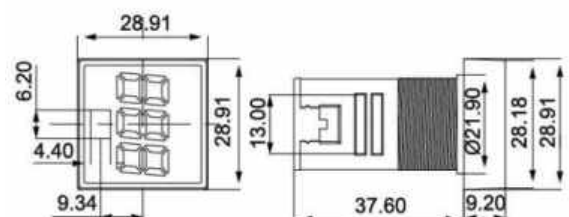
- Operating Diameter: 22mm
- Brightness:  $\geq 120\text{cd/m}^2$ , Super bright SMD chips
- Emitting Color: Red (R), green (G), yellow (Y), white (W), blue (B)
- Measuring Voltage range :DC5-60V
- Frequency: 50/60Hz
- Insulation resistance: More than  $20\text{m}\Omega$
- Operational temperature:  $-20^\circ\text{C} \sim +55^\circ\text{C}$
- Operational humidity: 45% to 90%
- Pollution grade: 3
- Protection grade: IP65
- Super pure color chips, Top-class quality potentiometer
- 100% Passed 48hours high-low temperature life time testing before shipping
- Certificate: CE

**AD26B-22AMS Ammeter 0-100A**

- Operating Diameter: 22mm
- Brightness:  $\geq 110\text{cd/m}^2$ , LED SMD chips
- Emitting Color: Red (R), green (G), yellow (Y), white (W), blue (B)
- Measuring Amper range :0-100A
- Operating voltage: AC300-600V
- Insulation resistance: More than  $20\text{m}\Omega$
- Frequency: 50/60Hz
- Operational temperature:  $-20^\circ\text{C} \sim +55^\circ\text{C}$
- Operational humidity: 45% to 90%
- Pollution grade: 3
- Protection grade: IP65
- Super pure color chips, Top-class quality potentiometer
- 100% Passed 48hours high-low temperature life time testing before shipping
- Certificate: CE

**AD26B-22HMS 0-100Hz**

- Operating Diameter: 22mm
- Brightness:  $\geq 110\text{cd/m}^2$ , super bright LED SMD chips
- Emitting Color: Red (R), green (G), yellow (Y), white (W), blue (B)
- Measuring Frequency range :0-100Hz
- Operating voltage: AC300-600V
- Insulation resistance: More than  $20\text{m}\Omega$
- Frequency: 50/60Hz
- Operational temperature:  $-20^\circ\text{C} \sim +55^\circ\text{C}$
- Operational humidity: 45% to 90%
- Pollution grade: 3
- Protection grade: IP65
- Super pure color chips, Top-class quality potentiometer
- 100% Passed 48hours high-low temperature life time testing before shipping
- Certificate: CE






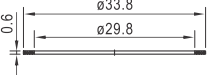


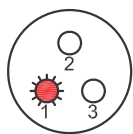
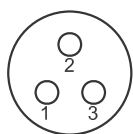
- Terminal type: Screw(for wire max 1.5mm<sup>2</sup>)
- Voltage between 2 phases: 380V ± 20%
- Voltage between phases & neutral: 220V±20%
- Frequency: 50/60Hz
- Power frequency withstand voltage: 1890VAC  
50Hz(between live part and contactable surface)
- Torque: 0.8Nm
- Operating Temperature: -20°C~+55°C
- Base Material: PA



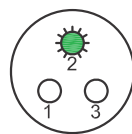
Technical drawing of the M30X1.5 connector showing three views: top, side, and front.

- Top View:** Shows a circular connector with four pins labeled Green, Yellow, Red, and Blue. The pins are numbered 1, 2, 3, and 4. The diameter of the outer ring is 41. The distance between the center of the pins is 11.3. The distance from the center to the edge of the ring is 9.3. A "Zero line" is indicated at the bottom.
- Side View:** Shows the connector's profile. The total length is 33.5. The diameter of the outer ring is 41. The diameter of the inner ring is 36. The distance from the front face to the start of the threaded section is 15. The maximum height of the connector is 10Max.
- Front View:** Shows the connector's front face. The diameter of the outer ring is 41. The distance from the center to the edge of the ring is 9.3.

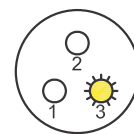
Hole Size	Gasket Size
	



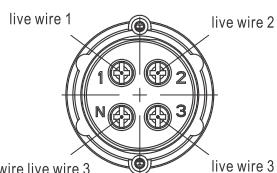
N + 1  
live wire 2,3 shortage




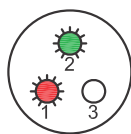
N + 2  
live wire 1,3 shortage



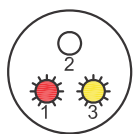
N + 3  
live wire 1,2 shortage



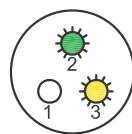

 null wire live wire 3 live wire 3  
 (null wire shortage is also workable,  
 but 2 phases shortage is without indicator)



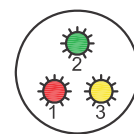
N + 1 + 2  
live wire 3 shortage



N + 1 + 3  
live wire 2 shortage



N + 2 + 3  
live wire 1 shortage



N + 1 + 2 + 3  
3 phases normal

## XB2



S - Normally Stock  
L - Limited Stock  
O - Ex Order

## PILOT LIGHTS

Cutout:  $\phi 22\text{mm}$

- BV61** White, Direct Connection, 6~380V
- BV63** Green, Direct Connection, 6~380V
- BV64** Red, Direct Connection, 6~380V
- BV66** Blue, Direct Connection, 6~380V
- BV65** Yellow, Direct Connection, 6~380V
- BV66** Blue, Direct Connection, 6~380V
- BV71** White, Resistance, 220V, Supplied with a 110V BA9S Red Neon
- BV73** Green, Resistance, 220V, Supplied with a 110V BA9S Green Fluorescent
- BV74** Red, Resistance, 220V, Supplied with a 110V BA9S Red Neon
- BV75** Yellow, Resistance, 220V, Supplied with a 110V BA9S Red Neon
- BV76** Blue, Resistance, 220V, Supplied with a 110V BA9S Red Neon.

BA9S Lamp Holder (see page 1. 8 for LED selection)



## XB4

Np4 series of buttons for AC 50Hz or 60Hz, voltage up to 380V, 220V DC voltage to the circuit control system. As electromagnetic starter, contactor, the relays and other electrical control circuit used. With light buttons are also applicable to light signals indicative of the occasion



## QXJL5 (Black)

## QXJL5DG (Charcoal)

- Lenses and nameplates to be ordered separately
- Mounting diameter: 24 x 24 mm
- Degree of protection: IP65
- Protection class: II (protective insulation)
- Shape: square
- Connection type: flat-plug connections
- Illumination: Yes
- Lamp socket: T5,5K
- With labeling option: Yes
- Front bezel: Black / Charcoal



## A0271

Cutout: 29.5 x 21.5mm

Lamp: Midget Groove Lamp or LED (MG T1¼)

Voltages:

Lamp: 14, 28, 48, 50 & 60V AC/DC

Neon: 110, 220V AC Red

Flourescent : 110, 220V AC Green

LED: 6 chip 12, 24 & 48V AC/DC - Red, Green or Yellow

LED: 1 chip 24V DC - Red, Green, Yellow or White.

Colours: Red, Green or White (Other colours available ex - indent)



## LE50BC

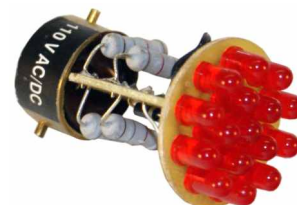
Cutout:  $\phi 50\text{mm}$

Voltages: 24, 32, 48, 60, 110 & 220V AC/DC

Also available for 380V & 500V AC encapsulated

Colour: Red (Red lens), Orange, Green or Yellow (Clear lens)

This is a 16 LED insert with a B22 base for the Crab tree MCR 50 pilot light. This "insert" can be supplied alone or with the Crab tree holder. The 16 super-bright LED's provide good illumination for lock-light boxes etc... E27 screw base also available.



**ADDA****ERS-22**

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**ADDA****SEMAPHORES**

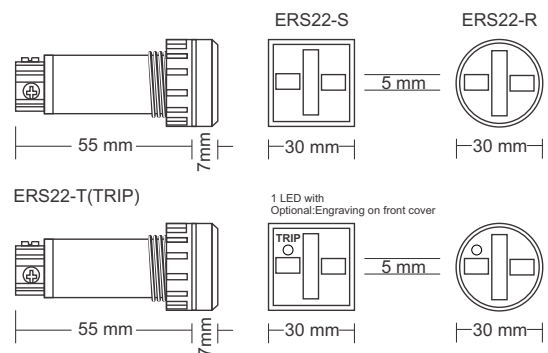
- Cutout:  $\phi 22\text{mm}$
- Voltages: 24, 32, 60, 110 & 220V DC Only
- Direct connect
- Colours: Red (Large bar),  
Deep Green (Side bars). Other colours on special order
- Current: 4mA

**ADDA ERS-22-LP**

- New low profile bezel matches with the ND22 low profile pilot light range.

These top of the range LED Semaphores have large, bright, even bars using high bright Red & Green SMD LED's to rear illuminate the white bars. They are available with round or square bezels & have a standard  $\phi 22\text{mm}$  thread. These Semaphores give you an automatic status indication of circuit breakers, isolators & earth switches on mimic diagrams of control panels. A wide range of voltages are available from 24 to 220VDC. Other colours other than Red & Green can be done on special order.

- Power consumption only 4mA.
- Top of the range Semaphore.
- Large bright, even bars with particularly good green (True Green).
- Ultra bright direct view LED's (not film like other types)
- this mean that less power can be used and brighter clearer definition is obtained.
- Totally encapsulated thus electronics cannot corrode and heat is well dissipated.
- EX rated models on special order.
- New low profile bezel matches with the ND22 low profile pilot light range.

**ADDA MSR22**NON-STOCK  
SERVICE ITEM ONLY

Cutout:  $\phi 22\text{mm}$   
24, 32VDC, 17mA  
Colours: Red & Green

**ADDA MSR22A**

Cutout:  $\phi 22\text{mm}$   
24, 32VDC, 17mA  
Colours: Red & Green

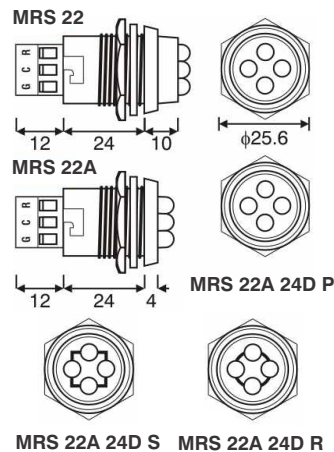
**SAKRR1**

110VDC-2 RESISTOR TERMINALS

**SAKRR2**

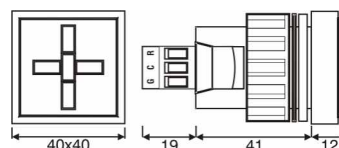
220DC-3 RESISTOR TERMINALS

(Other voltages are available when using external DIN terminals fitted with a resistor).

**ADDA KP33**

Cutout:  $\phi 30\text{mm}$   
24, 32VDC, 17mA  
Colours: Red & Green

(Other voltages are available when using external DIN terminals fitted with a resistor).  
110VDC-2 RESISTOR TERMINALS / 220DC-3 RESISTOR TERMINALS



## LBS050



S - Normally Stock  
L - Limited Stock  
O - Ex Order

## SEMAPHORES

Low current Electro mechanical semaphore

Cutout: Ø40.5mm

Bezel: Ø48mm

Burden: 30mA (typical)

Rated Voltage: 24, 30V DC

Operating Voltage: 24/30V DC: No resistors

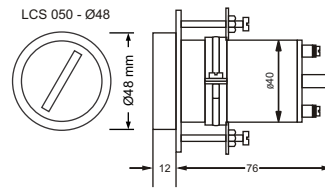
110V DC: Connect 3k Ohms resistor to centre terminal

220VDC: Connect 9k Ohms resistor to centre terminal

Range(burden): 0.5W at 24V to 4W at 220V

Insulation: 2kV RMS, 50Hz for 1 minute or 2.5kV RMS, 50Hz for 1 second between all terminals and case.

Cutout: Ø40.5mm



## LBS063

Low current Electro mechanical semaphore

Cutout: Ø40.5mm

Bezel: Ø63mm

Burden: 30mA (typical)

Rated Voltage: 24, 30V DC

Operating Voltage: 24/30V DC: No resistors

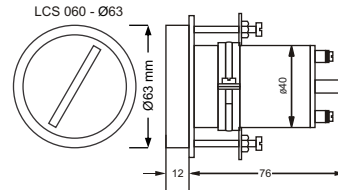
110V DC: Connect 3k Ohms resistor to centre terminal

220VDC: Connect 9k Ohms resistor to centre terminal

Range(burden): 0.5W at 24V to 4W at 220V

Insulation: 2kV RMS, 50Hz for 1 minute or 2.5kV RMS, 50Hz for 1 second between all terminals and case.

Cutout: Ø40.5mm



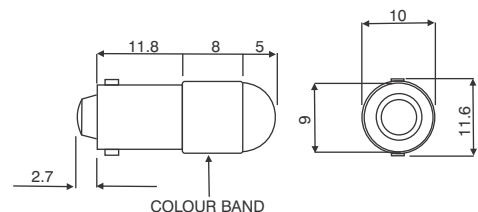
## A09BA1

## LED LAMP REPLACEMENT

Superbright single chip technology ba9s led lamps

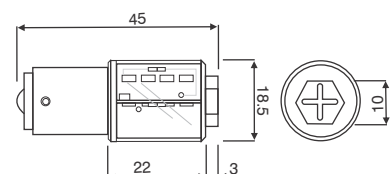
- Part No: A09BA1 - (voltage) - (colour)
- Newest Technology
- Wide Viewing Angle 130° (Equivalent to Multichip Types)
- Vibration Resistant
- Low Power
- Long Life
- E10, E12 & E14 types available with similar specs.
- BiPolar (AC/DC) 24, 110 & 230V
- 5 Colours  
(Red, True Green, Yellow, Real Blue or White)

This product uses High efficiency Led materials. Every Lamp is made with an advanced optical grade epoxy offering superior high shock and temperature resistance. The 130° round radiation pattern and high luminous intensity ensure that these devices are perfect for applications where a wide field of view and readability in high ambient lighting conditions is required. These lamps are in some instances suitable for shaded outdoor operating conditions.



## LED LAMP SISTR II

- Shock & vibration proof.
- Life expectancy (min 100, 000 hours).
- Increased reliability through dispartment of the LED's in two split electrical circuits.
- Integrated over voltage protection.
- Power: 1 W at 24 V
- E14, BA15s or BA15d.
- 24/28V, 130V & 230VAC/DC
- Colours: Red, Green, Yellow, Blue or White.




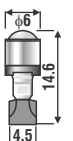


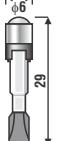
S - Normally Stock  
L - Limited Stock  
O - Ex Order

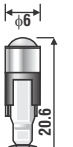
★Normally Exstock ○Ex Indent ◊Single chip only

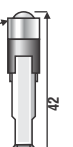
T1 <sup>3</sup> / <sub>4</sub> Midget Groove	Voltage	6-8	12	24	32	48	60	110	230
	Red	★	★	★	○	★	○		
	Orange	○	★	★	○	○	○		
	Yellow	○	★	★	○	★	○		
	Green	○	★	★	○	★	○		
	φ Blue	○	○	○	○	○	○		
	φ White	○	○	◊	○	○	○		

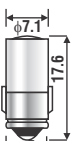
T1 <sup>3</sup> / <sub>4</sub> Midget Flange	Voltage	6-8	12	24	32	48	60	110	230
	Red	○	○	★	○	○	○		
	Orange	○	○	★	○	○	○		
	Yellow	○	○	★	○	○	○		
	Green	○	○	★	○	○	○		
	φ Blue	○	○	○	○	○	○		
	φ White	○	○	◊	○	○	○		


T4,5 Wedge	Voltage	6-8	12	24	32	48	60	110	230
	Red	○	○	★	○	○	○		
	Orange	○	○	○	○	○	○		
	Yellow	○	○	★	○	○	○		
	Green	○	○	★	○	○	○		
	φ Blue	○	○	○	○	○	○		
	φ White	○	○	○	○	○	○		

T5,5 Wedge	Voltage	6-8	12	24	32	48	60	110	230
	Red	○	★	★	○	★	○		
	Orange	○	○	○	○	○	○		
	Yellow	○	★	★	○	★	○		
	Green	○	★	★	○	★	○		
	φ Blue	○	○	○	○	○	○		
	φ White	○	◊	◊	○	○	○		

T5,5K Wedge	Voltage	6-8	12	24	32	48	60	110	230
	Red	○	○	★	○	○	○		
	Orange	○	○	○	○	○	○		
	Yellow	○	○	★	○	○	○		
	Green	○	○	★	○	○	○		
	φ Blue	○	○	◊	○	○	○		
	φ White	○	○	◊	○	○	○		

T6,8 Wedge	Voltage	6-8	12	24	32	48	60	110	230
	Red	○	★	★	○	★	○		
	Orange	○	○	○	○	○	○		
	Yellow	○	★	★	○	★	○		
	Green	○	★	★	○	★	○		
	φ Blue	○	○	○	○	○	○		
	φ White	○	○	○	○	○	○		












































BA5s	Voltage	6-8	12	24	32	48	60	110	230
	Red	○	○	◊	★	○	○		
	Orange	○	○	○	○	○	○		
	Yellow	○	○	◊	★	○	○		
	Green	○	○	◊	★	○	○		
	φ Blue	○	○	○	○	○	○		
	φ White	○	○	◊	○	◊	○		


BA7s	Voltage	6-8	12	24	32	48	60	110	230
	Red	○	★	★	○	○	◊		
	Orange	○	○	○	○	○	○		
	Yellow	○	★	★	○	○	○		
	Green	○	★	★	○	○	○		
	φ Blue	○	○	○	○	○	○		
	φ White	○	○	○	○	○	◊		

BA9s	Voltage	6-8	12	24	32	48	60	110	230
	Red	★	★	★	★	★	○	★	★
	Orange	★	★	★	★	★	○	★	★
	Yellow	★	★	★	★	★	○	★	★
	Green	★	★	★	★	★	○	★	★
	φ Green (true)	○	○	○	◊	○	○	◊	○
	φ Blue	○	○	○	◊	○	○	○	○
φ White	○	○	○	◊	○	○	○	★	★

E10	Voltage	6-8	12	24	32	48	60	110	230
	Red	○	★	★	★	★	○	★	★
	Orange	○	○	○	○	○	○	○	○
	Yellow	○	★	★	★	★	○	★	★
	Green	○	★	★	★	★	○	★	★
	φ Green (true)	○	○	○	○	○	○	○	○
	φ Blue	○	○	○	○	○	○	○	○
	φ White	○	○	⊘	○	○	○	○	○

BA15D	Voltage	6-8	12	24	32	48	60	110	230
	Red	○	○	★	○	★	○	★	★
	Orange	○	○	○	○	○	○	○	○
	Yellow	○	○	★	○	★	○	★	★
	Green	○	○	★	○	★	○	★	★
	Green (true)	○	○	○	○	○	○	○	○
	Blue	○	○	○	○	○	○	○	○
White	○	○	○	○	○	○	○	★	○

E12	Voltage	6-8	12	24	32	48	60	110	230
	Red								
	Orange								
	Yellow								
	Green								
	Green (true)								
	Blue								
	White								

BA15S	Voltage	24	110	230					
	Red	★							
	Yellow	★							
	Green	★							
	Blue	○							
	White	○							

E14	Voltage	24	110	230					
	Red	○	○	○					
	Yellow	★	○	○					
	Green	○	○	○					
	Blue	○	○	○					
	White	★	★	○					



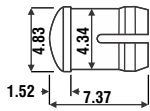


S - Normally Stock  
L - Limited Stock  
O - Ex Order

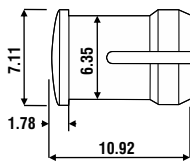
Part No.	Size	Colour	Water-clear or Diffused	Wave Length (nm)	Luminous Intensity IF=10mA(mcd), *IF=20mA(mcd)			Viewing Angle	Case Style	Diagram of the different Styles
					Min.	Typ.	Max.			
3mm STANDARD LED's										
A30D060-22-U	3mm	Super-Red	Diffused	625nm	12.5	22	32	60°	2	
B34D060-2-U	3mm	Flashing Red	Diffused	-	1.3	2	3.2	60°	2	
A30D060-12-G	3mm	Green	Diffused	565nm	5	12	20	60°	2	
A30D060-12-Y	3mm	Yellow	Diffused	590nm	5	12	20	60°	2	
A30D060-30-N	3mm	Pure-Orange	Diffused	610nm	10	30	50	60°	2	
A32D060-250-M	3mm	Ultra-Red	Diffused	660nm	200	250	300	60°	2	
A32W050-700-M	3mm	Ultra-Red	W/clear	660nm	500	600	700	30°	1	
A32W050-1300-M	3mm	Ultra-Red	W/clear	660nm	1100	1200	1300	30°	1	
A32W050-200-G	3mm	Green	W/clear	565nm	100	200	300	30°	1	
A32W050-750-K	3mm	Yellow	W/clear	590nm	400	750	1300	50°	1	
3mm SUPER BRIGHT LED's										
A32W050-600-M	3mm	Ultra-Red	Clear		500	600	700	50°	2	
A32W050-1200-M	3mm	Ultra-Red	Clear		1100	1200	1300	50°	2	
A32C050-30-Y	3mm	Yellow	Colour Clear		50	75	100	50°	2	
A32C050-75-N	3mm	Orange	Colour Clear		200	300	400	50°	2	
5mm STANDARD LED's										
A53D060-50-U	5mm	Super-Red	Diffused	625nm	20	50	80	60°	4	
A53D060-50-G	5mm	Green	Diffused	565nm	20	50	60	60°	4	
A53D060-14-Y	5mm	Yellow	Diffused	590nm	5	14	32	60°	4	
A53D060-46-N	5mm	Pure-Orange	Diffused	610nm	12	46	80	60°	4	
M59RG-CA-D	5mm	Red	White	625nm	3.2	5	8	60°	5	
Bi-colour		Green	Diffused	565nm	3.2	5	8	60°	5	
M59RG-CC-D	5mm	Red	White	660nm	100	200	300	60°	5	
Bi-colour		Green	Diffused	565nm	40	60	80	60°	5	
5mm SUPER BRIGHT LED's										
A53D060-250-M	5mm	Ultra-Red	Diffused	660nm	200	250	300	60°	4	
A53W030-200-G	5mm	Green	W-clear	565nm	100	200	300	30°	4	
5mm SUPER BRIGHT LED's										
C512MHR-125Q	5mm	Hi-Red	Clear	-	770	1135	1500	25°	4	
C503MBG-115Q	5mm	Green	Clear	-	1520	2260	3000	15°	4	
C503TPG-115Q	5mm	P.Green	Clear	527	12000	17500	23000	15°	4	
C503AYL-115Q	5mm	Yellow	Clear	591	8200	16000	23500	15°	4	
C503NBL-115Q	5mm	Blue	Clear	470	700	900	1100	15°	4	
C503PBL-115Q	5mm	P.Blue	Clear	470	2130	2800	3000	15°	4	
C512TWN-125Q	5mm	P.White	Clear	-	4180	5000	5860	25°	4	
BAR TYPE LED's										
L21D100-12-R	6.1x3.2mm	Super-red			5	12	20	100°	8	
L21D100-6-G	6.1x3.2mm	Green			5	12	20	100°	8	
L21D100-6-Y	6.1x3.2mm	Yellow			5	12	20	100°	8	
L22D120-12-U	10x5mm	Super-red			5	12	20	120°	9	
L22D120-12-G	10x5mm	Green		565nm	5	12	20	120°	9	
L31D120-12-U	22x5mm	Super-red		625nm	5	12	20	120°	10	
SURFACE MOUNT LED's										
LM1-UHR-101	3.2x2.8	Hi-red	Clear	624	280	500		120°	11	
LM1-PPG-101	3.2x2.8	Green	Clear	525	355	560		120°	11	
LM1-AYL-101	3.2x2.8	Yellow	Clear	591	280	300		120°	11	
LM1-PBL-101	3.2x2.8	Blue	Clear	470	112	160		120°	11	
LM1-PWH-101	3.2x2.8	White	Clear	-	280	450		120°	11	
LM1-TPP-101	3.2x2.8	Full Colour	Clear	R=620nm G=520nm B=465nm	R=180 G=280 B=71	300 450 110		120° 120° 120°	11 11 11	
LP6-TPP-101	6x5	Full Colour	Clear	R=620nm G=521nm B=468nm	R=710 G=710 B=180	1000 900 280		120° 120° 120°	12 12 12	

## FLUSH MOUNT LED HOLDERS

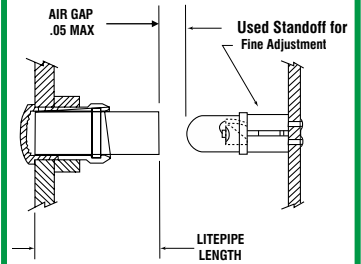
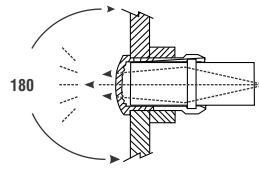
## SMB 200(3mm)



## CLB 300(5mm)



## LITEPIPE &amp; SURFACE MOUNT LED's



## ORDERING CODE FOR THE LENSES:

**CLB 300 RTP**

## MODEL

## COLOUR

SMB 200	(RND 3mm)
SMQ 250	(SQ 3mm)
CLB 300	(RND 5mm)
SQB 400	(SQ 5mm)

RTP	Red Transparent
ATP	Amber Transparent
GTP	Green Transparent
BTP	Blue Transparent
YTP	Yellow Transparent
CTP	Clear Transparent

SPC 125	Spacer for CLB 300 & SQ 400
RNG 190	Lens Retaining ring for SMB200
RNG 234	Lens Retaining ring for CMC321
RNG 268	Lens Retaining ring for CLB300 & CMS322

## ORDERING CODE FOR THE LITEPIPE:

**LSV 020 CTP**

## MODEL

## COLOUR

LSV (3mm), LCV (5mm)

CTP Clear Transparent

## PRODUCT CODE

LSV - CODE LENGTH(mm)

LCV - CODE LENGTH(mm)

020 (5.1),	040 (10.2),	060 (15.2)	036 (9.1),	056 (14.2),	076 (19.3)
080 (20.3),	100 (25.4),	120 (30.4)	096 (23),	116 (29.5),	136 (34.5)

## ORDERING CODE FOR THE PCB STANDOFFS

**STD XXX BLK**LENGTH  
(2,54 to 25,4mm)

## COLOUR

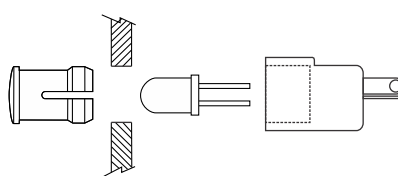
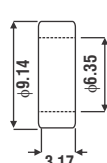
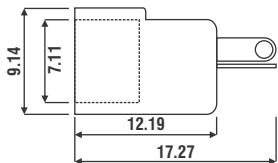


## CNX 310

## SPC 125

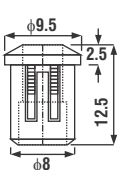
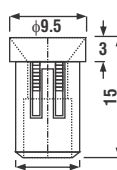
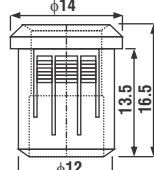
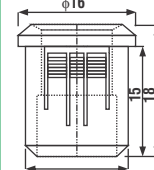
## INSTALLATION

## ORDERING CODES

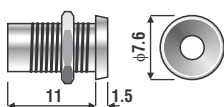


CNX 310		012	
MODEL	RESISTOR CODE	MODEL	RESISTOR CODE
000	No Resistor	056	560Ω
012	120Ω	120	1200Ω
018	180Ω	220	220Ω
033	330Ω		

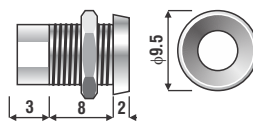
## Black Plastic LED Holders

RTF-5010 Cutout:  $\phi$ 8mmRTF-5020 Cutout:  $\phi$ 8mmRTF-8080 Cutout:  $\phi$ 12mmRTF-1090 Cutout:  $\phi$ 14mm(For  $\phi$ 5mm LED)(For  $\phi$ 5mm LED)(For  $\phi$ 8mm LED)(For  $\phi$ 10mm LED)CB3 Cutout:  $\phi$ 6.4mmCB5 Cutout:  $\phi$ 8 mmCB8 Cutout:  $\phi$ 12 mm

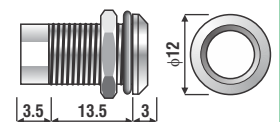
Chrome plated or black brass LED holder. Solder or use LED plug on connectors. For use with  $\phi$ 3mm LED's.



Chrome plated or black brass LED holder. Solder or use LED plug on connectors. This pilot light gives a quality look which cannot be achieved with plastic bezels. For use with  $\phi$ 5mm LED's.



Chrome plated, black brass or convex type LED holder. Solder or use LED plug on connectors. This pilot light gives a quality look which cannot be achieved with plastic bezels. For use with  $\phi$ 8mm LED's.



See page 1.10 &amp; 11 for LED options



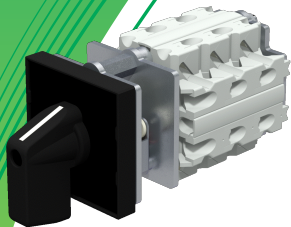




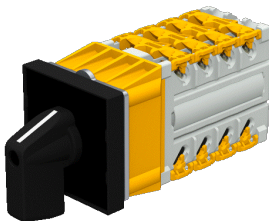


**WWW.MIMIC.CO.ZA**

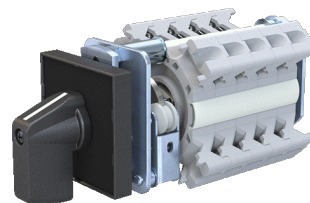
# COMELETRIC



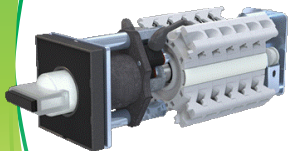
**R16 - CONTROL SWITCH**



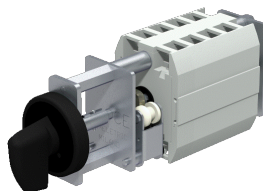
**R10 - CONTROL & SELECTOR SWITCH**



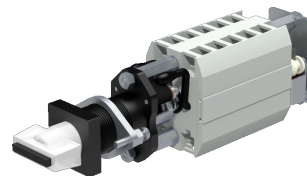
**R20 - CONTROL & LOAD SWITCH**



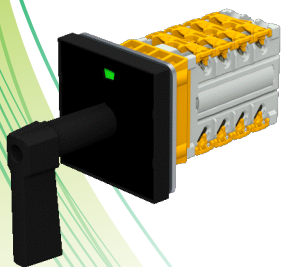
**DR20 - DISCREPANCY SWITCH**



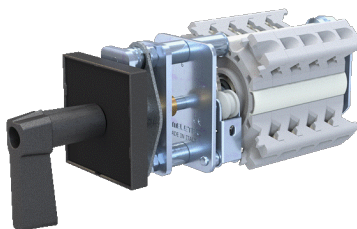
**FRMC6 IP20 - MINIATURE CONTROL SWITCH**



**FRMM6 IP20 - MINIATURE CONTROL SWITCH**



**R10 - SPRING RETURN LAST POSITION MECHANICAL INDICATOR**



**R20 - PUSH OR PULL OPERATE SWITCH**



**R20 - PADLOCKABLE**

## CONTROL COMPONENTS



**DS450....(Latching)**

- Cutout: Ø10mm
- Colours: Red, White or Black
- Rating: 3A@125 & 1A@250V AC
- Contact: n/o

**R84A....(Momentary)****R84B....(Latching)**

- Cutout: Ø10mm
- Colours: Red, White, Black or Silver
- Rating: 3A@125 & 1A@250V AC
- Contact: n/o

**DS464 (Momentary)**

- Cutout: Ø10mm
- Colour: Metallic button with a Black body
- Rating: 3A@125 & 1A@250V AC
- Contact: n/o

**PUSHBUTTONS****DS663....(Momentary)****MIYAMA**

- Non-illuminated type Pushbutton
- Shape: Circular
- Mounting Hole: Ø15mm
- Contact Configuration(pushbutton): SPST
- Operation: Lock free
- Terminal type: Soldering
- Current capacity@125Vac:1A
- Switch characteristics: Off-(On)
- Button Colours: Black, Red, White

**DS770 (Red Dot)****DS771 (White Dot)**

- Keylock Switch
- Shape: Circular
- Mounting Hole: Ø16mm
- Contact Configuration(key lock, selector): 1a
- With key: Present
- Notch Number: 2
- Suspend / Return: Suspend
- Terminal type: Soldering
- Current capacity@125Vac:3A
- Current capacity@250Vac:1A

Alternate

Two position:

**TA1275**

- Dimensions: 12x12mm - 7.5mm high
- Voltage: 50mA@12V DC

**KTSC22R****TA1243**

12x12mm - 4.3mm high

**TA067.5**

6x6mm - 7.5mm high

**TA069.5**

6x6mm - 9.5mm high




**KTSC22R**

Voltage: 50mA@12V DC

- Red Tactile Lens



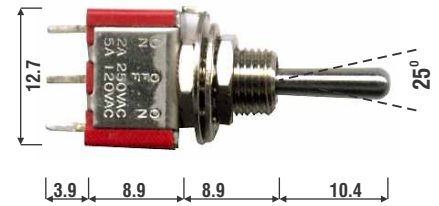
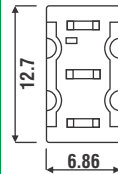
CONTACT RATE: 5A with resistive load @ 125V AC or 28V DC  
 ELECTRICAL LIFE: 50 000 make & break cycles at full load  
 CONTACT RESISTANCE: 10mA max initial @ 2-4V DC,  
 100mA for both coin silver and gold plated contacts.  
 OPERATING STRENGTH: -30°C to 85°C

TYPE	MODEL				No. of POSITIONS
SPST	1-SP1TI	ON	NONE	ON	2
	1-SP3TI	ON	OFF	ON	3
	T8014	ON	OFF	ON	3
SPDT	1-SP4TI	(ON)	OFF	(ON)	3
	1-SP5TI	ON	OFF	(ON)	3
	TERMINAL COMMON	2-3	OPEN	2-1	

Schematic

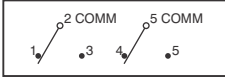
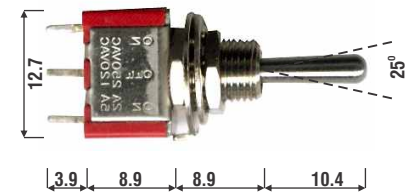
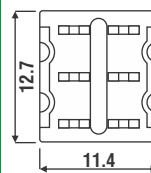


(ON) = MOMENTARY

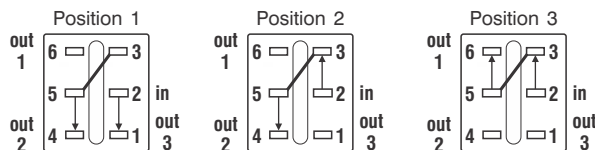
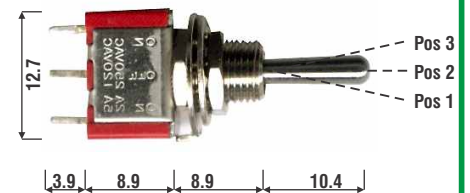
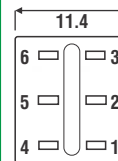
Cutout:  $\phi 6.35\text{mm}$ 

DPDT	1-DP1TI	ON	NONE	ON	2
	1-DP3TI	ON	OFF	ON	3
	TERMINAL COMMON	2-3 & 5-6	OPEN	2-1 & 5-4	

Schematic

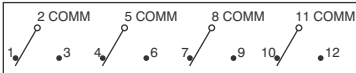
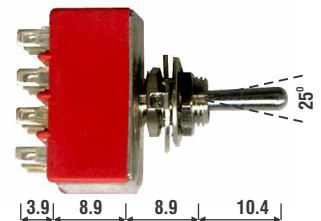
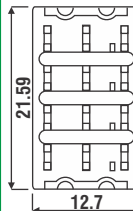
Cutout:  $\phi 6.35\text{mm}$ 

3 WAY	T812	ON	ON	ON	3
	TERMINAL COMMON	2-3 & 5-6	2-3 & 5-4	2-1 & 5-4	

Cutout:  $\phi 6.35\text{mm}$ 

4PDT	T8401	ON	NONE	ON	2
	TERMINAL COMMON	2-3 & 5-6 8-9 & 11-12	OPEN	2-1 & 5-4 8-7 & 11-10	

Schematic

Cutout:  $\phi 6.35\text{mm}$ 

## MINIATURE TOGGLE SWITCHES

SPDT	TS-4	ON	NONE	ON	2
	TS-4A	ON	OFF	ON	3
	TERMINAL COMMON	2-3	OPEN	2-1	

Schematic



CONTACT RATE: 3A with resistive load @ 120V AC or 28V DC  
 ELECTRICAL LIFE: 30 000 make & break cycles at full load  
 CONTACT RESISTANCE: 20mW max initial @ 2-4V DC,  
 100mA for both coin silver and gold plated contacts.  
 OPERATING STRENGTH: -30°C to 85°C

Cutout:  $\phi 5\text{mm}$ 

## ACCESSORIES

## T80T

Dress Nut



## T1-R

Red rubber toggle cap





## ADA16S....

## DECA

## Ø16mm Pushbutton Switches

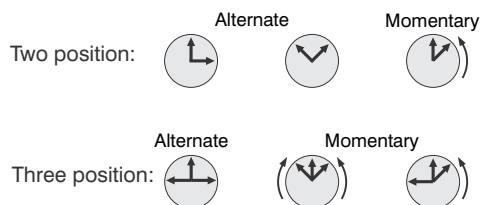
- Cutout: Ø16mm
- Head Shape: High Bezel - Round, Square or Rectangular  
Flush Mounting - Round, Square or Rectangular  
Overhanging Lens - Square or Rectangular  
Full Guard - Square  
Flush Mounting - Round, Square or Rectangular
- Available sizes: Rectangular - 18x24mm  
Square - 18x18mm / 24x24mm  
Round - Ø18mm
- Degree of protection: Ip65
- Colour: Green, White, Orange, Red, Blue or Yellow
- Functions: Alternate / Momentary
- Terminals: Soldering or Plug-in
- Electrical Rating 250V AV 5A(VDE) 125V AC 8A
- Lighting: LED / Incandescent / Neon



## ADA16C....

## Ø16mm Selector Switches

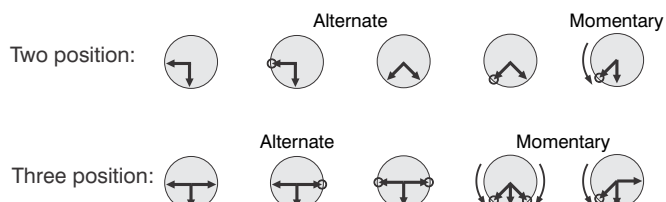
- Cutout: Ø16mm
- Head Shape: Standard  
Square  
Rectangular  
Flange
- Available sizes: Rectangular - 18x24mm  
Square - 18x18mm / 24x24mm (Flange)  
Round / Standard - Ø18mm
- Degree of protection: Ip65
- Colour: Green, White, Black, Red, Blue or Yellow
- Functions: Alternate / Momentary
- Terminals: Soldering or Plug-in
- Electrical Rating 250V AV 5A(VDE) 125V AC 8A
- Lighting: LED / Incandescent / Neon



## ADA16K....

## Ø16mm Key Selector Switches

- Cutout: Ø16mm
- Head Shape: Standard  
Square  
Rectangular  
Flange
- Available sizes: Rectangular - 18x24mm  
Square - 18x18mm / 24x24mm  
Round - Ø18mm
- Degree of protection: Ip65 soldering / plug-in  
Ip40 plug-in
- Functions: Alternate / Momentary
- Terminals: Soldering or Plug-in
- Electrical Rating 250V AV 5A(VDE) 125V AC 8A



## D16PL....

## DECA

## Ø16mm Indicator Pushbutton

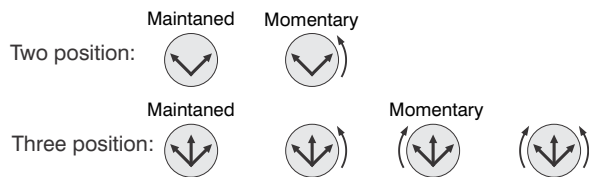
- Cutout: Ø16mm
- Shape: Round, Square or Rectangle
- Degree of protection: IP40 / Ip65
- Colour: Blue, Green, Blue, Red, White or Yellow
- Voltage: Lamp 14, 28, 48, 50 & 60 V AC/DC
  - : Neon 110, 220 V AC Red
  - : Fluorescent 110, 220 V AC Green
  - : LED 12, 24 7 48 VAC/DC (6 chip)



## C1C....

## Ø16mm Selector Switches

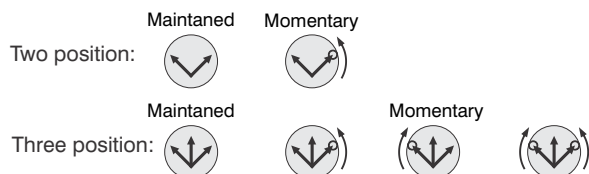
- Cutout: Ø16mm
- Shape: Round, Square or Rectangle
- Degree of protection: IP40 / Ip65
- Handle Colour: Blue, Green, Black, Red, White or Yellow
- Contacts: DPDT / SPDT
- Functions: Maintained / Momentary



## C1K....

## Ø16mm Key Switches

- Cutout: Ø16mm
- Shape: Round, Square or Rectangle
- Degree of protection: IP40 / Ip65
- Key: Standard
- Contacts: DPDT / SPDT
- Functions: Maintained / Momentary
- Key non-removable positions: (o)



## PL16....(Ø25mm metal/plastic ring)

## DECA

## Ø22mm Indicator Pushbutton

## PL16....(Ø29mm metal/plastic ring)

- Cutout: Ø22mm
- Switch head: Ø25mm or Ø29mm metal/plastic ring
- Illuminated or non-illuminated
- Contact: Soldering type
- Degree of protection: Ip65
- Body material: High grade temperature resistant thermoplastic
- Contact housing electrical high grade thermoplastic
- Mechanical life: >2 million operations
- Functions: Momentary or alternate action 1-4 poles
- Electrical Rating: 250V AC 5A, 250V DC 0.2A, 125V AC 8A, 24V DC 6A



**D16....(metal/plastic ring)**

- Cutout: Ø22mm
- Switch head: Ø25mm & Ø29mm plastic or metal
- Lens Colour: Green, Red or Yellow
- Contact: Socket type
- Degree of protection: Ip65
- Body material: High grade temperature resistant thermoplastic  
Contact housing electrical high grade thermoplastic
- Electrical Rating: 6V AC/DC 200mA, 14V AC/DC 80mA, 28V AC/DC 40mA

**A01ES****APEM****EMERGENCY STOP SWITCH**

A01ES-D series emergency stops is ergonomically designed for the users. With 4 actuator styles featuring a compact and modern design (dia. 16mm), these emergency stops are safe and easy to operate (Push to shut-off, twist to release) and feature green locked/unlocked status indicators for a quick and easy visual status control. The A01ES-D series is certified EN60947-5-5 and is IP65 front sealed

- Cutout:  $\phi 16\text{mm}$
- Single and double pole positive break
- Maximum current/voltage rating : AC-15, 1,5A 250VAC, 6A 250VAC
- Operating temperature : -20°C / +55°C IP65 front panel sealing
- Electrical and mechanical life : 6050 cycles

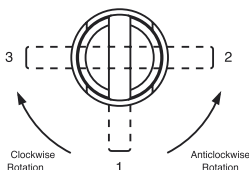
**A01....****SELECTION SWITCHES**

A range of 16mm panel mounting key switches and selector switches, available latching and momentary with custom engraved actuators, over moulded key and many accessories.

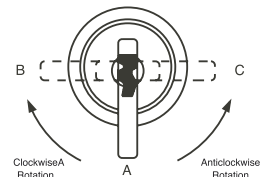
- Cutout:  $\phi 16\text{mm}$
- Colour: Grey
- Current/Voltage: 10mA 5VAC min, 6A 250VAC, 6A 12VDC
- Panel sealed to Ip65
- Single pole to four pole changeover
- Push on tab terminals
- Environmental protection : Ip65
- Modular construction
- Electrical life : 50.000 cycles min.
- Screen engraving or insert-able legends on request
- Approvals: UL, VDE



Operator			+		Switch block		
Pole	Bezel	Description	Short lever	Long lever	No of poles	Part No	
1 or 2		2 pos. maintained	A019201	A019101	Single pole	A0151B	
1 or 2		2 pos. momentary	A019202	A019102	Double pole	A0152B	
3 or 4		2 pos. maintained	A019203	A019103	Three pole	A0155B	
3 or 4		2 pos. momentary	A019204	A019104	Four pole	A0153B	
1 or 2		3 pos. maintained	A019205	A019105			
1 or 2		3 pos. momentary	A019206	A019106			
1 or 2		3 pos. mainL, momR	A019207	A019107			
1 or 2		3 pos. momL, mainR	A019208	A019108			
1 or 2		2 pos. maintained	A019401	A019301			
1 or 2		2 pos. momentary	A019402	A019302			
3 or 4		2 pos. maintained	A019403	A019303			
3 or 4		2 pos. momentary	A019404	A019304			
1 or 2		3 pos. maintained	A019405	A019305			
1 or 2		3 pos. momentary	A019406	A019306			
1 or 2		3 pos. mainL, momR	A019407	A019307			
1 or 2		3 pos. momL, mainR	A019408	A019308			
1 or 2		2 pos. maintained	A019601	A019501			
1 or 2		2 pos. momentary	A019602	A019502			
3 or 4		2 pos. maintained	A019603	A019503			
3 or 4		2 pos. momentary	A019604	A019504			
1 or 2		3 pos. maintained	A019605	A019505			
1 or 2		3 pos. momentary	A019606	A019506			
1 or 2		3 pos. mainL, momR	A019607	A019507			
1 or 2		3 pos. momL, mainR	A019608	A019508			

**Lever position**

Operator			+		Switch block		
Pole	Bezel	Description	Part No.	Key removable	No of poles	Part No	
1 or 2		2 pos. maintained	A018101	A-C	Single pole	A0151B	
1 or 2		2 pos. momentary	A018102	A	Double pole	A0152B	
3 or 4		2 pos. maintained	A018103	A-C	Three pole	A0155B	
3 or 4		2 pos. momentary	A018104	A	Four pole	A0153B	
1 or 2		3 pos. maintained	A018105	A-B-C			
1 or 2		3 pos. momentary	A018106	A			
1 or 2		3 pos. mainL, momR	A018107	A-B			
1 or 2		3 pos. momL, mainR	A018108	A-C			
1 or 2		2 pos. maintained	A018201	A-C			
1 or 2		2 pos. momentary	A018202	A			
3 or 4		2 pos. maintained	A018203	A-C			
3 or 4		2 pos. momentary	A018204	A			
1 or 2		3 pos. maintained	A018205	A-B-C			
1 or 2		3 pos. momentary	A018206	A			
1 or 2		3 pos. mainL, momR	A018207	A-B			
1 or 2		3 pos. momL, mainR	A018208	A-C			
1 or 2		2 pos. maintained	A018301	A-C			
1 or 2		2 pos. momentary	A018302	A			
3 or 4		2 pos. maintained	A018303	A-C			
3 or 4		2 pos. momentary	A018304	A			
1 or 2		3 pos. maintained	A018305	A-B-C			
1 or 2		3 pos. momentary	A018306	A			
1 or 2		3 pos. mainL, momR	A018307	A-B			
1 or 2		3 pos. momL, mainR	A018308	A-C			

**Key position**

**RXJL5** (Charcoal)

- Pilot Light with Faston terminals 2.8x0.8mm
- Lenses and nameplates (separate)
- Mounting diameter: Ø22.3 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: round
- Connection type: flat-plug connections
- Illumination: Yes
- Lamp socket: T5,5K
- With labelling option: Yes
- Front bezel: charcoal

**QXJL5** (Charcoal) / **QXJL5DG** (Black)

- Pilot Light with Faston terminals 2.8x0.8mm
- Lenses and nameplates (separate)
- Mounting diameter: 24x24 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: Square
- Connection type: flat-plug connections
- Illumination: Yes
- Lamp socket: T5,5K
- With labelling option: Yes
- Front bezel: Charcoal / Black



## PUSHBUTTON HEADS

**QXDMDG IP67** (Charcoal)

- Short-stroke membrane Pushbutton Head
- with transparent silicone cap, down to  $-50 \pm 0$  °C
- with illuminating option, blank nameplate included.
- Category: Pushbutton Heads (momentary/push-push)
- Mounting diameter: Ø 16 mm
- Degree of protection: Ip67
- Protection class: II (protective insulation)
- Shape: square
- Illumination: Yes
- Travel: 3 mm
- With labelling option: Yes
- Front bezel: charcoal

**RXJT** (Charcoal)

- Pushbutton Head
- Lenses and nameplates to be ordered separately
- Category: Pushbutton Heads (momentary/push-push)
- Mounting diameter: Ø 22.3 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: round
- Illumination: Yes
- Travel: 6 mm
- With labelling option: Yes
- Front bezel: charcoal

**QXT** (Black)

- Pushbutton Head
- 24 x 24 mm on request
- Category: Pushbutton Heads (momentary/push-push)
- Mounting diameter: Ø 16 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: square
- Illumination: Yes
- Travel: 6 mm
- With labelling option: Yes
- Front bezel: black

**QXJD** (Black) (Short-stroke pushbutton head)

- Lenses and nameplates to be ordered separately
- Category: Pushbutton Heads (momentary/push-push)
- Mounting diameter: 24 x 24 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: square
- Illumination: Yes
- Travel: 3 mm
- With labelling option: Yes
- Front bezel: black

**QXJT** (Black)

- Category: Pushbutton Heads (momentary/push-push)
- Mounting diameter: 24 x 24 mm
- Degree of protection: Ip66
- Protection class: II (protective insulation)
- Shape: square
- Illumination: Yes
- Travel: 6 mm
- With labelling option: Yes
- Front bezel: black

**QXJD** (Black) (Short-stroke pushbutton head)

- Two prisms reflect the light from the center to a window at the edge of the lens.
- Lenses and nameplates to be ordered separately
- Category: Pushbutton Heads (momentary/push-push)
- Mounting diameter: 24 x 24 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: square
- Illumination: Yes
- Travel: 6 mm with labelling option: Yes
- front bezel: black





**SCHLEGEL**

## KEY SWITCHES

**RXJL5** (Charcoal)

- Including two keys, other lock types on request
- Mounting diameter: Ø 22.3 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: round
- Switching function: maintained action
- Illumination: No
- With labelling option: No
- front bezel: charcoal



**RXJSSA-12E**    **RXJSSA-17E**  
3 POS    2 POS



Withdrawn: All

Left

**QXJSSA...** (Charcoal)

- Including two keys, other lock types on request
- Mounting diameter: 24 x 24 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: square
- Switching function: maintained action
- Illumination: No
- With labelling option: No
- Front bezel: black



**QXJSSA-13E**    **QXJSSA-14E**  
3 POS    2 POS



Withdrawn: Center

Top

**QXJSSKA-17E**

- Including two keys, other lock types on request
- Mounting diameter: 24 x 24 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: square
- Switching function: maintained action
- Illumination: No
- With labelling option: No
- Front bezel: black



**QXJSSA-17E**  
2 POS



Withdrawn: Left

**SCHLEGEL**

SCHLEGEL boasts an extensive range of switches with varying features. Suitable for any application or specific requirement. For more info contact us or visit [www.schlegel.com.sg](http://www.schlegel.com.sg).



## EMERGENCY PUSHBUTTONS

**QXV** (Black)

- Cutout: Ø16mm
- Rating: Ip65
- Contacts: See below
- Colour: Red

**RXV** (Charcoal)

- Cutout: Ø16mm
- Rating: Ip65
- Contacts: See below
- Colour: Red

**RXJV** (Charcoal)

- Cutout: Ø22mm (Flush mount)
- Rating: Ip65
- Contacts: See below
- Colour: Red



## CONTACT BLOCKS



**RXJL5 (Charcoal)**

- Made of stainless steel V4A (1.4404)
- The housing edging is supplied in green-GN, red-RT, blue-BL, yellow-GB, black-SW, white-WS or charcoal-DG (clear luminous surface). Add code letter to type number, e.g. RVATL\_RT.
- Category: Pushbutton Heads (momentary/push-push)
- Mounting diameter: Ø 22.3 mm
- Degree of protection: IP69K
- Protection class: II (protective insulation)
- Shape: round
- Illumination: Yes
- Travel: 6 mm
- With labelling option: No
- Front bezel: stainless steel, polished

**SELECTOR SWITCHES****RX...**

- Mounting diameter: Ø 16 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: round
- Switching function: momentary action
- Illumination: No
- With labelling option: No
- Front bezel: charcoal



RXWB

3 POS



RXWA

2 POS



Spring return: None

None

**QX...**

- 24 x 24 mm on request
- Mounting diameter: Ø 16 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: square
- Switching function: momentary action
- Illumination: No
- With labelling option: No
- Front bezel: black



QXWB

3 POS



QXWA

2 POS



QXSTA

2 POS



Spring return: None

None

Right

**RXJ...**

- Mounting diameter: Ø 22.3 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: round
- Switching function: maintained action
- Illumination: No
- With labelling option: No
- Front bezel: charcoal



RXJSTB

3 POS



RXJWA

2 POS



RXJWB

3 POS



Spring return: All

None

None

**QXJ...**

- Mounting diameter: 24 x 24 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: square
- Switching function: momentary action
- Illumination: No
- With labelling option: No
- Front bezel: black



QXJWB

3 POS



QXJWA

2 POS



QXJSTA

2 POS



Spring return: None

None

Right

**KEY SWITCHES****RXSSA...**

- Including two keys, other lock types on request
- Mounting diameter: Ø 16 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: round
- Switching function: maintained action
- Illumination: No
- With labelling option: No
- Front bezel: charcoal



RXSSA-13E

3 POS



RXSSA-17E

2 POS



Withdrawn: Center

Left

**QXJD (Black) (Short-stroke pushbutton head)**

- Key Actuator, momentary
- Mounting diameter: Ø 16 mm
- Degree of protection: Ip65
- Protection class: II (protective insulation)
- Shape: round
- Illumination: No
- With labelling option: No
- Front bezel: charcoal



2 POS



Withdrawn: Top

The entire Schlegel range is far too big for us to put into our catalogue. They have an extensive range of products which have won many design awards. To view their entire range please visit their website : [www.Schlegel.biz](http://www.Schlegel.biz) Schlegel products embody an extremely high standard of quality. Their certification of their quality assurance system as per ISO 9001 is confirmation of their desire to pursue the highest quality objectives & their success in doing so. Their quality motto is:

*"If you stop trying to better yourself, you're no longer any good"*

## EMERGENCY STOPS



## PUSHBUTTONS



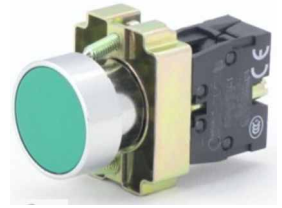
## SELECTOR AND KEY SWITCHES



**BA..****XB2****Standard Flat Head Pushbutton**

- Operational temp: -5°C~+40°C
- Power frequency withstand Voltage: 2500VAC, 1min
- Contact resistance:  $\leq 50\text{m}\Omega$
- Mechanical durability: mom 1x10 / others 2.5 x 10
- Electrical durability: 5x10
- Degree of protection: IP40

**BA11** - White N/O  
**BA21** - Black N/O  
**BA31** - Green N/O  
**BA42** - Red N/C  
**BA51** - Yellow N/O  
**BA61** - Blue N/O

**BW....****Illuminated Pushbutton**

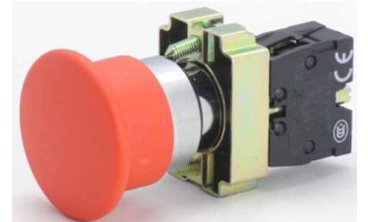
- Operational temp: -5°C~+40°C
- Power frequency withstand Voltage: 2500VAC, 1min
- Contact resistance:  $\leq 50\text{m}\Omega$
- Mechanical durability: mom 1x10 / others 2.5 x 10
- Electrical durability: 5x10
- Degree of protection: IP40

**Bw3161** - White, direct connect/  
N/O, 6 - 380V  
**Bw3361** - Green, direct connect/  
N/O, 6 - 380V  
**Bw3461** - Red, direct connect/  
N/O, 6 - 380V  
**Bw3561** - Yellow, direct connect/  
N/O, 6 - 380V  
**Bw3661** - Blue, direct connect/  
N/O, 6 - 380V

**BC42 / BR42****Emergency Stop Impulse**

- Operational temp: -5°C~+40°C
- Power frequency withstand Voltage: 2500VAC, 1min
- Contact resistance:  $\leq 50\text{m}\Omega$
- Mechanical durability: mom 1x10 / others 2.5 x 10
- Electrical durability: 5x10
- Degree of protection: IP40

**BC42** -  $\phi 40$ , Red, N/C  
**BR42** -  $\phi 60$ , Red, N/C

**BS...****Twist to Release**

- Operational temp: -5°C~+40°C
- Power frequency withstand Voltage: 2500VAC, 1min
- Contact resistance:  $\leq 50\text{m}\Omega$
- Mechanical durability: mom 1x10 / others 2.5 x 10
- Electrical durability: 5x10
- Degree of protection: IP40

**BS442** -  $\phi 30$ , Red, N/C  
**BS542** -  $\phi 40$ , Red, N/C  
**BS642** -  $\phi 60$ , Red, N/C

**BD..****Short Handle Sector Switch**

- Operational temp: -5°C~+40°C
- Power frequency withstand Voltage: 2500VAC, 1min
- Contact resistance:  $\leq 50\text{m}\Omega$
- Mechanical durability: mom 1x10 / others 2.5 x 10
- Electrical durability: 5x10
- Degree of protection: IP40

**BD21** - 2-pos, stay put, N/O  
**BD33** - 3-pos, stay put, N/O + N/O  
**BD41** - 2-pos, impulse, N/O  
**BD53** - 3-pos, impulse, N/O + N/O

**BJ..****Long Handle Sector Switch**

- Operational temp: -5°C~+40°C
- Power frequency withstand Voltage: 2500VAC, 1min
- Contact resistance:  $\leq 50\text{m}\Omega$
- Mechanical durability: mom 1x10 / others 2.5 x 10
- Electrical durability: 5x10
- Degree of protection: IP40

**BJ21** - 2-pos, stay put, N/O  
**BJ33** - 3-pos, stay put, N/O + N/O  
**BJ41** - 2-pos, impulse, N/O  
**BJ53** - 3-pos, impulse, N/O + N/O





## BG..

## XB2

## Key Switch

- Operational temp: -5°C~+40°C
- Power frequency withstand Voltage: 2500VAC, 1min
- Contact resistance:  $\leq 50\text{m}\Omega$
- Mechanical durability: mom 1x10 / others 2.5 x 10
- Electrical durability: 5x10
- Degree of protection: IP40

**BG21** - 2-pos, stay put, N/O  
**Bg33** - 3-pos, stay put, N/O + N/O  
**BG41** - 2-pos, impulse, N/O  
**Bg53** - 3-pos, impulse, N/O + N/O



## BW....

## Dual Illuminated Pushbutton

- Operational temp: -5°C~+40°C
- Power frequency withstand Voltage: 2500VAC, 1min
- Contact resistance:  $\leq 50\text{m}\Omega$
- Mechanical durability: mom 1x10 / others 2.5 x 10
- Electrical durability: 5x10
- Degree of protection: IP40

**BW8465**  
 Red & Green, N/O + N/C  
 Direct connect  
 6 - 380V  
 (BA9S Lamp Holder)  
 (See pg1.8 for LED options).



## B1

- Operation hole: Single
- Operation diameter: 22mm
- Material: ABS
- Colour: Yellow/White & Dark Grey/White
- IP grade: IP65



## B2

- Operation hole: Double
- Operation diameter: 22mm
- Material: ABS
- Colour: Yellow/White & Dark Grey/White
- IP grade: IP65



## B3

- Operation hole: Triple
- Operation diameter: 22mm
- Material: ABS
- Colour: Yellow/White & Dark Grey/White
- IP grade: IP65



## J1

- Operation hole: Single
- Operation diameter: 22mm
- Material: ABS
- Colour: Yellow & Black
- IP grade: IP65



## BE...

## Stackable Contact Blocks

Rating: 2.5A@380VAC  
 4.5A@220VAC  
 6A@110VAC  
 0.3A@220VDC

**BE101** - N/O Contact Block  
**BE102** - N/C Contact Block

## L1...(contact blocks for control stations)

Rating: 2.5A@380VAC  
 4.5A@220VAC  
 6A@110VAC  
 0.3A@220VDC

**L1111** - N/O Contact Block  
**L1121** - N/C Contact Block



## FEED THROUGH

## TERMINAL BLOCKS



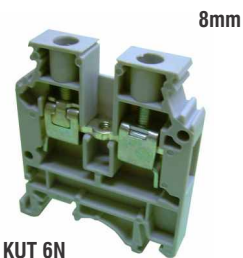
KUT 2.5  
800V/24A/2.5sq mm/0.5Nm



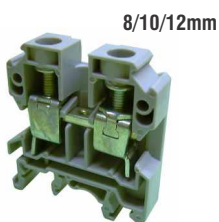
KUT 4  
800V/32A/4sq mm/0.5Nm



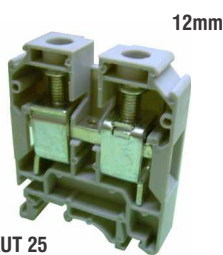
KUT 4N  
800V/32A/4sq mm/0.5Nm



KUT 6N  
800V/41A/6sq mm/0.8Nm



KUT6/10/16  
800V/41A/6sq mm/0.8Nm  
800V/57A/10sq mm/1.2Nm  
800V/76A/16sq mm/1.2Nm



KUT 25  
1000V/101A/25sq mm/2.3Nm



KUT 35  
1000V/125A/35sq mm/3Nm



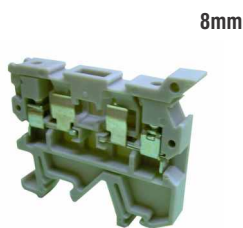
KUT 50  
1000V/150A/50sq mm/8Nm



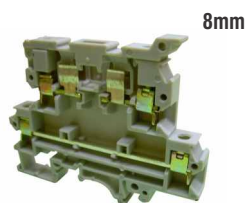
KUT 95  
1000V/232A/95sq mm/20Nm

## FUSE

## ESKOM APPROVED



KUDF 4/D  
800V/6.3A/2.5sq mm/0.4Nm

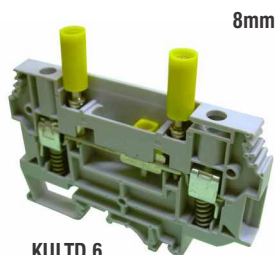


KUDDF 4D/A  
630V/6.3AUT, 28A LT/  
2.5sq mm/0.5Nm

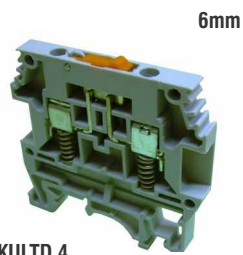


KUF 10  
1000V/12A/10sq mm/1.4Nm

## DISCONNECTING



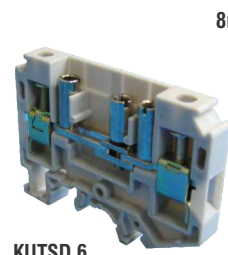
KULTD 6  
800V/32A/6sq mm/1.0Nm



KULTD 4  
800V/20A/4sq mm/0.6Nm



KSTD 6WS  
800V/41A/6sq mm/0.8Nm



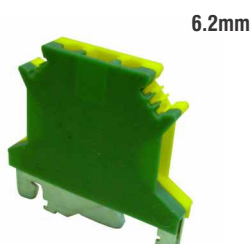
KUTSD 6  
800V/38A/6sq mm/1.4Nm

## "U" SERIES

## EARTH



EBT 4  
4sq mm/0.5Nm



EBT 2.5  
2.5sq mm/0.5Nm



ET 6/10/16  
6sq mm/0.8Nm 10sq/1.2Nm  
16sq mm/1.2Nm



ET 35  
35sq mm/3Nm



## PUSHBUTTONS

**YS-F...**(Flat Head Non-Illuminated)

- Pushbutton: Flat Head
- Cutout: Ø22mm
- Contact Blocks: 1N/O+1N/C, 2N/O+2N/C, 3N/O+3N/C
- Degree of protection: Ip65
- Colours: White, Black, Green, Red, Yellow, Blue

**YS-H...**(Protruding Head Non-Illuminated)

- Pushbutton: Flat Head
- Cutout: Ø22mm
- Contact Blocks: 1N/O+1N/C, 2N/O+2N/C, 3N/O+3N/C
- Degree of protection: Ip65
- Colours: Black, Green, Red, Yellow, Blue

**YS-MS...**(Mushroom Head Ø30mm Non-Illuminated)

- Pushbutton: Ø30mm Mushroom Head
- Cutout: Ø22mm
- Contact Blocks: 1N/O+1N/C, 2N/O+2N/C, 3N/O+3N/C
- Degree of protection: Ip65
- Colours: Red

**YS-M...**(Mushroom Head Ø37mm Non-Illuminated)

- Pushbutton: Ø37mm Mushroom Head
- Cutout: Ø22mm
- Contact Blocks: 1N/O+1N/C, 2N/O+2N/C, 3N/O+3N/C
- Degree of protection: Ip65
- Colours: Red

**YS-KL...**(Lockable Mushroom Head Non-Illuminated)

- Latching Mushroom Head automatically locked in the "in" position released with key
- Cutout: Ø22mm
- Contact Blocks: 1N/O+1N/C, 2N/O+2N/C, 3N/O+3N/C
- Degree of protection: Ip65
- Colours: Red

**YS-MX...**(Mushroom Head Ø50mm Non-Illuminated)

- Pushbutton: Ø50mm Mushroom Head
- Cutout: Ø22mm
- Contact Blocks: 1N/O+1N/C, 2N/O+2N/C, 3N/O+3N/C
- Degree of protection: Ip65
- Colours: Red

**YS-PF...**(Flat Head Illuminated)

- Illuminated Pushbutton: Flat Head
- 220V Neon Bulb
- Cutout: Ø22mm
- Contact Blocks: 1N/O+1N/C, 2N/O+2N/C, 3N/O+3N/C
- Degree of protection: Ip65
- Colours: Green, Red, Yellow, Blue, Clear

**YS-PH...**(Protruding Head Illuminated)

- Illuminated Pushbutton: Flat Head
- 220V Neon Bulb
- Cutout: Ø22mm
- Contact Blocks: 1N/O+1N/C, 2N/O+2N/C, 3N/O+3N/C
- Degree of protection: Ip65
- Colours: Green, Red, Yellow, Blue, Clear

**YS-D...**(Selector Switch Short Handle)

- Selector Switch: Short Handle
- Cutout: Ø22mm
- Contact Blocks: 2P - 1N/O+1N/C, 2N/O+2N/C 3P - 2N/O, 4N/O
- Degree of protection: Ip65
- Colours: Black, Green, Red,

**YS-J...**(Selector Switch Long Handle)

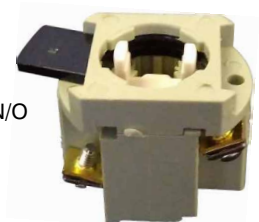
- Selector Switch: Long Handle
- Cutout: Ø22mm
- Contact Blocks: 2P - 1N/O+1N/C, 2N/O+2N/C 3P - 2N/O, 4N/O
- Degree of protection: Ip65
- Colours: Black, Green, Red,

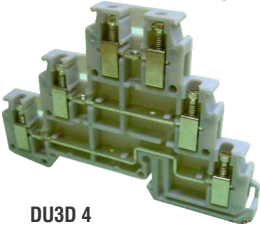




**YS-K...**(Key Switch)

- Key switch
- Cutout: Ø22mm
- Contact Blocks: 2P - 1N/O+1N/C, 2N/O+2N/C 3P - 2N/O, 4N/O
- Degree of protection: Ip65
- Colours: Black, Green, Red,

**Contact Blocks**

- C-22: Standard 1N/O+1N/C, 2N/O+2N/C, 3N/O+3N/C
- UC-22: Universal 1N/O+1N/C, 2N/O, 2N/C, 2N/O+2N/C, 4N/O
- P-22: Lamp Holder Ba9's 1N/O+1N/C, 2N/O+2N/C, 3N/O+3N/C

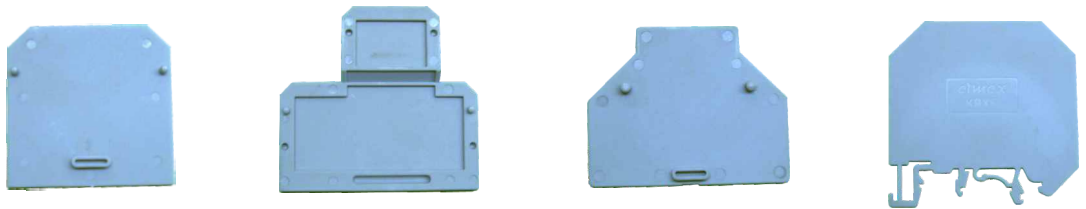


MULTI LEVEL	STUD TYPE	MICRO	POWER (BUS BAR)	
(TRIPLE DECK)				
6mm	13mm	6mm	37mm	37mm
				
DU3D 4	KBT M4/5	SUT 4	DPBC 70	DPBB 70/120
500V/20A/2.5sq mm/0.5Nm	800V/76A/16sq mm/2Nm 1000V/57A/10sq mm/1.2Nm	500V/24A/2.5sq mm/0.5Nm	1000V/192A/70sq mm/ 3.0/3.5(6.0)Nm Screwdriver(wrench)	1000V/192A/70sq mm/3Nm Screwdriver 1000V/269A/120sq mm/6Nm Screwdriver

## ACCESSORIES - End Plates/Barrier Plates

Elmex End Plates are mainly used to cover the last Terminal Block to insulate the live metal components. They are available for all types Terminal Blocks in standard and non standard colours.

Elmex Barrier Plates are used to isolate adjacent terminals electrically, so as to maintain the required creepage and clearance values. Apart from this function they are also used for identification and segregation of terminal groups.



TERMINAL TYPE	END PLATES	TERMINAL TYPE	END PLATES
KUT 2.5	KPNS	KUDF 4, KUDF 4A, KUDF 4D	EPDF
KUT 4, KST 4U WS, KUT 6, KUT 10	KP X	KUDDF 4, KUDDF 4A, KUDDF 4 D	EPDDF
KST 6WS	KSP6WS	SUT 1.5	ES 2
KULT 1	KPSL	SUT 4	ES 4
KUT 16	KP Y	CET 4N	EP MN
KUT 25	KP T	NET 4	EP MN
KUDD 4	KPDD	MBT 4	MP1
KU2D 4, KUSD 4S	EPDD	UBT 2.5N, UBT 4, UBT 6, UBT 10	UP X
DU3D 4	DP3D	UBT 2.5N	UPNS
DUSD 4	DPSD	UBT 4 TWIN	UP TWIN
KUDT 4	EPDT	UBDD 4	UPDD
KUTSD 6	KPSD	DCC 2.5T	EPDCC 2T
KSTD 6WS	KPSDWS	DCC 4T	EPDCC 4T
KUTD 10	KPTD	DCC 6T	EPDCC 6T

TERMINAL TYPE	BARRIER PLATES	TERMINAL TYPE	BARRIER PLATES (With Foot)
KUT 2.5	KB M	KUT 2.5, KUT 4U WS, KUT 6	KBXF
KUT 4, KST 4U WS, KUT 6, KUT 10	KBX	KST 6U WS, KUT 10, KUDT 4	
KUT 16	KB Y	DBK 3, DBK 8, DBK 1X2, DBK 1X4	
KUT 25	KB T	DBK 1X8, FDBK 3, FDBK 8	
UBT 2.5N, UBT 4, UBT 6, UBT 10	UB X	FDBK 1X2, FDBK 1X8, ET 6, ET 10	
DCC 2.5T	PPDCC 2T	UBT 2.5N, UBT 4, UBT 6, UBT 10	
DCC 4T	PPDCC 4T	KULT 1, KUT 16, KUT 25, KUT 35	KBZF
DCC 6T	PPDCC 6T	KUDF 4, KUDF 4A, KUDF 4D, ET 16, ET 35	

## END CLAMPS &amp; MOUNTING RAILS

End Clamps: Also referred to as End Stoppers. Various types of End Clamps are available to suite different channels/din rail. End Clamps can also be used as "spacers" to increase creepage distance between two terminals. End Clamps are available in metallic & polyamide 66.

**SCKN** - 8mm    **SCUN** - 9.5mm    **SCUDD** - 10mm    **SCUSL** - 8mm

Mounting Rail: Also referred to as Din Rail is available in standard 2000mm lengths. Standard Aluminium or Slotted Steel.



AR series controlling switch, it is possible to apply 2 types (Ø22 / Ø25) panel cutout dimension and in case of using the guide bracket, it is even possible to use it with the Ø30 hole. Various functions and designs have made the selection choice wider and attachment and detachment of the actuator/switch part became very simple.

**ARP-F**

- Cutout: Ø22mm
- Actuator Type: Flush
- Lamp Voltages: 110 or 220V AC with transformer  
Direct Lamp holder for other voltages
- Colours: Red, Green, Yellow, Blue or White

**ARP-R**

- Cutout: Ø22mm
- Actuator Type: Roulette
- Lamp Voltages: 110 or 220V AC with transformer  
Direct Lamp holder for other voltages
- Colours: Red, Green, Yellow, Blue or White

**ARF-F (FULL GUIDE)**

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green, Yellow, Blue or Black

**ARF-B (RUBBER COVER)**

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green, Yellow, Blue or Black

**ARF-P (PROTRUDING ACTUATOR)**

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green, Yellow, Blue or Black

**ARF-G (FULL-GUIDE) PROTRUDING ACTUATOR**

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green, Yellow, Blue or Black

**ARF-H (HALF-GUIDE) PROTRUDING ACTUATOR**

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green, Yellow, Blue or Black

**ARF-S (PUSHBUTTON SELECTOR SWITCH)**

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Black

**ARX-P Protruding Actuator**

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red or Green

**ARX-G (Full-Guide) Protruding Actuator**

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green, Yellow, Blue or White

**ILLUMINATED PUSHBUTTONS**

AR series controlling switch, it is possible to apply 2 types (Ø22 / Ø25) panel cutout dimension and in case of using the guide bracket, it is even possible to use it with the Ø30 hole. Various functions and designs have made the selection choice wider and attachment and detachment of the actuator/switch part became very simple.

### ARX-H (Half-Guide) Protruding Actuator

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green or Yellow



### SELECTOR SWITCHES

#### ARS-L (Long handle)

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green or Yellow



#### ARS-S (Short handle) Non-Illuminated

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green or Yellow



### ILLUMINATED SELECTOR SWITCH

#### ART (Short handle) Illuminated

- Cutout: φ22mm
- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green or Yellow
- Lamp Voltages: 110 or 220V AC with a transformer  
Or direct lamp holder for other voltages



### KEY SWITCH

#### ARK (Key switch)

- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green or Yellow



withdrawn: Left Right Left



withdrawn: Left Right Right Left Centre

### EMERGENCY PUSHBUTTON HEADS

#### ARE-3B (Momentary)

- Cutout φ22mm
- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red



#### ARE-4B (Momentary)

#### ARE-4P (Push Lock, Pull Reset)

- Cutout φ22mm
- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100MΩ min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red, Green, Yellow, Blue or White



AR series controlling switch, it is possible to apply 2 types (Ø22 / Ø25) panel cutout dimension and in case of using the guide bracket, it is even possible to use it with the Ø30 hole. Various functions and designs have made the selection choice wider and attachment and detachment of the actuator/switch part became very simple.

**ARE-6B (Momentary)****ARE-6P (Push lock, Pull reset)**

- Cutout  $\phi 22\text{mm}$
- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100M $\Omega$  min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red

**TURN RESET EMERGENCY PUSHBUTTON HEADS****ARE-3R (Push Lock, Turn Reset)**

- Cutout  $\phi 22\text{mm}$
- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100M $\Omega$  min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red

**ARE-4R (Push Lock, Turn Reset)**

- Cutout  $\phi 22\text{mm}$
- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100M $\Omega$  min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red

**ARE-6R (Push Lock, Turn Reset)**

- Cutout  $\phi 22\text{mm}$
- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100M $\Omega$  min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red

**KEY RESET EMERGENCY PUSHBUTTON HEADS****ARE-4K (Push lock, Key Reset)**

- Cutout:  $\phi 22\text{mm}$
- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100M $\Omega$  min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red

**ARE-6K (Push Lock, Key Reset)**

- Cutout:  $\phi 22\text{mm}$
- Rated voltage: 500V a.c. 50/60Hz
- Rated current: 5A 250V 50/60Hz
- Applying categories: AC-12, AC-13, AC-14, AC-15
- Insulation resistance: 100M $\Omega$  min
- Dielectric strength: 2000V a.c. for 1min
- Colours: Red



**FRMC 6** (Miniature Control Switch)

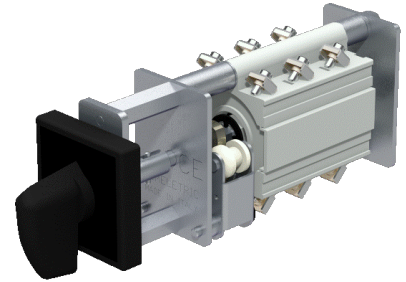
S - Normally Stock  
L - Limited Stock  
O - Ex Order

**COMETRIC**  
Specialized rotary and control switches

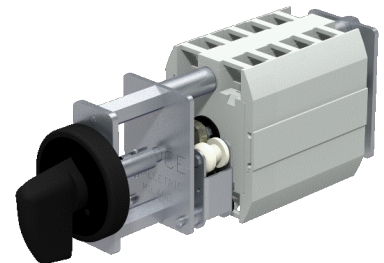
**CONTROL SWITCH****FRMC 6** (Key Operated Switch)

The FRMC 6 series miniature switches are used in all types of auxiliary circuits to connect and disconnect relays, measuring instrument, etc... Thanks to the special construction features they can also be used in hostile environmental and climatic conditions. The limited dimensions make for minimal occupation of space both inside and on the front of the panel.

- Available in Spring Return or Stay-put Positions.
  - Self-Cleaning Blade Wiping Action Contacts System, suitable for being used also in highly aggressive environments.
  - Shocks and Vibrations Proof, due to the contacts design.
  - Silver (STANDARD) or Gilded plated contacts.
  - High Mechanical strength, main shaft, frame and plate made in steel.
  - High Resistance Electrolytic treatment of the ferrous components suitable for Tropical Applications.
  - Terminals Screws with easy access from the rear of the Switch.
  - Can have from 2 to 8 positions Fixed or with automatic return.
  - Up to 12 Packets of contacts can be assembled.
  - Suitable for Pin Lugs – fork and Ring type Terminals.
- Key Operated Specific features:
- This is used when it is essential to prevent activation by non-authorized staff.
  - Up to 12 packets of contacts can be assembled with various key extraction systems.
  - Equipped with RONIS lock available all with the same numbering, all with different numbering or different in groups.

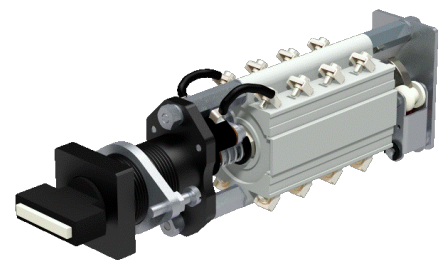
**FRMC 6 IP20** (Finger Proof protection)

- Available as Miniature Control Switch or Key Operated Switch.
- 48x48mm front plate variant available for all models.
- Self-Cleaning Blade Wiping Action Contacts System, suitable for being used also in highly aggressive environments.
- Shocks and Vibrations Proof, due to the contacts design.
- IP20 Finger Proof terminals in According to standard IEC 60529.
- High Mechanical strength, main shaft, frame and plate made in steel.
- Terminals Screws with easy access from the rear of the Switch.

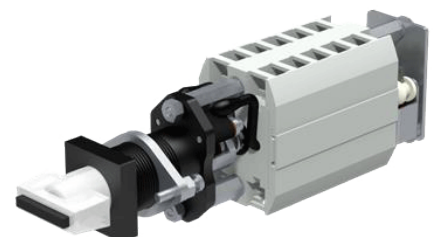
**FRMM 6** (Miniature Discrepancy Control Switch)**DISCREPANCY SWITCH**

These have the same function as the FRM10 discrepancy switches but are used with low currents and voltages. They are easy to adapt to the various mosaic systems. The limited dimensions make for minimal occupation of space both inside and on the front of the panel.

- Turn - Push to Turn
- The luminous signal is provided by an incandescent bulb or LED with a BA7s bayonet connector in various colours (white, yellow, red, green or the colour to order).
- Self-Cleaning Blade Wiping Action Contacts System, suitable for being used also in highly aggressive environments.
- Shocks and Vibrations Proof, due to the contacts design.
- High Mechanical strength, main shaft, frame and plate made in steel.
- High Resistance Electrolytic treatment of the ferrous components suitable for Tropical Applications.
- Terminals Screws with easy access from the rear of the Switch.

**FRMM 6 IP20** (Finger Proof protection)

- Turn - Push to Turn
- Self-Cleaning Blade Wiping Action Contacts System, suitable for being used also in highly aggressive environments.
- Shocks and Vibrations Proof, due to the contacts design.
- IP20 Finger Proof terminals in According to standard IEC 60529.
- High Mechanical strength, main shaft, frame and plate made in steel.
- High Resistance Electrolytic treatment of the ferrous components suitable for Tropical Applications.
- Terminals Screws with easy access from the rear of the Switch.

**FRMM 6 IP20** (Opaline Handle increased visibility)



**R16 SERIES**

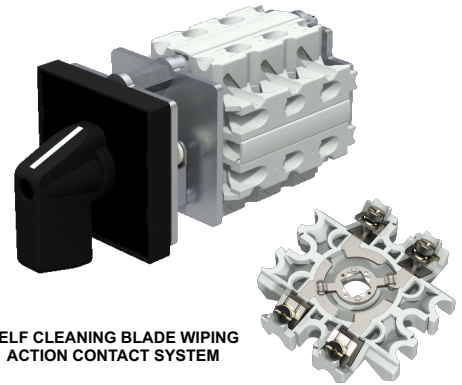
S - Normally Stock  
L - Limited Stock  
O - Ex Order

**COMELETRIC**  
Specialized rotary and control switches

**CONTROL SWITCH**

The Control switch series "R16" keep the same features of the previous models Comeletric, but in a smaller size. The small size of the Control Switch allow the fixing even in applications where there's a minimum depth.

- Available in Spring Return or Stay-put Positions.
- From 2 to 8 position Stay put or Spring return Type.
- Can be Mounted up 23 Decks of Contacts.
- Self-Cleaning Blade Wiping Action Contacts System, suitable for being used also in highly aggressive environments.
- Shocks and Vibrations Proof, due to the contacts design.
- IP20 Finger Proof terminals in According to standard IEC 60529.
- High Mechanical strength, main shaft , frame and plate made in steel.
- High Resistance Electrolytic treatment of the ferrous components suitable for Tropical Applications.
- Easy access to the Screws of Each terminals even when the Switch is Wired , for the maintenance operations.



SELF CLEANING BLADE WIPING  
ACTION CONTACT SYSTEM

**R20 SERIES**

Control switch with IP20 protected terminal, easy access to the contacts during wiring operations. It incorporates the best features of older switches; FR10 and FR10 Ip20. Thermal Current ( Ith ) 25 Ampere. They are easy to adapt to the various mosaic systems. The limited dimensions make for minimal occupation of space both inside and on the front of the panel.

- Available in Spring Return or Stay-put Positions.
- It can have from 2 to 8 positions fixed or with automatic return.
- It may be supplied with front plate size 48X48mm (Q4) or 64X64mm (Q7).
- Self-Cleaning Blade Wiping Action Contacts System, suitable for being used also in highly aggressive environments.
- Shocks and Vibrations Proof, due to the contacts design.
- IP20 Finger Proof terminals in According to standard IEC 60529.
- High Mechanical strength, main shaft , frame and plate made in steel.
- High Resistance Electrolytic treatment of the ferrous components suitable for Tropical Applications.
- Easy access to the Screws of Each terminals even when the Switch is Wired , for the maintenance operations.

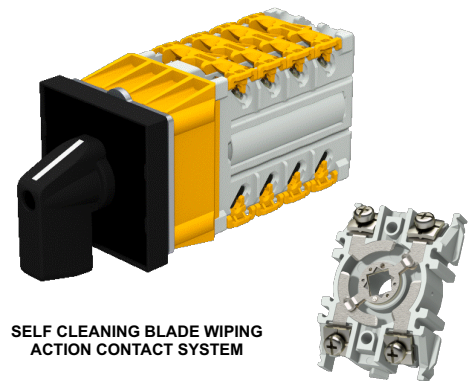
**CONTROL & LOAD SWITCH**

SELF CLEANING BLADE WIPING  
ACTION CONTACT SYSTEM

**R10 SERIES**

R10 control and selector switch is the latest innovative COMELETIC product. The slim design of its body contact makes it ideal for fitting in panels, control and driver desks or any other narrow electrical device where a little space is available , Wiring connections are possible with pins, forks, as well as ring type cable lugs. By positioning the CLIP, IP20 protection degree is fully guaranteed.

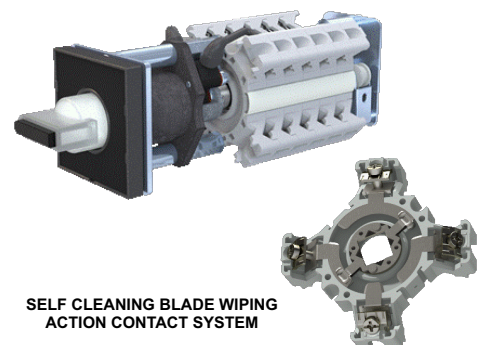
- Self-Cleaning Blade Wiping Action Contacts System, suitable for being used also in highly aggressive environments.
- Shocks and Vibrations Proof, due to the contacts design.
- IP20 Finger Proof terminals in According to standard IEC 60529.
- High Mechanical strength, main shaft , frame and plate made in steel.
- High Resistance Electrolytic treatment of the ferrous components suitable for Tropical Applications.
- Easy access to the Screws of Each terminals even when the Switch is Wired , for the maintenance operations (Only when lateral wiring is used).

**CONTROL & SELECTOR SWITCH**

SELF CLEANING BLADE WIPING  
ACTION CONTACT SYSTEM

**DR20 SERIES**

- Self-Cleaning Blade Wiping Action Contacts System, suitable for being used also in highly aggressive environments.
- Shocks and Vibrations Proof, due to the contacts design.
- IP20 Finger Proof terminals in According to standard IEC 60529.
- High Mechanical strength, main shaft , frame and plate made in steel.
- High Resistance Electrolytic treatment of the ferrous components suitable for Tropical Applications.
- Terminals Screws with easy access from the rear of the Switch.
- Easy access to the Screws of Each terminals even when the Switch is Wired , for the maintenance operations.

**DISCREPANCY SWITCH**

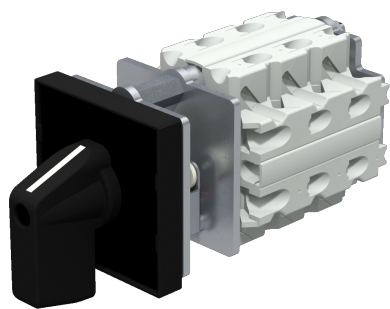
SELF CLEANING BLADE WIPING  
ACTION CONTACT SYSTEM



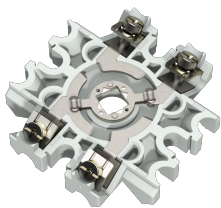
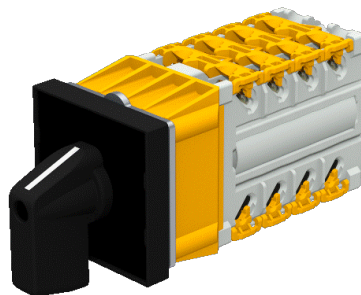
S - Normally Stock  
L - Limited Stock  
O - Ex Order



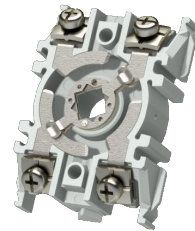
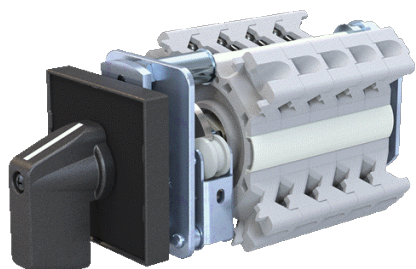
COMETRIC  
Specialized rotary and control switches



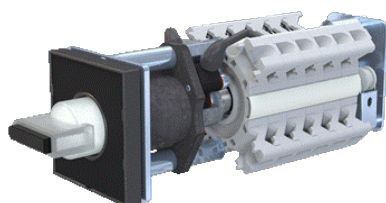
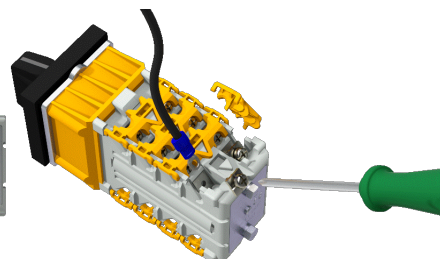
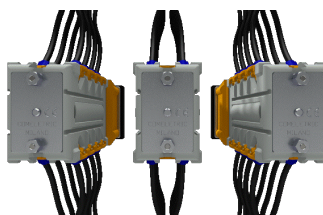
R16 - CONTROL SWITCH

SELF CLEANING BLADE WIPING  
ACTION CONTACT SYSTEM

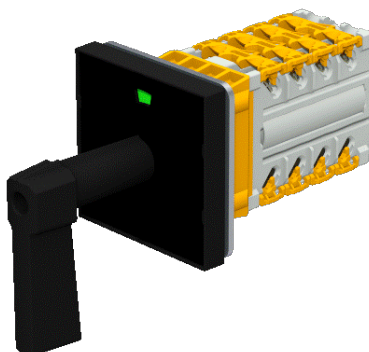
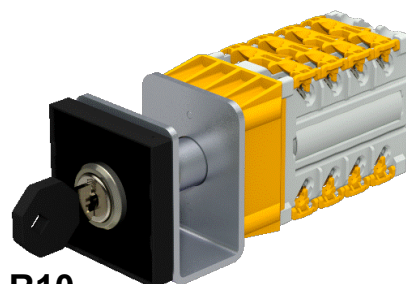
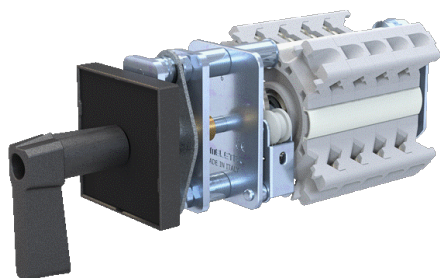
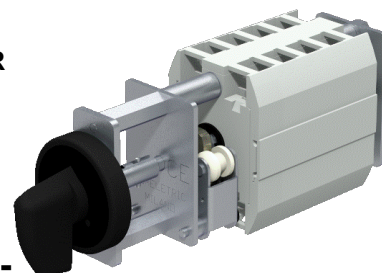
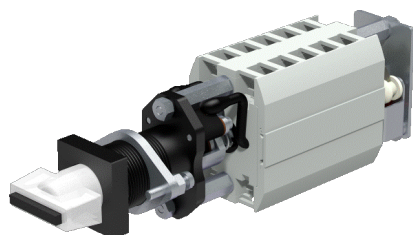
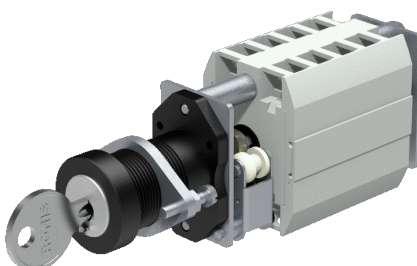
R10 - CONTROL &amp; SELECTOR SWITCH

SELF CLEANING BLADE WIPING  
ACTION CONTACT SYSTEM

R20 - CONTROL &amp; LOAD SWITCH



DR20 - DISCREPANCY SWITCH

R10 - SPRING RETURN LAST  
POSITION MECHANICAL INDICATORR10 -  
KEY OPERATED SWITCHR20 -  
PUSH OR PULL OPERATED SWITCHFRMC6 IP20 -  
MINIATURE CONTROL SWITCHFRMM6 IP20 -  
MINIATURE CONTROL SWITCHFRMC6 IP20 -  
KEY OPERATED SWITCHR20 - PADLOCKABLE  
CONTROL & LOAD SWITCH



## Wing Type 48x48mm



CODE	COLOR		
	HANDLE	F.PLTE	HOLDER
W002	■	■	■
W006	■	■	■
W042	■	■	■
W022	■	■	■
W018	■	■	■

## Wing Type 64x64mm



CODE	COLOR		
	HANDLE	F.PLTE	HOLDER
W010	■	■	■
W014	■	■	■
W044	■	■	■
W030	■	■	■
W026	■	■	■

## Small Pistol Grip Type 48x48mm



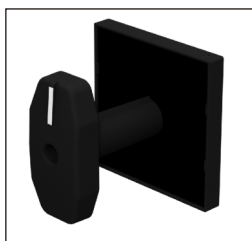
CODE	COLOR		
	HANDLE	F.PLTE	HOLDER
Y002	■	■	■
Y006	■	■	■
YXXX	■	■	■
Y022	■	■	■
Y018	■	■	■

## Pistol Grip Type 48x48mm



CODE	COLOR		
	HANDLE	F.PLTE	HOLDER
P002	■	■	■
P006	■	■	■
PXXX	■	■	■
P022	■	■	■
P018	■	■	■

## Oval Type 64x64mm



CODE	COLOR		
	HANDLE	F.PLTE	HOLDER
V010	■	■	■
V214	■	■	■
VXXX	■	■	■
V030	■	■	■
V026	■	■	■

## Small Oval Type 48x48mm



CODE	COLOR		
	HANDLE	F.PLTE	HOLDER
N002	■	■	■
N006	■	■	■
N033	■	■	■
N022	■	■	■
N018	■	■	■

## Pistol Grip Type 64x64mm



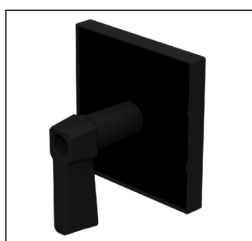
CODE	COLOR		
	HANDLE	F.PLTE	HOLDER
P010	■	■	■
P014	■	■	■
PXXX	■	■	■
P030	■	■	■
P026	■	■	■

## Oval Type 48x48mm



CODE	COLOR		
	HANDLE	F.PLTE	HOLDER
V002	■	■	■
V006	■	■	■
V035	■	■	■
V022	■	■	■
V018	■	■	■

## Small Pistol Grip Type 64x64mm



CODE	COLOR		
	HANDLE	F.PLTE	HOLDER
Y010	■	■	■
Y011	■	■	■
Y033	■	■	■
Y030	■	■	■
Y026	■	■	■

## Padlockable Type 48x48mm



CODE	COLOR			
	HANDLE	F.PLTE	HOLDER	BARREL
L002	■	■	■	■
L013	■	■	■	■
L014	■	■	■	■
L015	■	■	■	■
L016	■	■	■	■

## Small Padlockable Type 48x48mm



CODE	COLOR			
	HANDLE	F.PLTE	HOLDER	BARREL
L011	■	■	■	■
L017	■	■	■	■
L018	■	■	■	■
L019	■	■	■	■
L020	■	■	■	■

**AUDIBLE & VISUAL WARNING DEVICES  
AVIATION LIGHTING**

SECTION

**3**



**WWW.MIMIC.CO.ZA**



# AVIATION LIGHTING

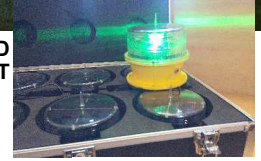


**INSET LIGHTS  
HELIPAD AND AIRFIELD**



**MARINE BEACON**

**PORTABLE HELIPAD  
LANDING KIT**



**HELIDECK**



**EXPLOSION  
PROOF**

**OBSTRUCTION  
PROOF**



**AIRFIELD SOLAR SIDE  
LIGHTS**



**OBSTRUCTION LIGHTS SINGLE AND DOUBLE  
VARIOUS VOLTAGES AND SOLAR**

## AUDIBLE & VISUAL



**SKTL**

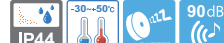


**LED Strobe Signal Light  
and Electric Horn Combinations**



**QWCD35**

**QWCD50**



**S180...**



**QT50L/ QT50ML  
QT70L/ QT70ML**



**LED Modular  
Tower Lights**



**Steel Housing  
Electric Horn/Heavy Industrial**

**105dB SN Range**



**SANA400**



**SM400  
Motorised Siren**



**SANA200**

**Airhorns for Vessels and  
Heavy Industrial Applications**



**Multiple Colour LED Steady/  
Flashing Signal Lights**



**SMCL**

## KIB18 MAGNETIC BUZZER



S - Normally Stock  
L - Limited Stock  
O - Ex Order

## COMMERCIAL AND FIRE

- Colour: Black
- Materials : Housing-ABS
- Ambient operating temperature : -20°C to +60°C
- Terminal: Lead

Model	Output	Tones	Voltage	Current	Protection
1S306L	85dB	Single Tone	DC6V	0.035A	N/A



## KIB38 LOW COST PIEZO BUZZER



S - Normally Stock  
L - Limited Stock  
O - Ex Order

- Colour: Ivory
- Materials : Stainless Steel Piezo Element, Housing- Fire Retardant ABS
- Ambient operating temperature : -20°C to +60°C
- Terminal: Pin or Lead

Model	Output	Tones	Voltage	Current	Protection
3S312LE	105dB	Single Tone	DC12V	0.030A	N/A
3S312P	105dB	Single Tone	DC12V	0.030A	
3S312L	105dB	Single Tone	DC12V	0.030A	
3S324L	100dB	Single Tone	DC24V	0.020A	
3P312L	100dB	Pulse Tone	DC12V	0.020A	



## BLACKBIRD PIEZO BUZZER



S - Normally Stock  
L - Limited Stock  
O - Ex Order

- Cutout: Ø30mm
- Colour: Black
- Robust construction AQ Military Standard
- Panel Mounted Piezo Buzzer
- Japanese Stainless Steel Piezo Element
- Medium to Loud sound output ideal for control Room Alarms
- Material of case: Nylon
- Terminals: Industrial screw for lug or remove screw to fit 6.3mm fast-on

Model	Output	Tones	Voltage	Current	Protection
BPM-12D	100dB	Single Tone	DC12V	0.030A	N / A
BPMS-12B	80dB	Single Tone	AC/DC12V	0.030A	
BPM-24D	80dB	Pulse Tone	DC24V	0.022A	
BPM-24B	80dB	Pulse Tone	AC/DC24V	0.022A	
BPMS-24D	80dB	Single Tone	DC24V	0.022A	
BPM-32B	80dB	Pulse Tone	AC/DC32V	0.022A	
BPMS-32B	80dB	Single Tone	AC/DC32V	0.022A	
BPM-48B	80dB	Pulse Tone	AC/DC48V	0.022A	
BPM-110A	80dB	Pulse Tone	AC/DC110V	0.010A	
BPM-220A	80dB	Pulse Tone	AC/DC220V	0.010A	
BPMS-220A	80dB	Single Tone	AC/DC220V	0.010A	



BPM-12D to BPM-48B



BPM-110A &amp; BPM-220A

Model	Output	Tones	Voltage	Current	Protection
BPM-125D Panel Mount	80dB	Pulse Tone	DC125V		N/A



BPM-125D Panel Mount

## S60ADH



S - Normally Stock  
L - Limited Stock  
O - Ex Order



## COMMERCIAL AND FIRE

- Elegant wall mounted buzzer horn
- Horn resonance structure gives the product low power consumption and high sound tone
- Cone sound diffusion structure provides wide & excellent signal sound • transmission effect
- Sound volume : Max. 100dB @ 1 meter
- Ambient operating temperature : -25°C to +50°C
- Protection rating : Ip54
- Certificates : CE Compliant

Model	Output	Tones	Voltage	Current	Protection
S60ADH	100dB	1 Buzzer Tone	DC12V DC24V AC110V AC220V	0.083A 0.042A 0.016A 0.008A	IP54



## SAB series

Alarm Bells with Lamp Attached for Vessels and Heavy Industrial Applications



**SAB130**  
-Bell housing Ø130mm

**SAB200**  
-Bell housing Ø200mm

**SAB130/ SAB200** Max 95dB

- Electric solenoid bell system provides excellent durability to vibration and shock for vessels and large facilities
- Special material for bell housing provides clear and crisp alarm sound
- Excellent vibration and shock resistant structure for superior durability
- Easy wiring and maintenance with terminal box attached
- Lamp attached provides visual signals
- Bell and lamp operation is synchronized. Each function can also operate separately
- Sound volume : Max 95dB at 1m
- Standard color : Housing-beige, Bell/ Lamp-Red
- Materials : Bell-Steel, Housing-ABS
- Ambient operating temperature : -25°C to +50°C
- Protection rating : IP44
- Cable entry : PG19



## Specifications

Model number	Frequency	Volume	Bell diameter	Voltage	Current	Certificates	Weight	Bell/ Lamp color
SAB130	400-600Hz	95dB	130mm	DC24V	1.100A	CE	1.88kg	• R-Red
				AC110V	0.350A			
SAB200			200mm	AC220V	0.300A			

95dB



SAB130

95dB



SAB200



## HAWK - HPM....



S - Normally Stock  
L - Limited Stock  
O - Ex Order



Fulleon

INDUSTRIAL



- Cutout: ø26mm
- Colour: Red
- Volume control
- High sound output, 101dB @ 1 meter
- Continuous & pulsed modes.
- Protection rating: IP 65
- Panel mounted.
- Low current consumption (8mA on 12V DC & 18mA on 24V DC).
- Weather protection (achieved by complete encapsulation of the electronic circuit)

Model	Output	Tones	Voltage	Current	Protection
HPM	92dB	32	DC12V DC24V	0.008A 0.018A	IP65



## EAGLE - EBM....



S - Normally Stock  
L - Limited Stock  
O - Ex Order



Fulleon



Very loud & continuously rated. It is far superior to the wind-up mechanical version in that it can't jam up with dust or burn out. The EAGLE has 32 different tones, switch selectable, and multiple units can be synchronised to WOOP together.

- Materials : Housing-ABS
- Enhanced output on six key tones
- Compatible with standard RoLP
- Volume Control 10dB
- Automatic Synchronisation
- Second tone for two stage alarms
- Lock-able base
- Ambient operating temperature : -25°C to +70°C
- Monitoring: Reverse polarity
- Color : Red

Model	Output	Tones	Voltage	Current	Protection
EBM	107dB	32	DC12V DC24V AC240V	0.008A 0.018A 0.035A	IP54 Shallow Base IP65 Deep Base



Shallow Base



Deep Base

## POWERED BASE

The Powered Deep Base incorporates a small 24Vdc supply that allows any of the compatible Fulleon sounders and Beacons to be operated from 110 or 230 Vac supplies.

- Wide input voltage range
- Suitable for external use
- Compatible with: RoLP, RoLP Solista, Flashni, Solex 3/10, Solista
- Ambient operating temperature : -25°C to +70°C
- Input Voltages: AC86V - AC264V @ 50-60Hz
- Output Voltage: DC24V
- Output Current: 0.1A
- Protection: IP65





**QWH35** (115dB SOUNDER)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

qlight

INDUSTRIAL

**QWH50** (123dB SOUNDER)

Wall mount electric horn that offers 31 pre-recorded warning sounds and 31 user selected sound messages

- Bit input offers 5 channels with 6 sound outputs
- Binary input offers 30 sound outputs and SD card (MP3) combination
- Options to select between 31 special warning sounds included in the pre-recorded sound type and SDcard (MP3) type
- Volume adjustment and sound selection switches located inside the unit.
- SDcard type allows the user to input the proper voice messages for specific operating conditions.
- The SDcard type 31 Special alarms built in which includes the voice alert from the SDcard (Mp3). 31 special warning sounds are built both in pre-recorded sound type and SDcard type
- Offers both Binary and Bit input mode options (only the SDcard type has the bit input)
- Materials : Horn-PC, Housing-ABS
- Ambient operating temperature : -30°C to +50°C
- Certificates : CE Compliant
- Compliant with RoHS directive



QWH35 series

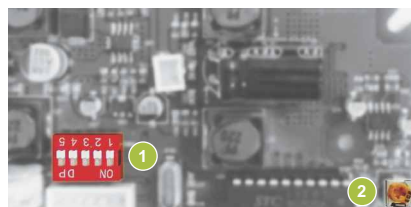


QWH50 series

Model	Output	Tones	Voltage	Current	Protection	
QWH35	Special Warning 115dB	31(pre-recorded) 31(user-selectable)	DC12V-24V AC110V-220V	Max 0.800A Max 0.290A	IP66	
QWH35SD	Mp3 Sound 113dB					
QWH50	Special Warning 123dB		DC12V DC24V AC110-220V	1.800A 1.000A Max 0.600A		
QWH50SD	Mp3 Sound 118dB					



## Pre-recorded sound type



- Switch for channel selection
- Switch for volume adjustment

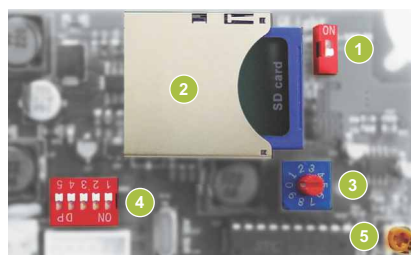
## The input method of built-in sound type

	1	2	3	4	5
ON	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
OFF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No.	1	2	3	4	5
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
:	:	:	:	:	:
31	1	1	1	1	1

Select from 31 pre-recorded output sound options by using a combination of the 5 channel input switches.

The binary input method allows you to express each of the 31 alarm sound signals with a "0" or "1" by switching the 5 channels on and off as shown in the table.

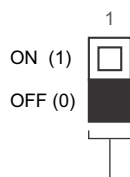
## SDcard (MP3) type



- Switch for sound pattern selection
- SDcard slot for MP3
- Switch for play mode selection
- Switch for channel selection
- Switch for volume adjustment

## Sound selection instruction for SDcard type

You can select between pre-recorded sound mode and SDcard sound (MP3) mode with the SOUND selection switch.



Selection between pre-recorded sound mode and SDcard sound mode  
0 : pre-recorded sound mode  
1 : SDcard sound mode

- 31 built-in alarm sounds and special sound
- Supports SDcards for external sound (MP3)
- Binary Input : 31Ch
- Bit Input : 5Ch(SDcard only)
- A versatile product that can play MP3 files via the SD card
- Channel 1 is set as the factory default

SRN...



S - Normally Stock  
L - Limited Stock  
O - Ex Order

Qlight

INDUSTRIAL



- Cost effective model with high signal sound
- A variety of sound selections between warning sounds, alarm sounds, melodies and voice messages to fit your sophisticated application needs
- User defined voice signal type(WV) shall be provided upon request
- Can adjust sound volume with the switch built inside the unit
- Materials : Housing-ABS(Standard Color : Red)
- Ambient operating temperature : -25°C to +50°C
- Certificates : CE Compliant



Model	Output	Tones	Voltage	Current	Protection
SRN	108dB	5 Warning Sounds	DC12V	0.322A	IP55
	108dB	5 Melodies	DC24V	0.233A	
	105dB	5 Alarms	AC110V	0.073A	
	98dB	5 Customisable Sounds	AC220V	0.036A	

SEN15...



S - Normally Stock  
L - Limited Stock  
O - Ex Order

SEN25...



- General Electric Horn
- Cost effective model with high signal sound
- A variety of sound selections between warning sounds, alarm sounds, melodies and voice messages to fit your sophisticated application needs
- User defined voice signal type(WV) shall be provided upon request
- Can adjust sound volume with the switch built inside the unit
- Materials : Housing-ABS
- Color : Red
- Ambient operating temperature : -25°C to +50°C
- Protection rating : Ip55
- Certificates : CE Compliant



Model	Output	Tones	Voltage	Current	Protection
SEN15	108dB	5 Warning Sounds	DC12V	0.366A	IP55
	108dB	5 Melodies	DC24V	0.266A	
	105dB	5 Alarms	AC110V	0.077A	
	98dB	5 Customisable Sounds	AC220V	0.038A	
Model	Output	Tones	Voltage	Current	Protection
SEN25	115dB	5 Warning Sounds	DC12V	2.211A	IP55
	115dB	5 Melodies	DC24V	1.022A	
	113dB	5 Alarms	AC110V	0.226A	
	108dB	5 Customisable Sounds	AC220V	0.113A	

SEHN25... (HEAVY DUTY)



S - Normally Stock  
L - Limited Stock  
O - Ex Order

HEAVY DUTY INDUSTRIAL

SEHN50... (HEAVY DUTY)



- Electric Horn Vessel for heavy Industria applications
- Steel housing provides excellent vibration and shock resistance under seismic conditions
- A variety of sound selections between warning sounds, alarm sounds, melodies and voice messages to fit your sophisticated application needs
- Can adjust sound volume with the switch built inside the unit
- Materials : Housing-Steel, Horn housing -Steel
- Housing standard color : Red
- Ambient operating temperature : -25°C to +50°C
- Suitable for outdoor installation
- Certificates : KIMM Compliant



Model	Output	Tones	Voltage	Current	Protection
SEHN25	115dB	5 Warning Sounds	DC12V	2.211A	IP55
	115dB	5 Melodies	DC24V	1.022A	
	113dB	5 Alarms	AC110V	0.226A	
	108dB	5 Customisable Sounds	AC220V	0.113A	
Model	Output	Tones	Voltage	Current	Protection
SEHN50	120dB	5 Warning Sounds	DC12V	2.440A	IP55
	120dB	5 Melodies	DC24V	1.186A	
	118dB	5 Alarms	AC110V	0.244A	
	115dB	5 Customisable Sounds	AC220V	0.122A	

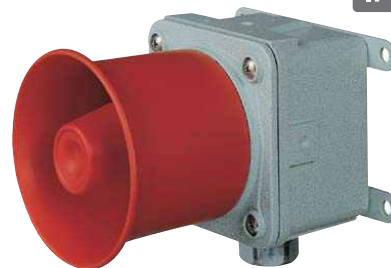
**SEWN30E...** (WALL MOUNT)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**HEAVY DUTY INDUSTRIAL****SEWN50E...** (WALL MOUNT)

- Electric horn with tightly sealed structure has excellent durability.
- Suitable for vessels, steel industry, and outdoor plant applications
- Aluminum housing provides excellent durability
- A variety of sound selection between warning sounds, alarm sounds, melodies and voice messages to fit your sophisticated application needs
- Can adjust sound volume with the dial built inside the unit
- Terminals located inside the terminal box or product
- Cable entry : 1/2"PF
- Materials : Housing-AI, Horn housing-PC/ STS316L
- Standard Housing color : MUNSSELL No. 7.5BG 7/2
- Ambient operating temperature : -30°C to +50°C
- Suitable for outdoor installation
- Certificates : KIMM, ABS, CCS, CE Compliant

Model	Output	Tones	Voltage	Current	Protection
SEWN30E	118dB	5 Warning Sounds	DC12V	2.211A	IP56
	118dB	5 Special Warning Sounds	DC24V	1.022A	
	118dB	5 Melodies	AC110V	0.226A	
	116dB	5 Alarms	AC220V	0.113A	
	113dB	5 Customisable Sounds			
Model	Output	Tones	Voltage	Current	Protection
SEWN50E	120dB	5 Warning Sounds	DC12V	2.440A	IP56
	120dB	5 Special Warning Sounds	DC24V	1.186A	
	120dB	5 Melodies	AC110V	0.244A	
	118dB	5 Alarms	AC220V	0.122A	
	115dB	5 Customisable Sounds			

**DB3** (EXPLOSION PROOF)

S - Normally Stock  
L - Limited Stock  
O - Ex Order



A lightweight flameproof sounder, the DB3 is constructed from corrosion resistant GRP and has been designed with a high level of ingress protection to cope with the harsh conditions typically found in offshore and exposed onshore environments.

- Exde, Zone 1 and Zone 2 use
- High output up to 118dB(A)
- 27 alarm tones
- IP66/67 protection
- Suitable for explosion protected applications
- Suitable for use in very high ambient noise levels
- User can select a distinctive tone to suit the operating environment
- Internal or exposed external use
- Material: UV stabilised GRP
- Colour: Red

Model	Output	Tones	Voltage	Current	Protection
DB3	118dB	27	DC12V	0.76A	Ip67
			DC24V	0.38A	
			DV48V	0.19A	
			AC230V	0.065A	



**SM30** (Ø80 MOTOR SIREN 110dB)

S - Normally Stock  
L - Limited Stock  
O - Ex Order



## MOTIRISED SIRENS

**SM40** (Ø100 MOTOR SIREN 116dB)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

- Ø80 / Ø100mm compact structure with 110dB / 116dB sound output
- Motor RPM SM30 10,000RPM / SM40 7,000RPM
- Housing standard color SM30 Red / SM40 GREY
- Materials SM30 Steel / SM40 ABS
- Insulation resistance : 100MΩ(at 500 VDC)
- Power consumption : 40W
- Ambient operation temperature : -25°C to +50°C
- Protection rating : IP44

Model	Output	Tones	Voltage	Current	Protection
SM30	110dB	MOTOR SIREN	DC12V DC24V AC110V AC220V	3.222A 1.779A 1.333A 1.000A	IP44
Model	Output	Tones	Voltage	Current	Protection
SM40	116dB	MOTOR SIREN	DC12V DC24V AC110V AC220V	6.778A 3.666A 1.000A 0.722A	IP44



SM30



SM40

**SM200** (120DB HEAVY DUTY MOTOR SIREN)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**SM400** (123DB HEAVY DUTY MOTOR SIREN)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

- Excellent durability and high volume are suitable for noisy environment
- Motor RPM SM200 7,200RPM / SM400 7,600RPM
- Housing standard color : Red
- Materials SM200 Steel/Al / SM400 Steel/ABS
- Insulation resistance : 100MΩ(at 500 VDC)
- Ambient operation temperature : -25°C to +50°C
- Protection rating : IP44
- Certificates : CE Compliant

Model	Output	Tones	Voltage	Current	Protection
SM200	120dB	MOTOR SIREN	DC24V AC110V AC220V	7.820A 2.105A 1.005A	IP44
Model	Output	Tones	Voltage	Current	Protection
SM400	123dB	MOTOR SIREN	DC24V AC110V AC220V	12.000A 6.300A 3.800A	IP44



SM200



SM400

**SANA200** (200-300Hz AIRHORN)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**SANA400** (400-600Hz AIRHORN)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**SANA700** (700-800Hz AIRHORN)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

- High volume horn uses compressed air to power the high pitched sound made with the diaphragm
- Uses a special material which consumes a small quantity of compressed air and has long durability
- Suitable for applications like a large and noisy engine rooms, a phone alarm in a pump room, or as an emergency alarm
- Sound volume : Max. 130dB at 1 meter
- Housing standard color : Red, Black, 7.5BG-MUNSELL No.7.5BG 7/2
- Materials : Horn-PC, Solenoid valve box-ABS
- Air pressure : 5-7kg/cm<sup>2</sup>
- Ambient operation temperature : -20°C to +60°C
- Certificates : KIMM Compliant

Model	Output	Tones	Voltage	Current	Protection
SANA200 SANA400 SANA700	130dB	AIR HORN	DC24V AC110V AC220V	0.488A 0.111A 0.055A	IP56



SANA400



SANA700



SANA200





## COMBO 1L



S - Normally Stock  
L - Limited Stock  
O - Ex Order

## COMBO UNITS

## S80L LED Strobe Light

- Ø80mm LED steady/ flashing signal lights
- Multi reflector system emits intense and constant level of signal lights
- Built-in switch for selection between steady and flashing mode
- Built-in buzzer available (Volume : Max 90dB at 1m)
- Flashing rate : 60-80 flashes/min
- Materials : Lens-AS, Housing-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -30°C to +50°C
- Protection rating : IP44
- Certificates : CE Compliant
- Compliant with RoHS directive

Model number	Voltage	Current	Certificates	Weight	Color
S80L	DC12V-24V	Max.0.125A	 DC24V only	0.20kg	• R-Red
	AC110V	0.035A		0.32kg	• A-Amber
	AC220V	0.020A		0.32kg	• G-Green • B-Blue

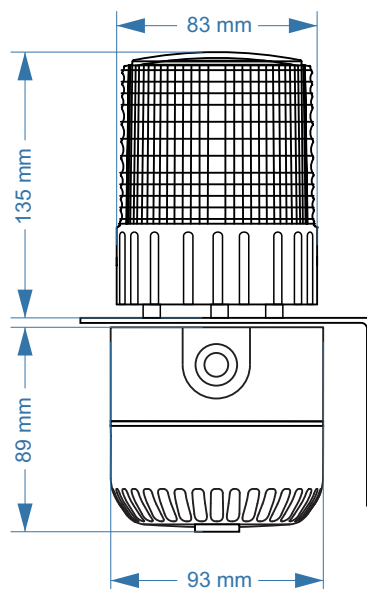


## EAGLE-EBM Sounder

Very loud & continuously rated. It is far superior to the wind-up mechanical version in that it cant jam up with dust or burn out. The EAGLE has 32 different tones, switch selectable, and multiple units can be synchronised to WOOP together.

- Materials : Housing-ABS
- Enhanced output on six key tones
- Compatible with standard RoLP
- Volume Control 10dB
- Automatic Synchronisation
- Second tone for two stage alarms
- Lock-able base
- Ambient operating temperature : -25°C to +70°C
- Monitoring: Reverse polarity
- Color : Red

Model	Output	Tones	Voltage	Current	Protection
EBM	107dB	32	DC12V DC24V AC240V	0.008A 0.018A 0.035A	IP65 Deep Base



## COMBO 1S



S - Normally Stock  
L - Limited Stock  
O - Ex Order

## COMBO UNITS

## S80S Xenon Lamp Strobe Light

- Ø80mm xenon lamp strobe signal lights
- High efficiency strobe light that offers excellent outdoor visibility and long-distance signal light luminance close to natural light
- Lamp connector fastening structure allows for convenient lamp replacement
- Flashing rate : 60-80 flashes/min
- Materials : Lens-AS, Housing-ABS,
- Ambient operating temperature : -30°C to +50°C
- Protection rating : IP54
- Certificates : CE Compliant

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
S80S	DC12V	0.433A	220V -350V	BGA2120	47	CE	0.21kg	• R-Red
	DC24V	0.216A		-BBC			0.21kg	• A-Amber
	AC110V	0.076A		I type			0.21kg	• G-Green
	AC220V	0.061A				-	0.21kg	• B-Blue



## EAGLE-EBM Sounder

Very loud & continuously rated. It is far superior to the wind-up mechanical version in that it can't jam up with dust or burn out. The EAGLE has 32 different tones, switch selectable, and multiple units can be synchronised to WOOP together.

- Materials : Housing-ABS
- Enhanced output on six key tones
- Compatible with standard RoLP
- Volume Control 10dB
- Automatic Synchronisation
- Second tone for two stage alarms
- Lock-able base
- Ambient operating temperature : -25°C to +70°C
- Monitoring: Reverse polarity
- Color : Red

Model	Output	Tones	Voltage	Current	Protection
EBM	107dB	32	DC12V	0.008A	IP65 Deep Base
			DC24V	0.018A	
			AC240V	0.035A	

# QWCD series

A new concept of using the horn cover as a light globe

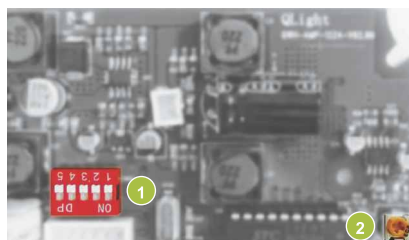


**QWCD series is an integrated horn and light globe.**

QWCD series	
QWCD35(T)	Built-in standard sound
QWCD35(T)SD	MP3(SD Card)
QWCD50	Built-in standard sound, large output sound
QWCD50SD	SD Card(MP3), Large output sound

- By using the horn cover as a light globe, the size of the product has been reduced significantly
- The color of light can be selected from red, yellow, green, or blue
- Product has two models : the basic model with 31 built-in sounds, and an external sound (MP3) type model
- Includes seven different playback functions; one function is the continuous playback function which provides constant message notification
- There are 31 built-in sounds that can be played in various environments, and supports a Binary input method
- You can save and play up to 31 mp3 files using a external SD Card
- Can easily set up the sounds using a PC
- By making the horn cover with polycarbonate (PC) material, The product has excellent durability and weather resistance
- Can be used for heavy-duty, ship, or outdoor use which requires waterproof, dustproof structure (IP66)

## Built-in sound type



- 1 Sound selection switch
- 2 Volume

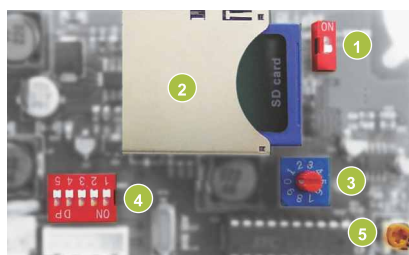
## The input method of built-in sound type

	1	2	3	4	5
No.	1	2	3	4	5
0	0	0	0	0	0
1	0	0	0	0	1
2	0	0	0	1	0
:	:	:	:	:	:
31	1	1	1	1	1

Built-in sound type model supports Binary input mode which provides a selection of 31 different input combinations for five kinds of sounds.

You can only select 2 numbers with 1 switch; "0", "1". With 5 switches you can have 31 combinations. Selecting one sound from 5 switches is the Binary input method.

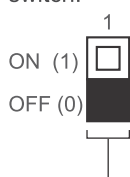
## SD Card(MP3) type



- 1 Sound setting switch
- 2 MP3 playable SD Card
- 3 Play mode setting switch
- 4 Sound select switch
- 5 Volume

## The sound selection method of SD Card type

Can easily select built-in sound or external sound(MP3) by using the sound selection switch.

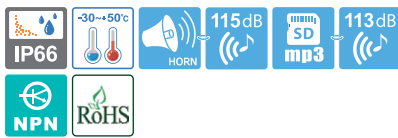


### The sound selection

- 0 : Select built-in sound  
1 : Select SD Card

- 31 built-in special warning sounds
- Supports SD Card (MP3)
- Binary Input : 31Ch
- Bit Input : 5Ch (SD Card only)
- A multifunctional product that can play MP3 files using an SD Card
- Please refer to Page 144 for detailed settings
- Built-in sound is set to #1 as default

# QWCD series



- **Qlight's exclusive innovative design - the horn cover emits light!**
- **Combination of 31 sound options built in and SD Card(MP3) option**



QWCD35 series



## Common Specifications(QWCD35/ QWCD35SD/ QWCD50/ QWCD50SD)

- Easy device customization with built in sound selection function, volume adjustment function and an SD Card slot for user inputted tones
- 31 available tones that can be selected for a variety of environments
- The user can select their own tones by inputting the MP3 file directly into the SD Card
- 31 pre-recorded tones available via binary input
- Suitable for use in environments that require a tight seal and superior dust protection rated IP66
- Easy wiring through external terminal box (QWCD35T, QWCD35TSD, QWCD50T, QWCD50TSD)
- Flashing rate : 60-80 flashes/min
- Materials : Horn-PC, Body-PC+ABS
- Ambient operating temperature : -50°C to +60°C(Standard type)  
-20°C to +50°C(SD Card type)
- Protection Rating : IP66
- Certificates : CE Compliant, UL Listed, CCS
- Compliant with RoHS directive



## QWCD35 LED Strobe Signal Light and Electric Horn Combination

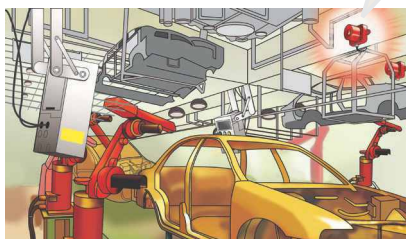
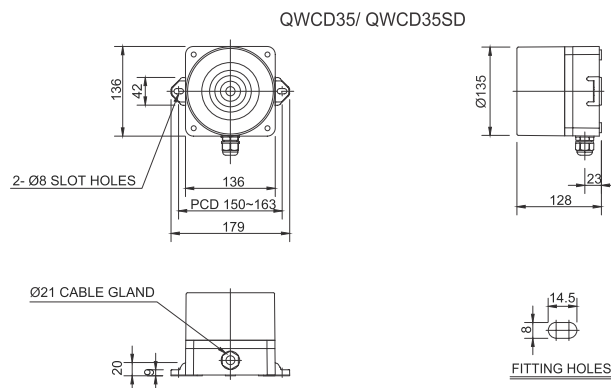
Model number	Voltage	Current	Sound Pattern and Volume	Certificates	Weight	Color
QWCD35 Built-in standard sound	DC12V-24V AC110V-220V	Max. 1.300A Max. 0.350A	• Bit Input : 5Ch (SD Card) • Binary Input : 31Ch • Warning Sounds: 115dB • MP3 Messages : 113dB	CE CCS UL DC only	1.10kg 1.15kg	• R-Red • A-Amber • G-Green • B-Blue
QWCD35SD MP3	DC12V-24V AC110V-220V	Max. 1.200A Max. 0.310A				

- ※ DC type model has a free-voltage range of 10V-30V.
- ※ AC type model has a free-voltage range of 100V-240V.



## Technical Diagram

(Units : mm)



QWCD35 model applied in an automobile production plant environment.



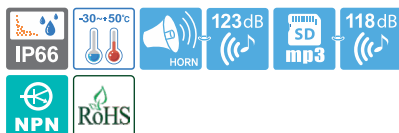
## QWCD50 LED Strobe Light and Electric Horn Combination

Model number	Voltage	Current	Sound Pattern and Volume	Certificates	Weight	Color
QWCD50 Built-in standard sound	DC12V-24V AC110V-220V	Max.5.450A Max.0.900A	• Bit Input : 5Ch (SD Card) • Binary Input : 31Ch • Warning Sounds: 123dB • MP3 Messages : 118dB	CE UL DC only	2.70kg 3.00kg	• R-Red • A-Amber • G-Green • B-Blue
QWCD50SD MP3	DC12V-24V AC110V-220V	Max.3.800A Max.0.720A				

- ※ DC type model has a free-voltage range of 10V-30V.
- ※ AC type model has a free-voltage range of 100V-240V.



# QWCD series



- Qlight's exclusive innovative design - the horn cover emits light!
- Combination of 31 sound options built in and SD Card(MP3) option

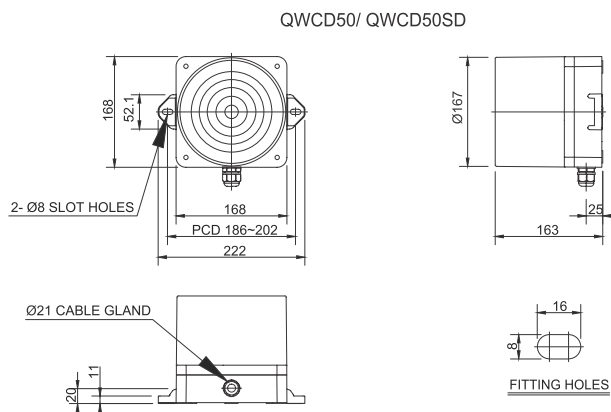


QWCD50 series



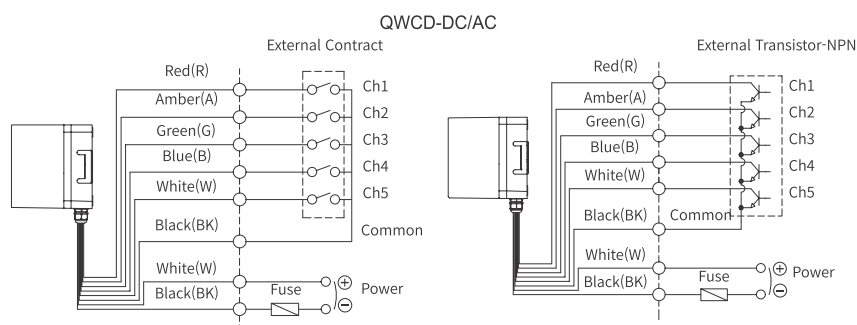
## Technical Diagram

(Units : mm)



## Wiring Instructions

- Standard specification : Uses internal switches
- Customization : Uses external contact



- Wiring to external contact and transistor
- Wiring to transistor, use the NPN transistor
- Power line standard UL1015 AWG18(0.75sq)×2C 400mm
- Signal line standard UL1007 AWG22(0.3sq) 400mm
- DC type : Black output line is negative(-)
- Channel selection : Bit input, 5 sound tones for each group
- Binary input 31 sound tones output

\* Please refer to Page 146 for set of channel input.  
(If wiring is changed by channel selection switch)



## Customization

- External sound selection line(Model number : -LC)



## Ordering Specification

QWCD50	-	110/220	-	R	-	LC
[Model number]		[Voltage]		[Color]		[sound selection]
• QWCD50 • QWCD50SD		• 12/24 -DC12V-24V • 110/220 -AC110V-220V		• R-Red • A-Amber • G-Green • B-Blue		• (Blank) -Standard type • LC Type -Uses external contact

QAD...



S - Normally Stock  
L - Limited Stock  
O - Ex Order

Qlight

COMBO UNITS



- Combination of warning light and horn allow for both visual and audible signal transmission at once
- Flashing rate : 60-80 flashes/min(Built-in Steady-Flash selection switch)
- Appropriate sound tones can be chosen depending on the various working environment among various available sound tones.
- Sound tone selector and volume controller in front of the device allows for convenient use
- Built-in 30 sound tones, Support Binary and Bit input modes
- Bit input mode consists of 5 sound types with 6 groups. Choose one of the groups to play sounds
- Materials: Lens - PC, Housing - ABS
- Ambient operating temperature : -30°C to +50°C
- Certificates: CE, UL Compliant

Model	Output	Tones	Voltage	Current	Light Source	Lens Colours	Protection
QAD80H Ø80	100dB	30 Built in Sounds	DC12-24V	0.640A	LED Steady/Flashing	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP65
QAD80BZ Ø80	105dB	High Buzzer	DC12V DC24V	0.500A 0.270A	LED Steady/Flashing	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP65
Model	Output	Tones	Voltage	Current	Light Source	Lens Colours	Protection
QAD100H Ø100	100dB 95dB	30 Built in Sounds 30 Mp3 Sounds	DC12V-24V AC110V-220V	1.055A 0.360A	LED Steady/Flashing	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP65
QAD100BZ Ø100	105dB	High Buzzer	DC12V DC24V AC110V-220V	0.550A 0.300A 0.100A	LED Steady/Flashing	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP65
Model	Output	Tones	Voltage	Current	Light Source	Lens Colours	Protection
QAD125H Ø125	115dB	30 Built in Sounds 30 Mp3 Sounds	DC12-24V AC110V-220V	1.055A 0.360A	LED Steady/Flashing	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP65
QAD125BZ Ø125	105dB	High Buzzer	DC12V DC24V AC110V-220V	0.550A 0.300A 0.100A	LED Steady/Flashing	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP65



S60AD.



S - Normally Stock  
L - Limited Stock  
O - Ex Order

Qlight



- LED, Xenon or Bulb options
- Ø60mm warning light with high volume built-in buzzer in a vertical configuration
- Cone-shaped horn helps diffuse sound to generate clear and distinctive sound signals
- Suitable for applications that require downward audible signals in elevated locations
- Buzzer sound volume (Max. 100dB at 1m)
- Employs a special filament to prevent damage caused by possible voltage variations
- Selectable between steady and flashing mode
- Flashing rate : 60-80 flashes/min
- Materials : Lens-AS, Body-ABS
- Ambient operating temperature : -30°C to +50°C
- Certificates : CE Compliant

Model	Output	Tones	Voltage	Current	Light Source	Lens Colours	Protection
S60ADL Ø60	100dB	High Buzzer	DC12V DC24V AC110V AC220V	1.008A 0.556A 0.127A 0.064A	LED Steady/Flashing	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP54
Model	Output	Tones	Voltage	Current	Light Source	Lens Colours	Protection
S60ADS Ø60	100dB	High Buzzer	DC12V DC24V AC110V AC220V	0.550A 0.266A 0.088A 0.044A	Xenon Steady/Flashing	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP54
Model	Output	Tones	Voltage	Current	Light Source	Lens Colours	Protection
S60ADB Ø60	100dB	High Buzzer	DC12V DC24V AC110V AC220V	1.008A 0.556A 0.127A 0.064A	12V10W 24V10W 110V10W 220V10W Bulb	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP54



**SKTLM** (CUBE SHAPED LED WARNING LIGHT WITH MAGNETS)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

Qlight

COMBO UNITS / VEHICLE

**SKTLBM** (BUILT IN SIREN BUZZER)

- High brightness LED with special light filter structure provides clear signal light transmission even in outdoor environments with intense sunlight
- Excellent vibration and impact resistance with use of polycarbonate lens
- Lens with special coating material maintains transparency even when exposed to harsh environments where scratches, dust and direct sunlight is possible
- Water resistant, dust-proof, and weather resistant structure provides excellent durability under harsh environments such as rainstorms, frost, and intense heat
- Different lights from side to side improve efficiency of emergency signal transmission effect
- 4 strong magnets enable secure attachment to the desired place (SKTLBM)
- Convenient emergency signal sound control with built-in ON/OFF switch
- Sound volume : Max. 105dB at 1m
- Easy control of warning sound with built-in ON/OFF switch
- Materials : Lens, Housing-PC
- Ambient operating temperature : -30°C to +50°C
- Protection rating : Ip66



Model	Output	Tones	Voltage	Current	Light Source	Lens Colours	Protection
SKTLB Direct Mount	105dB	Siren Buzzer	DC12V DC24V	1.250A 0.705A	LED	<ul style="list-style-type: none"> <li>• Red</li> <li>• Amber</li> <li>• Green</li> <li>• Blue</li> <li>• White</li> </ul>	IP66
SKTLBM Magnetic Base	105dB	Siren Buzzer	DC12V DC24V	1.250A 0.705A	LED	<ul style="list-style-type: none"> <li>• Red</li> <li>• Blue</li> </ul>	IP66

**SKTL** (Cubic LED Warning Light direct mount)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

- High brightness LED with special light filter structure provides clear signal light transmission even in outdoor environments with intense sunlight
- Excellent vibration and impact resistance with use of polycarbonate lens
- Lens with special coating material maintains transparency even when exposed to harsh environments where scratches, dust and direct sunlight is possible
- Water resistant, dustproof, and weather resistant structure provides excellent durability under harsh environments such as rainstorms, frost, and intense heat
- Flashing rate : 60-80 flashes/min
- Materials : Lens, Housing-PC
- Ambient operating temperature : -30°C to +50°C
- Protection rating : Ip66



SKTL



Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
SKTL	Cube-shaped LED Warning Light Direct Mount	DC12V DC24V	1.000A 0.555A	LED	<ul style="list-style-type: none"> <li>• Red</li> <li>• Amber</li> <li>• Green</li> <li>• Blue</li> <li>• White</li> </ul>	IP66

**SKTLB** (Cubic LED Warning Light built in buzzer direct mount)

Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
SKTLB	Cube-shaped LED Warning Light Built in Buzzer	DC12V DC24V	1.125A 0.560A		<ul style="list-style-type: none"> <li>• Red</li> <li>• Amber</li> <li>• Green</li> <li>• Blue</li> <li>• White</li> </ul>	IP66
Volume						
Max 105dB						



SKTLB

## PLROB....



S - Normally Stock  
L - Limited Stock  
O - Ex Order



## ENCAPSULATED WARNING LIGHTS



This range of encapsulated warning lights are constructed in a clear impact resistant poly-carbonate lens and is available in various brightnesses and colours. The printed circuit board holding the LED's and associated circuitry are encapsulated into the poly-carbonate lens with an epoxy resin. This makes the product moisture proof and highly reliable. These warning lights are available in the steady on state or with built in flashers. The termination for these units is available on the rear of the lens via two M3 brass screws, thus termination with ring lugs is ideal. The units can be supplied with a two entry back box or can be ordered separately.

Model number	Mode	Colour	Voltage
PLROBFD-U	Flashing	Std Diffused Red	DC24V;48V;110V or 500V DC220V special order only
PLROBFD-M		Super Diffused Red	
PLROBFC-M		Super Clear Red	
PLROBFEC-M		Extra Super Clear Red	
PLROBFC-G		Green	
PLROBFC-K		Super Clear Yellow	
PLROBFD-N		True Orange	
PLROB-D-U	Steady-On	Std Diffused Red	DC12V;24V;148V;110V or 220V
PLROB-D-M		Super Diffused Red	
PLROB-C-M		Super Clear Red	
PLROBE-C-M		Extra Super Clear Red	
PLROB-C-G		Green	
PLROB-C-T		True Green	
PLROB-C-K		Super Clear Yellow	
PLROB-C-B		Std Clear Blue	
PLROB-D-N		True Orange	



Standard LED Version



Surface Mount LED Version

## LE110....



S - Normally Stock  
L - Limited Stock  
O - Ex Order

- Cutout: Ø106mm
- Used mainly on mines for robots, refuge bays...
- Polycarbonate lens is vandal proof & the 76 LED's give a large bright light.
- Approximate lifespan of 15 Years
- High bright version's available on special order with the ability to position the LED's at at
- 45° angle for applications where the units are mounted high above normal eye level.
- Bare board or Rear back Epoxy potted version available.
- Colours: Red, green, yellow, orange, blue or bi-colour (Red & Green).
- Voltages: 12, 24, 32, 110, 220VAC/DC

Model number	Version	Colour	Voltage
LE110D-U	Bare Board	Std Diffused Red	AC/DC 12V;24V;32V; 110V or 220V
LE110D-M		Super Diffused Red	
LE110D-G		Water Clear Green	
LE110D-Y		STD Diffused Yellow	
LE110D-K		Super Yellow	
LE110D-N		True Orange	
LE110D-D		Bi-Colour(Red & Green)	
LE110E-U	Epoxy Board	Std Diffused Red	
LE110E-M		Super Diffused Red	
LE110E-G		Water Clear Green	
LE110E-Y		STD Diffused Yellow	
LE110E-K		Super Yellow	
LE110E-N		True Orange	
LE110E-D		Bi-Colour (Red& Green)	







Durobot illuminated and showing hang hooks

Durobot – D (double) -S (single sided - D (double sided )  
Durobot – S (Single) - S (single sided - D (double sided )  
Including various voltages

### CURRENT DRAW

Red 110VAC / 220VAC - 17mA

Green 110VAC / 220VAC - 15mA

24VDC - 120mA

32 VDC - 90mA

48VDC - 100mA

### APPLICATION

Used mainly in the mining sector or harsh environments for Robot indication. The LED PCB is encapsulated into the Poly-carbonate lens & fiberglass reinforced polyester base with an epoxy resin backfill making the product IP68.

This product is robust, waterproof, shockproof, corrosion proof and energy efficient.

This unit can be supplied in many formats & combinations.

- Red, Green, Yellow, Amber, Blue or White.
- Steady or Flashing.

Two units bolted together make up a double aspect(front & back).

## PLROB LED ROBOT BOX

## LE110 LED ROBOT BOX



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**ADDA**

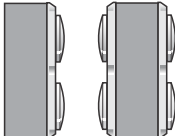
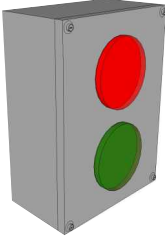
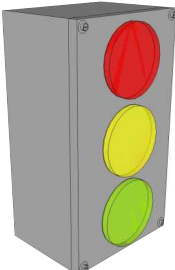
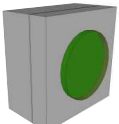
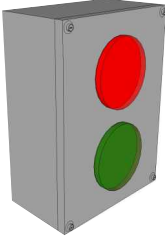
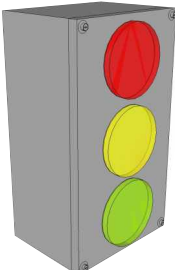
## ROBOT INDICATORS







The enclosure dimensions may vary depending on what is available.  
Please contact us with your robot indication requirements.  
We are very flexible & have manufactured many different types of LED robot boxes.

- For Underground & Indoor use
- 1, 2 or 3 way options Single or Double Sided
- Using PLROB or LE110 Warning Lights
- With or without Midi Peaks
- Colours: Red, Green or Bi-colour.
- Voltages: 24V, 32V, 110V, 220V AC/DC

## Robot Box Options

Dual or Single Aspect	Dual or Single Aspect	Dual or Single Aspect
		
		
<ul style="list-style-type: none"> <li>• ROB-1L(1 Lense)</li> <li>• ROB-1L-DA (1 Lense Dual Aspect)</li> </ul>	<ul style="list-style-type: none"> <li>• ROB-2L(2 Lenses)</li> <li>• ROB-2L-DA (2 Lenses Dual Aspect)</li> </ul>	<ul style="list-style-type: none"> <li>• ROB-3L(3 Lenses)</li> <li>• ROB-3L-DA (3 Lenses Dual Aspect)</li> </ul>

## Assembly &amp; Accessories

 <ul style="list-style-type: none"> <li>• PLROB Encapsulated warning lights - see pg 3.00</li> </ul>	 <ul style="list-style-type: none"> <li>• Custom Enclosures to meet requirements (see below)</li> </ul>	 <ul style="list-style-type: none"> <li>• Optional Midi Peaks</li> </ul>
 <ul style="list-style-type: none"> <li>• LE110 Encapsulated warning lights - see pg 3.00</li> </ul>		



LE110 LED ROBOT BOX



PLROB LED ROBOT BOX

## REFUGE BAY BOX

## Description

This unit indicates the position of a refuge bay chamber.

## Operation

While under mains supply the UNIT FLASHES GREEN.

On loss of mains supply the colour of the 4 LED Lamps changes to flashing RED with simultaneous operation of Audible Alarm. this audible alarm can be silenced by operation of a pushbutton mounted on the lower side of the enclosure.

Standby time:

Greater than 8hrs

Battery:

10A/H Lithium Phosphate Battery

LED Cluster:

High bright Red & Green LED's

Enclosure:

Powder coated Mild Steel Orange, Stainless Steel or 3Cr12, IP65

input Power:

220v / 110v

Markings:

"Refuge Bay" STD other on application

Brackets:

"Standard" others on application





## Provides excellent durability to extreme vibration and shock

Suitable for container spreader, harbor loading equipment, and outdoor conveyor applications



### SSL LED Steady Signal Lights for Container Spreaders

- Special anti-reflective lens applied to avoid mistaking the reflected sun light as a signal light (W type)
- M type has excellent visibility from a distance with clear and distinctive layer colors
- Superior durability in extreme vibration and shock thanks to a molded assembly process instead of conventional bolt fastened assembly method
- Customized color arrangement available (Lens color configuration is initiated from the side of cable entry)
- Materials : Housing-Al, Lens-PC
- Ambient operating temperature : -40°C to +60°C
- Certificates : CE Compliant
- Protection rating : IP68 (IEC60529)



#### Specification

Model number	Voltage	Current	Certificates	Weight	Cable entry	Color
SSL100	DC24V	0.151A	CE DC24V Only	1.80kg	Select one option between M12-5PIN (male) and C10-Cable	● R-Red
	AC110V	0.040A		1.85kg		
	AC220V	0.040A		1.85kg		
SSL200	DC24V	0.302A		2.15kg		● R-Red ● G-Green
	AC110V	0.080A		2.20kg		
	AC220V	0.080A		2.20kg		
SSL300	DC24V	0.453A		2.50kg		● R-Red ● A-Amber ● G-Green
	AC110V	0.120A		2.55kg		
	AC220V	0.120A		2.55kg		
SSL400	DC24V	0.604A		2.95kg		● R-Red ● A-Amber ● G-Green ● B-Blue
	AC110V	0.160A		3.00kg		
	AC220V	0.160A		3.00kg		



SSL100W/ SSL200W  
SSL300W/ SSL400W

#### SSL series Vibration and Shock Test Conditions

Axial direction	Direction X	Direction Y	Direction Z
Vibration test conditions	10-38 Hz, 3.5mm 38-500 Hz, 20g 1 oct/min, 2 hours	10-38 Hz, 3.5mm 38-500 Hz, 20g 1 oct/min, 2 hours	10-38 Hz, 3.5mm 38-500 Hz, 20g 1 oct/min, 2 hours
Shock test conditions	50g 6 ms ±1000 shocks	50g 6 ms ±1000 shocks	50g 6 ms ±1000 shocks

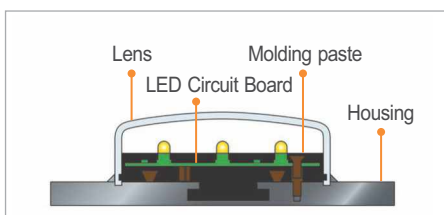


#### Ordering Specification

<b>SSL100W</b>	-	<b>24</b>	-	<b>R</b>
[Model number]		[Voltage]		[Color]
<ul style="list-style-type: none"> <li>• SSL100W</li> <li>• SSL200W</li> <li>• SSL300W</li> <li>• SSL400W</li> </ul>		<ul style="list-style-type: none"> <li>• 24-DC24V</li> <li>• 110-AC110V</li> <li>• 220-AC220V</li> </ul>		<ul style="list-style-type: none"> <li>● R-Red</li> <li>● A-Amber</li> <li>● G-Green</li> <li>● B-Blue</li> </ul>



SSL100M/ SSL200M  
SSL300M/ SSL400M



#### Cross-section of lens structure

SSL series has high resistance to vibration and shock by sealing the housing, lens, and LED circuit board together with epoxy mold compound.



S - Normally Stock  
L - Limited Stock  
O - Ex Order

This range of IP65 traffic lights in extruded, anodized and hot painted aluminium has been designed to control slow traffic. Ideal for residential hotels, blocks of flats, car parks, car washes, factories & mines etc. It can be oriented through an angle of about 200° with 3° clicks. The material used for the plastic parts is PA6 30% glass fibre. The standard unit has a 220v 70w long life filament lamp (8 000 Hours on average). It is also available on special order with extended long life led's (50k+ hours on average).

### FILAMENT LAMP -220AC/DC(8 000 hours life expectancy)

**ORDER No. MIDIF**  -  -

No. of lights	1	First Colour	Voltage	220	Polarity	Second&Third
2	R	Red,			B	AC/DC
3	G	Green,			R	Red,
	Y	Yellow			G	Green,
					Y	Yellow

### LED LAMP -12, 24,48VDC & 110,220VAC(150 000 hours life expectancy)

**ORDER No. MIDIL**  -  -

No. of lights	1	First Colour	Voltage	12	Polarity	Second&Third
2	M	Super Red,			B	AC/DC
3	G	Std Green,	24		M	Super Red,
	T	Super Green	48		G	Std Green,
	K	Super Yellow	110		T	Super Green
			220		K	Super Yellow

1,2 or 3 way Light options  
Vertical or Horizontal fixing



Red  
Yellow  
Green



Using our pre-programmed Super Relay PLC these robots can be used for crossroad, intersection & single lane bi-directional applications where traffic control is extremely important.



#### Common Specifications(ST45ML-Ex/ STB45ML-Ex)

- Non-sparking explosion protected high-intensity LED steady tower lights
- Excellent distance visibility by using a special reflector to arrogate the light from the LED filament
- Reduced maintenance with use of long-lasting LED light source
- Lens and housing are made of polycarbonate with excellent durability, suitable for potentially hazardous and explosive environments
- Can be used for Zone 2 application with explosion proof rating of nR
- ※ Zone2 : Equipment is capable of operating under abnormal high risk environmental conditions for a short duration
- Materials : Lens-PC, Housing-PC, Mounting housing-Al
- Certificates : KCs, CCC
- Explosion protection rating : KCs - Ex nR II T4 IP54, Ex nR II T6 IP54(Layer 2, 3 Only)  
CCC, NEPSI - Ex nR IIC T6 Gc
- Protection rating : IP54
- Ambient operating temperature : -20°C ≤ T<sub>amb</sub> ≤ +40°C



#### ST45ML-Ex Non-Sparking Explosion Proof LED Tower Light

Model number	Layer	Voltage	Current	Certificate	Weight	Color
ST45ML-Ex	1	AC/DC12V	0.024A	  	0.19kg	• R-Red
		AC/DC24V	0.012A		0.19kg	
	2	AC/DC12V	0.048A		0.24kg	• R-Red
		AC/DC24V	0.024A		0.24kg	• G-Green
	3	AC/DC12V	0.072A		0.29kg	• R-Red
		AC/DC24V	0.036A		0.29kg	• A-Amber • G-Green
	4	AC/DC12V	0.096A		0.32kg	• R-Red • A-Amber • G-Green
		AC/DC24V	0.048A		0.32kg	• B-Blue
	5	AC/DC12V	0.120A		0.36kg	• R-Red • A-Amber • G-Green • B-Blue
		AC/DC24V	0.060A		0.36kg	• W-White

#### Non Sparking Explosion Proof LED Tower Lights



#### ST45ML-Ex Standard Model

Non-sparking explosion proof LED tower lights suitable for use in zone 2 hazardous areas

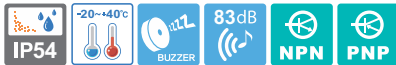


## STB45ML-Ex



S - Normally Stock  
L - Limited Stock  
O - Ex Order

Built-in Buzzer Non-Sparking Explosion Proof Tower Lights



## STB45ML-Ex Built-in buzzer type

Non-sparking explosion proof  
LED tower lights suitable for  
use in zone 2 hazardous areas



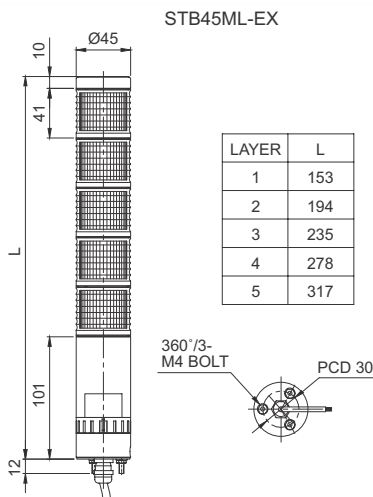
STB45ML-Ex



Sound volume  
adjustable by volume  
control lever



### Technical Diagram (Units : mm)



## STB45ML-Ex Built-in Buzzer Non-Sparking Explosion Proof Tower Lights

- Sound volume adjustable by volume control lever
- Sound volume : Max 83dB at 1m

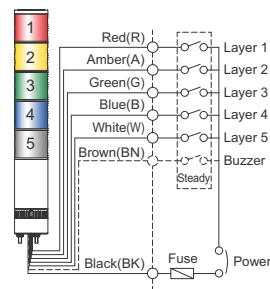
Model number	Layer	Voltage	Current	Certificates	Weight	Color
STB45ML-Ex	1	AC/DC12V	0.040A	  	0.26kg	• R-Red
		AC/DC24V	0.043A		0.26kg	
	2	AC/DC12V	0.064A		0.30kg	• R-Red
		AC/DC24V	0.055A		0.30kg	• G-Green
	3	AC/DC12V	0.088A		0.34kg	• R-Red
		AC/DC24V	0.067A		0.34kg	• A-Amber • G-Green
	4	AC/DC12V	0.112A		0.38kg	• R-Red • A-Amber • G-Green
		AC/DC24V	0.079A		0.38kg	• B-Blue
	5	AC/DC12V	0.136A		0.42kg	• R-Red • A-Amber • G-Green
		AC/DC24V	0.091A		0.42kg	• B-Blue • W-White



### Wiring Instructions

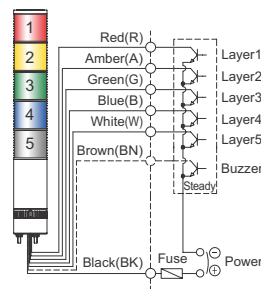
ST45ML-Ex-DC  
STB45ML-Ex-DC

EXTERNAL CONTACT

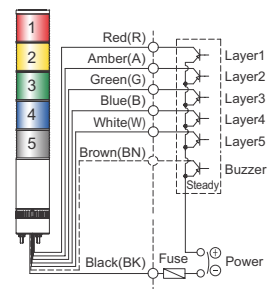


ST45ML-Ex-DC  
STB45ML-Ex-DC

EXTERNAL TRANSISTOR-NPN



EXTERNAL TRANSISTOR-PNP



- External power line/ Signal line standard : UL2464 AWG22(0.3sq) 400mm
- This product can be wired regardless of polarity.



### Ordering Specification

ST45ML-Ex	-	3	-	12	-	RAG
[Model number]		[Layer]		[Voltage]		[Color]
• ST45ML-Ex • STB45ML-Ex		• 1-1layer • 2-2layers • 3-3layers • 4-4layers • 5-5layers		• 12-DC12V • 24-DC24V		• R-Red • A-Amber • G-Green • B-Blue • W-White



### Cautions in use of explosion proof tower lights

Contact structure of an explosion proof product must be a qualified part we provide, please do not disassemble, assemble, modify or repair arbitrarily.

**QT50L** (Ø50mm Modular Multi-Functional LED Tower Lights)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**SIGNAL TOWER LIGHTS****QT70L** (Ø70mm Modular Multi-Functional LED Tower Lights)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

- QT series tower light is a multifunctional product that allows for significant customization to your specific needs using our special modular components such as the lens, buzzer, ethernet cord, USB cord and mounting brackets. Additional tools are not required for assembly
- All modular components can be arranged freely to the user desired position (upper/ lower) except for the dial tone lever.
- Buzzer modules position can be chosen freely. The buzzer module is designed to be compatible with the light modules by using a novel architecture developed by Qlight. Therefore, users can reposition the module to the location they desire.
- Can select from a variety of LED light functions, The LED indicator can provide varying signals/actions by using different independent light modules; flashing, strobe, rotating. For example, green would indicate normal operation, a red module would indicate risk which can be highlighted further by selecting a strobe flashing or rotating module.
- Select from 15 kinds of buzzer tones There are 4 audible modules available which includes one buzzer type module and 3 alarm modules. Each alarm module comes with 5 sound patterns that can be selected for your specific application environment. The Buzzer module is customizable with two options- the 2 tone buzzer and high volume buzzer.
- Product consist of LED modules, base module and pole module
- Can select from a variety of pole selections to fit your application needs
- Material : Lens-PC, Housing-ABS, Pole-Al
- Ambient operating temperature : -30°C to +50°C
- Protection rating : Ip65

**LED MODULE** (Multi-functional Module)

- 4 kinds of LED modules; Steady, steady/flashing, strobe, revolving flashing
- Good visibility with high brightness.
- Module position can be chosen based on signal importance.

**LED Steady Module**

- Output LED Steady signal
- High brightness LED
- Voltage : DC12V, DC24V, AC110V, AC220V

**LED Steady/Flashing Module**

- Output LED Steady/Flashing signal
- High brightness LED
- Voltage : DC12V, DC24V, AC110V, AC220V

**LED Strobe Module**

- LED flashing light
- Excellent notice compare to flashing type
- Voltage : DC12V, DC24V

**LED Revolving Flashing Module**

- LED light revolve and flash
- Dynamic Signal
- Voltage : DC12V, DC24V

**BUZZER MODULE**

- Buzzer module has Siren and Bip sound, Bip sound is adjustable.
- Buzzer module position can be chosen freely and has a good air tight seal.
- Sound adjustable by lever on module side
- Buzzer module position can be chosen freely

**Bip Sound Buzzer Module**

- Bip sound (Pi-Pi) volume : Max 90dB
- Sound adjustable
- Voltage : DC12V, DC24V, AC110V, AC220V

**Siren Sound Buzzer Module**

- Siren buzzer volume : Max 90dB
- Sound fixed
- Voltage : DC12V, DC24V, AC110V, AC220V

**MOUNTING BRACKETS** (Pole Mounting)

Standard

LB18 / LB24

LW18 / LW24

QZ18 / QZ24

SZ18 / SZ24

QL18 / QL24

SL18 / SL24

QLA18 / QLA24



Steel



Steel



PC



PC



Al



PC



Al

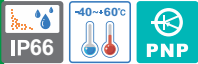


PC

## QTEX series



Explosion Proof LED Tower Lights Flame Proof Housing



## QTEX - Standard model

Explosion proof LED  
tower lights with flame proof  
housing



QTEX

Direct mount type



QTEX

Wall mount type



## Common Specifications(QTEX/ QTEXB)

- Explosion proof LED tower lights with Ex d IIC rating can be used in explosive gas environments
- Excellent distance visibility by using a special reflector to aggregate the light from the LED filament
- Ø80 LED tower light mounted inside the flame proof housing
- Aluminum housing provides excellent durability
- Long-lasting high intensity LED light source
- Terminal box located inside the housing for easy power wiring
- Direct mount type and wall mount type available depending on application needs.
- Flashing rate: 60-80 flashes/min
- Selectable between steady/flashing mode with proper wire arrangement
- Sound volume : Max 90dB at 1m(QTEXB Type)
- Lens colors arrangement : ●R-Red ●A-Amber ●G-Green ●B-Blue ●W-White
- Standard housing color : Silver
- Cable entry : 3/4" NPT
- Materials : Lens-Tempered glass, Filter lens-AS, Housing-AI, Reflector-Heat resistant ABS
- Certificates : IECEx, ATEX, KCs, TIIS
- Protection rating : Ex db IIC T6 Gb, IP66
- Ambient operating temperature :  $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$



## QTEX Explosion Proof LED Tower Lights with Flame Proof Housing

Model number	Layer	Voltage	Current	Certificate	Weight	Color
QTEX (Steady/ Flashing)	1	AC/DC12V	0.085A	IECEx Ex ATEX KCs	4.01kg	● R-Red
		AC/DC24V	0.064A		4.01kg	
		AC110V-220V	Max. 0.052		4.02kg	
	2	AC/DC12V	0.150A	IECEx Ex ATEX KCs	4.15kg	● R-Red ● G-Green
		AC/DC24V	0.099A		4.15kg	
		AC110V-220V	Max. 0.067A		4.16kg	
	3	AC/DC12V	0.210A	IECEx Ex ATEX KCs	4.31kg	● R-Red ● A-Amber ● G-Green
		AC/DC24V	0.129A		4.31kg	
		AC110V-220V	Max. 0.083A		4.32kg	
	4	AC/DC12V	0.270A	IECEx Ex ATEX KCs	4.46kg	● R-Red ● A-Amber ● G-Green ● B-Blue
		AC/DC24V	0.159A		4.46kg	
		AC110V-220V	Max. 0.098A		4.47kg	
	5	AC/DC12V	0.330A	IECEx Ex ATEX KCs	4.61kg	● R-Red ● A-Amber ● G-Green ● B-Blue ● W-White
		AC/DC24V	0.189A		4.61kg	
		AC110V-220V	Max. 0.113A		4.62kg	



## Hazardous Area Classification

- **Zone 0 : Dangerous status**  
Ignitable concentrations of flammable gases or vapors which are present continuously or for long periods of time.
- **Zone 1 : Normal status**  
Ignitable concentrations of flammable gases or vapors which are likely to occur under normal operating conditions.
- **Zone 2 : Abnormal status or places**  
Ignitable concentrations of flammable gases or vapors which are not likely to occur under normal operating conditions and do so only for a short period of time.



**MFL60 / MFL80** (Ø60mm / Ø80mm)**MFL100 / MFL125** (Ø100mm / Ø125mm)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

S - Normally Stock  
L - Limited Stock  
O - Ex Order

Qlight

MULTI FUNCTION LED SIGNAL LIGHTS



- Product has multi functions of LED Steady/ Flashing, strobe, and simulated revolving.
- Operating options with switches inside product or external connect.
- Shock and vibration-resistant, maintenance reduced with long-lasting energy-efficient LED light bulb.
- Built-in buzzer available (Volume: Max 80dB at 1m).
- Flashing type (LF) flashing rates: 60-80 flashes/min.
- Strobe type (LS) flashing rates: 70-80 flashes/min.
- Simulated revolving type (LR) flashing rates: 120-140 flashes/min.
- Materials: Lens-PC, housing-ABS, Mounting bracket-PC.
- Ambient operating temperature: -30°C to +50°C.

• LED Steady/  
Flashing

• LED Strobe

• LED Simulated  
Revolving

MFL60



MFL100



MFL80



MFL125

Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
MFL60 - Ø60	Built in Buzzer available 80dB	DC12V-24V AC110V-220V	0.140A 0.045A	LED	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP66
MFL80 - Ø80			0.190A 0.052A			
MFL100 - Ø100			0.255A 0.067A			
MFL125 - Ø125			0.255A 0.067A			

**Q60L / Q80L** (Ø60mm / Ø80mm)**Q100L / Q125L** (Ø100mm / Ø125mm)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

S - Normally Stock  
L - Limited Stock  
O - Ex Order

LED STEADY/FLASHING SIGNAL LIGHTS



- L series - Direct mount type with the three bolts/screws located on the bottom of the product.
- LP series - Pole mount type / various mounting options are available
- Shock and vibration-resistant, maintenance reduced with long-lasting energy efficient LED light bulbs.
- Materials : Lens-PC, Housing-ABS.
- Features high visibility with special diffusive lens and direct LED light distribution system.
- Built-in switch for selection between steady and flashing light mode.
- Flashing rate : 60-80 flashes/min.
- Ambient operating temperature : -30°C to +50°C.
- Protection rating : Ip65.
- Certificates : CE Compliant, UL Listed
- Compliant with RoHS directive



Q60L



Q100L



Q60LP



Q125LP

Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
Q60L - Ø60	Built in Buzzer available 80dB	DC12V-24V AC110V-220V	0.140A 0.045A	LED	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP65
Q80L - Ø80			0.190A 0.052A			
Q100L - Ø100			0.255A 0.067A			
Q125L - Ø125			0.255A 0.067A			

**MOUNTING BRACKETS** (Pole Mounting)

- For Q60LP & Q80LP Models only use ..18 series of accessories.
- For Q100LP & Q125LP Models only use ..24 series of accessories.

Screw &amp; Nut

QZ18 / QZ24

SZ18 / SZ24

QL18 / QL24

SL18 / SL24

QLA18 / QLA24



Steel



PC



Al



PC



Al



PC

Quick  
release



## SOL Series



S - Normally Stock  
L - Limited Stock  
O - Ex Order

## SOLAR RECHARGEABLE SIGNAL LIGHTS

- Solar rechargeable LED flashing signal light that does not require an external power supply or wiring
- Built-in Darkness Detection System that automatically begins to operate when darkness is detected
- Fully enclosed structure that can withstand storm and severe dust environments (IP54)
- Prevents discharge using a built-in power switch
- Flashing Rate : 60-80 flashes/min
- Materials : Lens-AS, Body-ABS, Reflector-Heat resistant ABS
- Ambient operating temperature : -25°C to +50°C
- Protection rating : IP54
- Certificates : CE Compliant



Model	Operation Time	Voltage	Capacity	Weight	Lens Colours	Protection
S80SOL	30hrs/1charge(8hrs)	2.4V	0.77Ah	0.27kg	• Red	IP54
S100SOL	40hrs/1charge(8hrs)	2.4V	0.70Ah	0.41kg	• Amber	
S125SOL	50hrs/1charge(8hrs)	2.4V	0.70Ah	0.51kg		

## SMCL... (Multi-Colour LED Steady/Flashing Signal Light)



S - Normally Stock  
L - Limited Stock  
O - Ex Order

- Ø80, Ø100 or Ø125
- Ideal for locations where space requirements need one warning light to convey multiple color signals.
- LED light distribution system with multi-tiered reflector provides uniformed light signals throughout the entire lens.
- Built-in buzzer available(Volume : Max. 90dB at 1m).
- Can select between steady/ flashing mode.
- Flashing rate : 60-80 flashes/min.
- Materials : Lens-AS, Body-ABS, Reflector-Heat resistant ABS.
- Ambient operating temperature : -30°C to +50°C.
- Protection rating : Ip44
- Certificates: CE Compliant
- Complaint with RoHS directive



Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
SMCL80-Ø80	Produces Two or Three multicolored LED signals	DC12V	0.234A	LED Steady/Flashing	• Red • Amber • Green	IP44
		DC24V	0.132A			
		AC110V	0.066A			
		AC220V	0.033A			
SMCL100-Ø100		DC12V	0.387A			
		DC24V	0.212A			
		AC110V	0.093A			
		AC220V	0.046A			
SMCL125-Ø125		DC12V	0.410A			
		DC24V	0.227A			
		AC110V	0.104A			
		AC220V	0.052A			



## MOUNTING BRACKETS (Wall Mounting)

- Wall mounting bracket options: Bracket structure allows for threading through the bracket hole or into the wall mount.

QMCL60/QMCL80

SMCL80



Wall Mount Bracket  
TWS80



Wall Mount Bracket  
TWA80

QMCL100/QMCL125

SMC100/SMCL125



Wall Mount Bracket  
SWP125



Wall Mount Bracket  
SWM125

**S150....(Ø150mm Bulb Revolving Warning Lights)**

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**FILAMENT ROTATING LIGHTS**

- Ø150mm bulb revolving warning light
- S150R Models : Feature highly durable housing made of corrosion-proof stainless steel (STS)
- S150U Models: Feature special power transmission system which allows low noise and less wear
- S150U Models: Feature Built-in buzzer available (Volume : Max. 90dB at 1m)
- S150LR Models :Radiating LED Light of high brightness by using a special revolving reflector  
Excellent omni-directional visibility with LED light collecting system and special multifaceted reflector - LR series
- Suitable for Long distance signal transmission by adopting high capacity bulb and large sized reflector
- Revolving speed : 120-140RPM
- Materials : Lens - PC, Housing - ABS or STS, Reflector - PC or Heat Resistant ABS, Mount Bracket - STS
- Ambient operating temperature : -20°C to +50°C
- Protection rating : Ip44



S150ULR



S150U-FT

Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
S150/U/LR S150/U/LR-FT S150/R/LR S150/R/LR-FT	U-ABS housing R-STs housing LR-LED Reflector FT-Feet	DC12V DC24V AC110V AC220V	0.422A 0.266A 0.082A 0.041A	LED	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP44



S150RLR



S150R-FT

Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
S150/U S150/U-FT S150/R S150/R-FT	U-ABS housing R-STs housing FT-Feet	DC12V DC24V AC110V AC220V	1.155A 0.766A 0.204A 0.102A	BULB 12V15W 24V15W	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP44

**S180U**

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**FILAMENT ROTATING LIGHTS**

- Excellent long distance signal transmission effect with 35W capacity bulb and dual reflectors
- A spare bulb is provided inside the product for quick replacement if provided
- Built-in buzzer available (Volume : Max. 90dB at 1m)
- Revolving speed : 120-140RPM
- Materials : Lens-AS, Housing-ABS, Reflector-PC
- Ambient operating temperature : -20°C to +50°C
- Protection rating : IP44



S180 type has strong flashing light characteristics with dual reflector.



S180U has a spare bulb inside the product for easy replacement if required.



Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
S180U	Spare Bulb Located Inside	DC12V DC24V AC110V AC220V	3.077A 1.544A 0.388A 0.194A	Bulb 12V35W 24V35W	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP44

**S150US** (Ø150mm Xenon Lamp Strobe Signal Light)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**STROBE LIGHTS****S150US-FT** (Ø150mm Xenon Lamp Strobe Signal Light)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

- Ø150mm Xenon Lamp Strobe Light
- Ø150mm LED Steady/Flashing Signal Light
- Improved visibility by employing special scattering Lens
- Built-in switch for selection between steady and flashing mode
- Built-in buzzer available (Volume : Max. 90dB at 1m)
- Ambient operating temperature : -30°C to +50°C
- Connector type lamp socket allows convenient lamp replacement
- Flashing rate : 60-80 flashes/min
- Materials : Lens - PC, Housing - ABS, Reflector - Heat resistant ABS
- Protection rating : Ip44



S150US-FT/S150UL-FT



S150US/S150UL



Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection		
S150UL	Improving Visibility by Employing Special Scattering Lens	DC12V	0.300A	LED Steady/Flashing Signal Light	<div><div></div> Red</div> <div><div></div> Amber</div> <div><div></div> Green</div> <div><div></div> Blue</div>	IP44		
S150UL-FT		DC24V	0.200A					
S150US		AC110V	0.060A	Xenon Lamp Strobe Signal Lights				
S150US-FT		AC220V	0.133A					
		0.106A						

**S125MLR** (Ø125mm LED Revolving Warning Light)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

- Ø125mm standard LED revolving warning light
- Three powerful magnets provide strong adhesion to the vehicle
- Power supply through cigarette lighter plug
- Excellent omni-directional visibility with LED light collecting system and special multifaceted reflector
- Shock and vibration-resistant from the vehicle with long-lasting LED light bulbs
- Built-in buzzer available (Volume : Max. 90dB at 1m)
- Revolving speed : 120-140RPM
- Materials : Lens - AS, Housing - ABS, Reflector - Heat resistant ABS
- Ambient operating temperature : -20°C to +50°C
- Protection rating : IP54



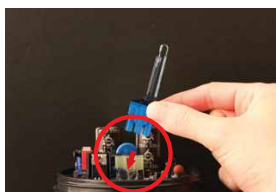
S125MLR



Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
S125MLR	LED Revolving Warning Lights for Vehicle	DC12V DC24V	0.422A 0.266A	LED Revolving Reflector	<ul style="list-style-type: none"> <li>• Red</li> <li>• Amber</li> <li>• Green</li> <li>• Blue</li> </ul>	IP54

**S80S** (Ø80mm Xenon Lamp Strobe Signal Lights)

- Ø80mm xenon lamp strobe signal lights
- High efficiency strobe light that offers excellent outdoor visibility and long-distance signal light luminance close to natural light
- Lamp connector fastening structure allows for convenient lamp replacement
- Flashing rate : 60-80 flashes/min
- Materials : Lens-AS, Housing-ABS,
- Ambient operating temperature : -30°C to +50°C
- Protection rating : Ip54

**Xenon lamp replacement instructions**

Convenient lamp replacement with connector lamp type. Lamp replacement is safe after the product is powered off for 30 mins.



S80S



S80SM

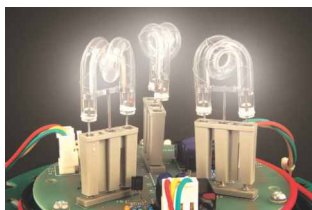


Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
S80S	Replaceable Xenon Lamp	DC12V DC24V AC110V AC220V	0.433A 0.216A 0.076A 0.061A	Xenon Lamp	<ul style="list-style-type: none"> <li>• Red</li> <li>• Amber</li> <li>• Green</li> <li>• Blue</li> </ul>	IP54



**S180US / UHS (Xenon Strobe Signal Lights)**

- Excellent long distance visibility from flashing light of the high capacity xenon lamp
- Adopts a translucent lens which provides a luminous light and subdued signal
- Convenient lamp change adopts lamp connector type structure
- Built-in buzzer available (Volume : Max. 90dB at 1m)
- S180UHS ultra high intensity strobe light has 3 built in high intensity xenon lamps.
- Materials: Lens-ABS, Housing-ABS
- Flashing rate : 60-80 flashes/min (2 time consecutively flashing off or two in a row)
- Ambient operating temperature : -30°C to +50°
- Protection rating : IP44



Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
S180US	Luminous Lighting	DC12V DC24V AC110V AC220V	1.277A 0.655A 0.233A 0.186A	Xenon Lamp 280V-400V	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP44
S180UHS	Hyper Brightness Luminous Lighting	DC12V DC24V AC110V AC220V	2.277A 1.055A 0.711A 0.422A	3x Xenon Lamps 280V-400V	<ul style="list-style-type: none"> <li>Red</li> <li>Amber</li> <li>Green</li> <li>Blue</li> </ul>	IP44

**D150 Strobe Light**

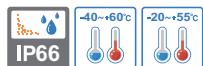
Light Source: 8 LED chips  
 Fitting: E27  
 Dimensions: L:100mm  
 W:53mm  
 Power: 110AC / 220AC  
 Consumption: 10mA / 10mA  
 Flashes per min: 60

Colours:	LED	LENSE
	Green	Green
	Red	Red
	Yellow	Yellow
	White	White
	Orange	White
	Blue	Blue





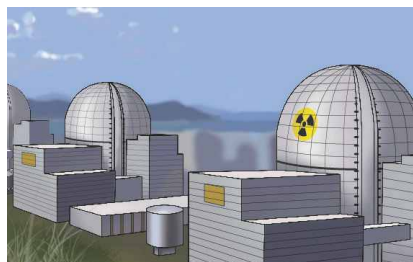
## SNE series



SNELR



SNEL



Flameproof warning/ indicator lights are applied in an areas where potentially explosive materials may linger. For example, from a pipe or duct in a coolant generator system in a nuclear power plant in the image above.



## Common Specifications(SNELR/ SNEL/ SNE-S/ SNE)

- Light weight and compact explosion proof warning lights with a variety of light source selections from bulb, LED, and xenon lamp
- Aluminum housing provides excellent durability
- Fully enclosed structure with protection rating of IP66
- Integrated housing and terminal box model
- Housing standard color : MUNSELL No. 7.5BG 7/2
- Cable entry : 1/2" NPT
- Materials : Lens-Tempered glass, Inner lens-PC, Housing-Al, Protection cage-STSS 316L, Reflector for LED type-PC/ Reflector for bulb type-Heat resistant ABS
- Certificates : IECEx, ATEX, NEPSI, KCs, CCS, CCC(F), TIIS, CCC
- Protection rating :
  - IECEX - Ex db IIC T6 Gb, Ex db op is IIC T6 Gb
  - ATEX -  $\text{Ex}$  II2G Ex db IIC T6 Gb, Ex db op is IIC T6 Gb
  - KCs - Ex d IIC T6
  - NEPSI, CCC - Ex d IIC T6 Gb
  - TIIS - IIC T6 Gb (SNEL DC12/24V, AC110V only)
- Ambient operating temperature :  $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$   
 $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$  (KCs)  
 $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +55^{\circ}\text{C}$  (TIIS, SNEL only)



## SNELR LED Revolving Warning Light

- Features high visibility in all directions with special concentrated LED light structure and multi side reflector
- Revolving speed : 120-140RPM

Model number	Voltage	Current	Certificates	Weight	Color
SNELR	DC12V	0.183A		3.15kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	0.127A		3.15kg	
	AC110V	0.035A		3.85kg	
	AC220V	0.017A		3.85kg	



## SNEL LED Steady/ Flashing Signal Light

- Long-lasting high intensity LED light source
- Suitable for applications where bulb replacement is hard
- Built in switch for steady/flashing selection
- Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Certificates	Weight	Color
SNEL	DC12V-24V	Max.0.125A		3.65kg	• R-Red • A-Amber • G-Green • B-Blue
	AC110V	0.035A		4.30kg	
	AC220V	0.020A		4.30kg	



## Customization

- Explosion proof cable gland attached type available (Standard type does not provide explosion proof cable gland)
- Customized 2 way cable entries
- Customized cable entry (M20×1.5) available
- ATEX certified type
- IECEx certified type

SNE series

Qlight



SNE-S



SNE

**SNE-S Xenon Lamp Strobe Signal Light**

- Lamp connector fastening structure allows for convenient lamp replacement
- Excellent long-distance visibility with strong flashing signal diffusion
- Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
SNE-S	DC12V-24V	Max. 0.435A	200V-550V	EUB0641-1A(G) U Type	48		3.60kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	AC110V	0.075A					4.25kg	
	AC220V	0.060A					4.25kg	

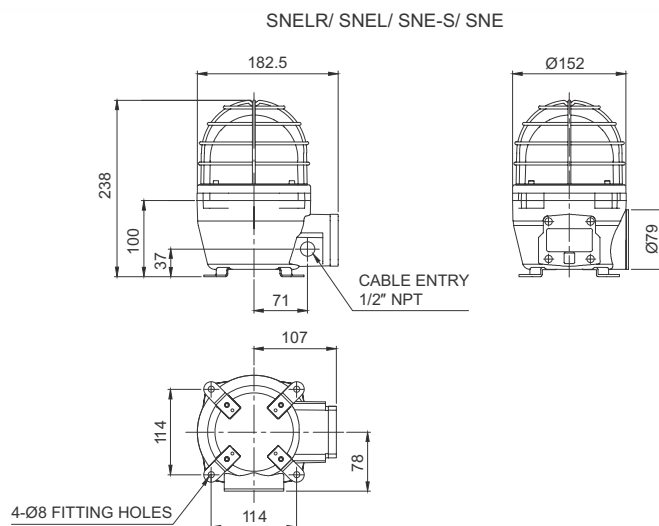
**SNE Bulb Revolving Warning Light**

- Excellent signal light diffusion effect with multi-faced reflector
- Revolving speed : 120-140RPM

Model number	Voltage	Current	Bulb			Certificates	Weight	Color
			Spec	Standard	Parts no			
SNE	DC12V	1.545A	12V15W	G23 15S	17		3.25kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	DC24V	0.766A	24V15W	G23 15S	18		3.25kg	
	AC110V	0.204A	12V15W	G23 15S	17		3.95kg	
	AC220V	0.102A	12V15W	G23 15S	17		3.95kg	

**Technical Diagram**

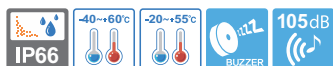
(Units : mm)

**Ordering Specification**

SNE	-	220	-	R
[Model number]		[Voltage]		[Color]
<ul style="list-style-type: none"> <li>• SNELR</li> <li>• SNEL</li> <li>• SNE-S</li> <li>• SNE</li> </ul>		<ul style="list-style-type: none"> <li>• 12-DC12V</li> <li>• 24-DC24V</li> <li>• 12/24-DC12V-24V (SNEL, SNE-S only)</li> <li>• 110/220-AC110V-220V</li> </ul>		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>

## SNES series

Qlight



## Siren buzzer sound output of Max 105dB



SNESLR



SNESL



Flameproof warning/ signal lights applied in an areas where potentially explosive materials may linger as shown in the refinery image above.



## Common Specifications(SNESLR/ SNESL/ SNES-S/ SNES)

- Light weight and compact explosion proof warning lights with a siren buzzer
- A variety of light source selections from bulb, LED, and xenon lamp
- Aluminum housing provides excellent durability
- Fully enclosed structure with protection rating of IP66
- Integrated housing and terminal box model
- Sound type and sound volume : Siren buzzer- Max 105dB at 1m/ 7 sounds buzzer, Max 95dB at 1m
- User selected built-in buzzer with 7 sound patterns available upon request
- Housing standard color : MUNSELL No. 7.5BG 7/2
- Cable entry : 1/2" NPT
- Materials : Lens-Tempered glass, Inner lens-PC, housing-Al, Protection cage-ST316L, Reflector for LED type-PC/ Reflector for bulb type-Heat resistant ABS
- Certificates : IECEx, ATEX, NEPSI, KCs, CCS, CCC(F), TIIS
- Protection rating :
  - ATEX - Ex db IIC T6 Gb, Ex db op is IIC T6 Gb (with LED)
  - IECEX - Ex db IIC T6 Gb, Ex db op is IIC T6 Gb (with LED)
  - KCs - Ex d IIB+H2 IP66 T6
  - NEPSI, CCC - Ex d IIC T6 Gb
  - TIIS - IIC T6 Gb (SNESLR DC12/24V, AC110V only)
- Ambient operating temperature :  $-40^{\circ}\text{C} \leq \text{Tamb} \leq +60^{\circ}\text{C}$   
 $-40^{\circ}\text{C} \leq \text{Tamb} \leq +55^{\circ}\text{C}$  (KCs)  
 $-20^{\circ}\text{C} \leq \text{Tamb} \leq +55^{\circ}\text{C}$  (TIIS, SNEL only)



## SNESLR LED Revolving Warning Light with Siren Buzzer

- Excellent omni-directional visibility with LED light collecting system and special multifaceted reflector
- Revolving speed : 120-140RPM

Model number	Voltage	Current	Sound pattern/ dB	Certificates	Weight	Color
SNESLR	DC12V	0.485A	• Warning sound(Buzzer) : 105dB • 7 sounds(Buzzer): 95dB		3.60kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	0.411A			3.60kg	
	AC110V	0.111A			4.30kg	
	AC220V	0.055A			4.30kg	



## SNESL LED Steady/ Flashing Signal Light with Siren Buzzer

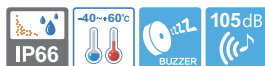
- Long-lasting high intensity LED light source
- Suitable for applications where bulb replacement is hard
- Built in switch for steady/flashing selection
- Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Sound pattern/ dB	Certificates	Weight	Color
SNESL	DC12V	0.432A	• Warning sound(Buzzer) : 105dB • 7 sounds(Buzzer): 95dB		3.65kg	• R-Red • A-Amber • G-Green • B-Blue
	DC24V	0.377A			3.65kg	
	AC110V	0.111A			4.30kg	
	AC220V	0.055A			4.30kg	

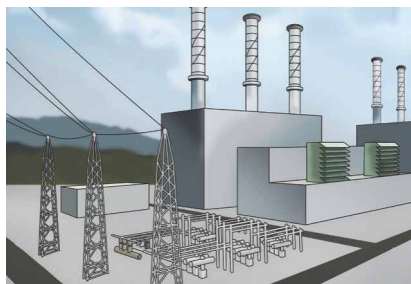


## Customization

- Explosion proof cable gland attached type available (Standard type does not come with explosion proof cable gland)
- Customized 2 way cable entries
- Customized cable entry (M20×1.5) available
- ATEX certified type
- IECEx certified type
- Customized built-in buzzer type with 7 sound patterns available

**SNES series****Qlight**

**Siren buzzer sound output of Max 105dB**

**SNES-S****SNES**

Flameproof warning/ signal lights applied in dust explosion areas such as coal dust shown in thermoelectric power plant image above.

**SNES-S Xenon Strobe Signal Light with Siren Buzzer**

- Lamp connector fastening structure allows for convenient lamp replacement
- Excellent long-distance visibility with strong flashing signal diffusion
- Flashing rate : 60-80 flashes/min

Model number	Voltage	Current	Bulb			Sound pattern/dB	Certificates	Weight	Color
			Spec	Standard	Parts no				
SNES-S	DC12V	0.655A	200V -550V	EUB0641 -1A(G) U Type	48	<ul style="list-style-type: none"> <li>• Warning sounds(Buzzer) : 105dB</li> <li>• 7 sounds(Buzzer) : 95dB</li> </ul>		3.60kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	DC24V	0.500A						3.60kg	
	AC110V	0.104A						4.25kg	
	AC220V	0.066A						4.25kg	

**SNES Bulb Revolving Warning Light**

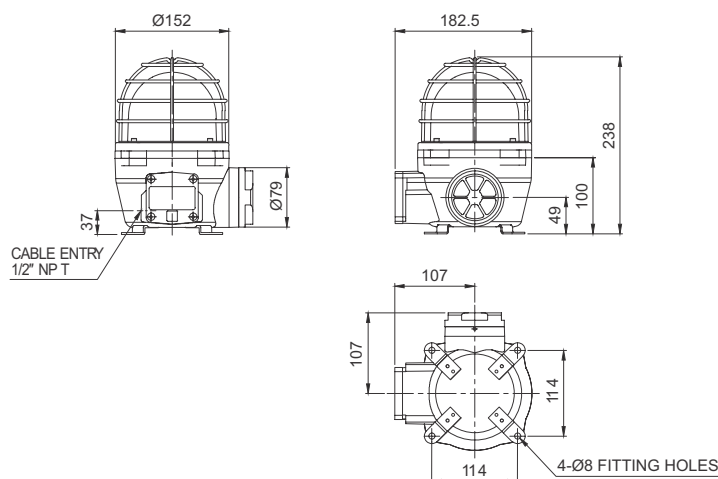
- Excellent signal light diffusion effect with multi-faced reflector
- Revolving speed : 120-140RPM

Model number	Voltage	Current	Bulb			Sound pattern/dB	Certificates	Weight	Color
			Spec	Standard	Parts no				
SNES	DC12V	1.766A	12V15W	G23 15S	17	<ul style="list-style-type: none"> <li>• Warning sounds(Buzzer) : 105dB</li> <li>• 7 sounds(Buzzer) : 95dB</li> </ul>		3.70kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	DC24V	1.044A	24V15W	G23 15S	18			3.70kg	
	AC110V	0.288A	12V15W	G23 15S	17			4.40kg	
	AC220V	0.144A	12V15W	G23 15S	17			4.40kg	

**Technical Diagram**

(Units : mm)

SNESLR/ SNESL/ SNES-S/ SNES

**Ordering Specification**

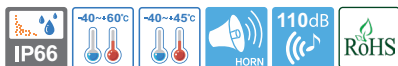
SNES	-	220	-	R
[Model number]		[Voltage]		[Color]
<ul style="list-style-type: none"> <li>• SNESLR</li> <li>• SNESL</li> <li>• SNES-S</li> <li>• SNES</li> </ul>		<ul style="list-style-type: none"> <li>• 12-DC12V</li> <li>• 24-DC24V</li> <li>• 110-AC110V</li> <li>• 220-AC220V</li> </ul>		<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>



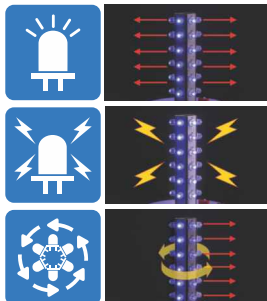
# QNES series

Qlight

Ø92mm Explosion Proof LED Signal/ Warning Light  
and Electric Sounder Combination



Flame proof LED signal light that features steady/flashing, strobe, and simulated revolving light functions in one unit



- **LED Steady/ Flashing**  
Repeat operation of LED light on/off
- **LED Strobe**  
Short LED steady/flashing. Creates a xenon flashing effect by providing maximum electric current
- **LED Simulated Revolving Flashing**  
LED flashes steadily around the cylindrical LED filaments which makes a simulated revolving effect



## Instruction for Light Function Switch

ON=1 / OFF=0		Can select 4 different kinds of light functions with switch configuration	
	1	2	
ON	<input type="checkbox"/>	<input type="checkbox"/>	
OFF	<input type="checkbox"/>	<input type="checkbox"/>	
No.	1	2	Operation
0	0	0	LED Steady
1	0	1	LED Flashing
2	1	0	LED Strobe
3	1	1	LED Simulated revolving flashing



QNES



QNES-SUS



## Specifications(QNES/ QNES-SUS/ QNES-BS)

- Explosion proof, multifunctional, and compact LED signal light and electric sounder combination designed for use in explosive gas environments with Ex dIC rating
- Features excellent shock and vibration resistance, maintenance significantly reduced with long-lasting LED light source
- Features superior durability with aluminum housing(QNES)
- STS housing provides superior durability and corrosion resistance(QNES-SUS)
- Fully enclosed structure with protection rating of IP66
- Housing standard color : Red, MUNSSELL No. 7.5BG 7/2
- Cable entry : 1/2" NPT
- Sound volume: Max. 110dB at 1m
- Flashing rate(LF type) : 60-80 flashes/min.
- Strobe rate(LS type) : 70-80 flashes/min.
- Simulated revolving rate(LR type) : 120-140RPM
- Materials : Lens-Tempered glass, Inner lens-PC, Bracket-ST304, Protection cage-ST316, Housing-Al(QNES), STS(QNES-SUS)
- Certificates : ATEX, IECEx, KCs
- Protection rating : ATEX -  $\text{Ex d IIC T5/T6 Gb}$ , IP66  
IECEx -  $\text{Ex db IIC T5/T6 Gb}$ , IP66  
KCs -  $\text{Ex d IIC T6/T5, IP66}$
- Ambient operating temperature :  $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +60^{\circ}\text{C}$ (T5)  
 $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +45^{\circ}\text{C}$ (T6)

**QNES**

Explosion Proof Signal/ Warning Light and Electric Sounder Combination

- Features superior durability with aluminum housing

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
QNES	DC12V-24V	Max. 1.872A	• WS-5 Warning sounds : 110dB • WP-5 Special warning sounds : 110dB • WM-5 Melodies : 105dB • WA-5 Alarms : 105dB • WV-5 Customizable voices : 103dB	IECEx ATEX KCs	3.15kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	AC110V-230V	Max. 0.301A				

**QNES-SUS**

Explosion Proof Signal/ Warning Light and Electric Sounder Combination

- STS housing provides superior durability and corrosion resistance

Model number	Voltage	Current	Sound pattern and volume	Certificates	Weight	Color
QNES-SUS	DC12V-24V	Max. 1.872A	• WS-5 Warning sounds : 110dB • WP-5 Special warning sounds : 110dB • WM-5 Melodies : 105dB • WA-5 Alarms : 105dB • WV-5 Customizable voices : 103dB	IECEx ATEX KCs	7.60kg	<ul style="list-style-type: none"> <li>• R-Red</li> <li>• A-Amber</li> <li>• G-Green</li> <li>• B-Blue</li> </ul>
	AC110V-230V	Max. 0.301A				

## WALKING STANDING MAN



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**WSM-N-12D** (12VDC neg.comm)

**WSM-N-24D** (24VDC neg.comm)

Red & Green LED Indication

#### APPLICATIONS:

- Access control

**WSMFL** (Facia left)

**WSMFR** (Facia right)

Facia's available in black or grey

**Custom personalized graphics available upon request for specific Access control zones**

**Featuring new super bright surface mount LED's  
Reduced current, Higher brightness**



Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
WSM	Ergonomical design	DC10-30V AC230V	0.25A 0.015A	LED	<ul style="list-style-type: none"> <li>• Red</li> <li>• Amber</li> <li>• Blue</li> <li>○ Clear</li> </ul>	IP66

## HEX110 - 600A LED INDICATOR



S - Normally Stock  
L - Limited Stock  
O - Ex Order

These sealed LED indicator units are designed for harsh environment warning light usage. The electronics are internally encapsulated in an epoxy resin to protect against moisture and vibration damage. The whole unit is placed in a sealed enclosure to further prevent moisture ingress. All electronics are protected from voltage spike and are designed to work of a large range of voltages as would be expected on long cable lengths.

- Input Voltage range: 140 - 750VAC continuous
- Current Consumption: 21mA @ 600VAC
- Spike Protection: >800VAC for shorter than 2 seconds
- Light output (total): >60 000mcd @ 600VAC
- Wavelength: Typical 624nm
- Life Expectancy: >150 000 hours
- Single or Dual Aspect options

#### CR12:

Corrosion resistant plate



Model	Feature	Voltage	Current	Light Source	Lens Colours	Protection
HEX110	Dual or Single Sided	AC140V - AC750V	0.021A @ AC600V	LED	<ul style="list-style-type: none"> <li>• Red</li> <li>• Amber</li> <li>• Blue</li> <li>○ Clear</li> </ul>	IP65

COLED-E ES Type (E27)



S - Normally Stock  
L - Limited Stock  
O - Ex Order

ADDA

CONE LED

COLED-B BC Type (B22)

Voltage: 110V or 220VAC (other voltages available on special order)  
Colour: Red or Green (other colours available on special order)  
(Flashing or steady on).

This ultra bright lamp has been designed to meet the requirements of a low level warning light to the ICAO specification. It shines light in all directions (360°) at a 7.5° angle from the horizontal. It exceeds the 10 candela requirements. At 230VAC power dissipation is only 5W resistive & 8.6W reactive.



## WARNING BEACON CONTROL UNIT

This unit is specifically designed for monitoring dual type warning beacons in critical situations where failure of a beacon needs to be monitored and standby beacon employed. The unit monitors the current flow into the primary beacon and when this exceeds or falls below a certain level the secondary beacon is lit and an alarm contact is closed. The unit offers a switch-on timer where both beacon lamps are illuminated for 20 seconds on startup to ensure correct functioning of both lamps during installation. The alarm contact also changes state on startup for checking of alarm circuits.



## FLOBSTR (Encapsulated Lamp Flasher)

This product was designed specifically for mining applications where a flasher is required to flash an incandescent lamp for warning purposes. The flasher is a fully solid state device capable of switching up to 400W of resistive load. The flasher is encapsulated in an epoxy resin block to add reliability and easy mounting. The epoxy block has an aluminium heatsink on the bottom surface and should be mounted on a heat conductive surface if loads of larger than 200W is to be switched. Termination is via four M3 brass screws to facilitate the use of ring lugs.

- Large resistive load switching capability
- Zero crossing switching for prolonged bulb life
- Fully encapsulated
- Spike resistant
- Economical and simple to fit via two mounting holes
- 110 or 220V AC only
- Approximately 80 flashes per minute allowing very little cooling time of lamp filament and therefore prolonging bulb life.



- Material SMC: (sheet moulding compound)
- Operating Temperature: -50°C to + 200°C
- Glow wire capability / flammability: 960° / UL94 v0
- Expected UV life (direct exposure): 25 years +
- Degree of Protection: Allbrox 3,4,5,6,7.1 IP66 / Allbrox 8 IP65
- Security level: 2 and 3
- Environment (Indoor / Outdoor): Indoor and Outdoor use
- High corrosion resistance.
- Large accessories list.
- Even with door window enclosure maintains IP rating.
- External mounting bracket with a good load capacity (see spec chart below).
- Extremely high tensile strength
- IP66 with individual 1/4 turn locks; IP54 single handle multi-cam lock (Allbrox 8).
- The "GREEN ALTERNATIVE" Environmentally friendlier due to low manufacturing impact.
- Does not contain heavy metals, asbestos, halogens or other toxic materials.
- In these enclosures the glass fibre used for reinforcing has a diameter greater than 14 micron and is not hazardous to health.



Part Number	Description	W	H	D	W1	H1
ALL-003	Allbrox 3 with SMC Device plate	250	350	200	235	310
ALL-004	Allbrox 4 with SMC Device plate	300	400	200	285	360
ALL-005	Allbrox 5 with SMC Device plate	350	500	200	335	460
ALL-006	Allbrox 6 with SMC Device plate	400	600	200	385	560
ALL-007.1-L	Allbrox 7.1 Landscape with SMC Device plate	828	709	287	754	634
ALL-007.1-P	Allbrox 7.1 Portrait with SMC Device plate	709	828	287	754	634
ALL-008-P	Allbrox 8 Portrait with SMC Device plate	800	1000	320	706	906
ALL-008-L	Allbrox 8 Landscape SMC Device plate	1000	800	320	906	706

### Weight loading

This varies according to the different sizes of Allbrox enclosures: see table below

Part Number	Description	Weight loading (kg)
ALL-003	Allbrox 3 with SMC Device plate	43.75
ALL-004	Allbrox 4 with SMC Device plate	43.75
ALL-005	Allbrox 5 with SMC Device plate	56.25
ALL-006	Allbrox 6 with SMC Device plate	61.25
ALL-007.1	Allbrox 7.1 with SMC Device plate	125
ALL-008	Allbrox 8 with SMC Device plate	113.75





## Polyester GRP Enclosures - Inner &amp; Outer doors

## Allbrox with Inner Door

Part Number	Description
ALL-004/IN/DOOR	Allbrox 4 Inner Door
ALL-005/IN/DOOR	Allbrox 5 Inner Door
ALL-006/IN/DOOR	Allbrox 6 Inner Door

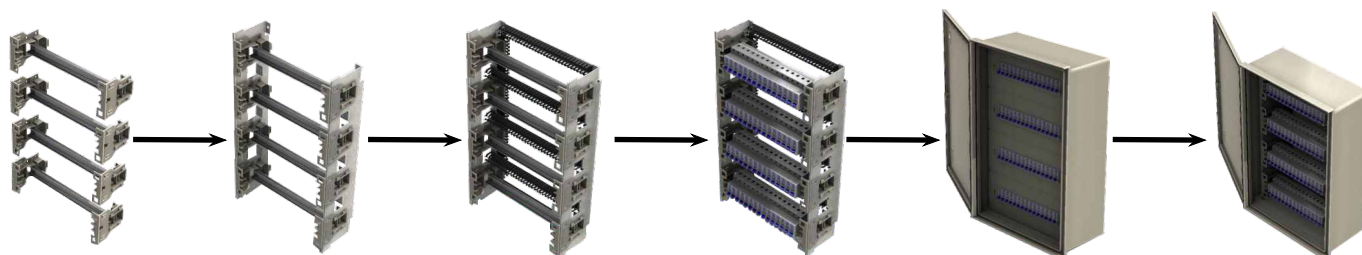
## Allbrox with Glass or PC Door

Part Number	Description
ALL-004/CLEARPC	Allbrox 4 with clear Polycarbonate door
ALL-004/CLEARGL	Allbrox 4 with glass door
ALL-005/CLEARPC	Allbrox 5 with clear Polycarbonate door
ALL-005/CLEARGL	Allbrox 5 with glass door
ALL-006/CLEARPC	Allbrox 6 with clear Polycarbonate door
ALL-006/CLEARGL	Allbrox 6 with glass door



## Allbrox Distribution Board Kit

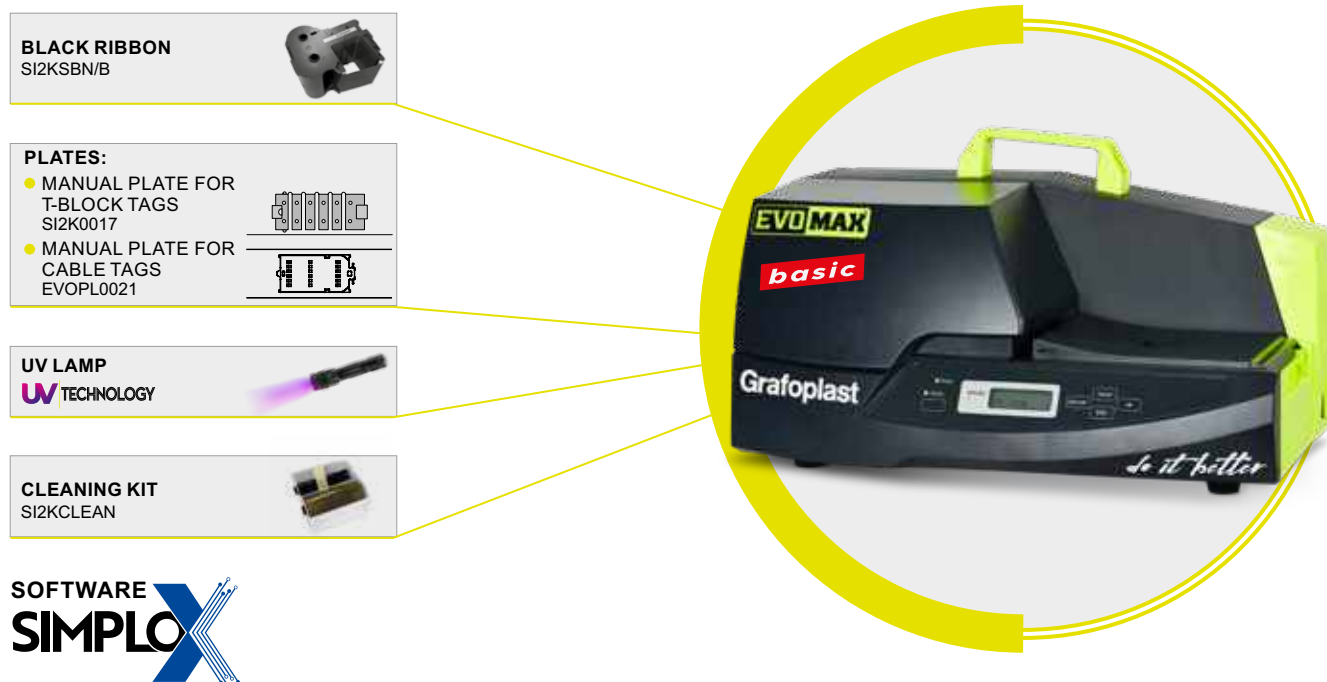
Part Number	Description	No. of Rows	MCB's Per Row	No. of Neutral Bars	No. of Earth Bars
ALL-004/DBK-A	Allbrox 4 Distribution Board Kit Assembled	2	10	3	2
ALL-004/DBK-F	Allbrox 4 Distribution Board Kit Flat Packed	2	10	3	2
ALL-005/DBK-A	Allbrox 5 Distribution Board Kit Assembled	3	13	4	4
ALL-005/DBK-F	Allbrox 5 Distribution Board Kit Flat Packed	3	13	4	4
ALL-006/DBK-A	Allbrox 6 Distribution Board Kit Assembled	4	15	3 and 1	10 and 30
ALL-006/DBK-F	Allbrox 5 Distribution Board Kit Flat Packed	4	15	3 and 1	10 and 30



## How it is equipped **EVO MAX**



## How it is equipped **EVO MAX** *basic*



## Overview

The evolution of SI2K thermal transfer system is called EVOMAX<sup>®</sup>. This Grafoplast<sup>™</sup> unique system is recognized for the high levels of quality, reliability and performance, able to enhance the marking of the electrical components at a reasonable cost.

The complete range of consumables satisfies all industrial identification needs, from cables, T-blocks and equipment up to the marking of push buttons, name plates, modular strips and customized plates.

## Strengths

### FLEXIBILITY

#### Free to choose automatic or manual mode.

The printer is equipped with automatic feeder that can print independently more than 1000 tags for cables or T-blocks with a considerable saving of the operator time. Alternatively it can also work in manual mode to guarantee high flexibility.

### SPEED & PRINT QUALITY

**Up to 8500 cable tags/h** to satisfy even the most demanding requests; High resolution print (300 dpi) in black or colors with special resin base ribbons to ensure precise and long lasting marking.

### EASY USE

#### Immediately ready for use even after a long period of inactivity.

It requires minimal maintenance thanks to the integrated cleaning set and the quick change of the ribbon makes the use very simple. The tags to be printed are assembled in modules to be easily and quickly loaded in the printer.

### TECHNICAL SPECIFICATIONS

Technology	Thermal Transfer
Loading	Automatic and manual
Resolution	300 dpi
Printable area	54 x 496 mm (h x l)
Max printing area	80 x 500 mm (h x l)
Dimensions	423 x 240 x 208 mm
Weight	9,5 Kg
Compatible with operating systems	Windows 10, 8, 7, Vista and Windows XP (64bit)
Compatible with graphics format	.gif, .jpg, .jpeg, .bmp, .wmf.
Print Speed	Up to 60 mm/s
Ribbons	Black, red, silver, gold, white, blue, green
Cleaning Set	Cleaning roller and cleaning cassette
Interface	USB
Operating Conditions	From +15°C to +32,5°C; from 10% to 85% Rh
Power Supply	From 100V to 240V AC, 50/60Hz
Display	Backlight LCD



## TP70E

## WIRE TUBE PRINTER

- 1 Different printing materials: tube/ heat shrink tube (2.5-6mm diameter), label ( 6mm/9mm/12mm width).
- 2 Large white back-lit LCD display, up to 2 lines display on TP70E.
- 3 Automatic feed/clean/ribbon pre tighten/half cut/full cut.
- 4 85-key standard keyboard makes operation easily.
- 5 Repeat, sequence and copy print functions can save your time.
- 6 Large internal storage capacity can store up to 200 files.

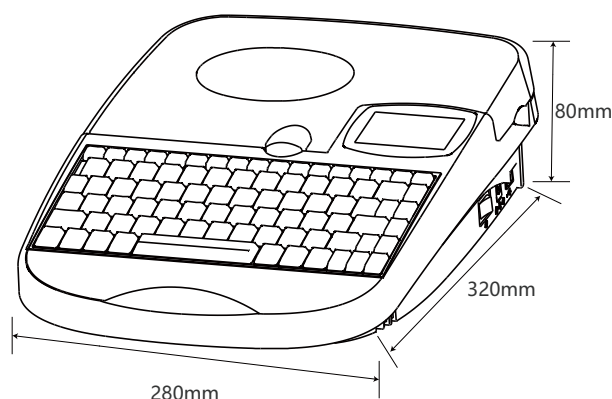


## Application



## Specification

Project	Parameter
Model	TP70E
Printing method	Thermal transfer
Resolution	300dpi
Printing speed	Tube:35pcs/min,20mm/pcs Label:35pcs/min,20mm/pcs
Ink Ribbon	Black:100m,White:80m,Red:80m
Input modes	Alphanumeric, Symbol, English character input
Character size	Label:1-7 Tube:1-5
Repeat	1-200
Media cutting method	Automatic half-cutting, Automatic full-cutting
Styles	Frame, Underline, Superscript, Subscript,
Tape type	Tube, Heat shrink tube, Label
Keyboard	85keys standard keyboard
Dimension(L×W×H)	320mm*280mm*80mm
Weight	3kg(printer only)
Power supply	AC adapter(Input voltage: AC 100V-240V 50/60Hz)
Display	White back-lit LCD display; Up to 2-line editing interface
Internal memory	Up to 200 files 200 paragraph/file (12,000,000 characters)
Operating environment	15°C-35°C
PC interface	No
Tube	PVC tubeΦ2.5-Φ6mm, Heat shrink tube Φ2.5-Φ6mm
Label	Exclusive cassettes(White, yellow, silver) Width:6mm, 9mm,12 mm.Length:16m



## Included Items



Packing box x 1   TP70E printer x 1   Suitcase x 1   Power Adapter x 1   Label Cassette x 1   Tube Adjuster x 1   Power line x 1   Ribbon Cassette x 1   User Manual x 1   Quality Certificate x 1



## TP76E

## WIRE TUBE PRINTER

- 1 Different printing materials: tube/ heat shrink tube (2.5-6mm diameter), label ( 6mm/9mm/12mm width).
- 2 Large white back-lit LCD display, up to 2 lines display on TP76E.
- 3 Automatic feed/clean/ribbon pre tighten/half cut/full cut.
- 4 85-key standard keyboard makes operation easily.
- 5 Repeat, sequence and copy print functions can save your time.
- 6 USB PC link, professional editing software.
- 7 Large internal storage capacity can store up to 200 files.

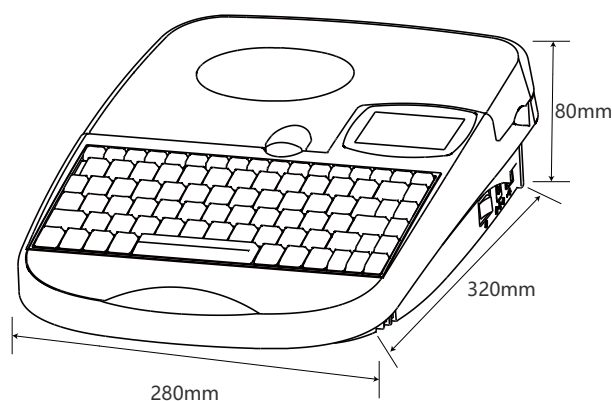


## Application



## Specification

Project	Parameter
Model	TP76E
Printing method	Thermal transfer
Resolution	300dpi
Printing speed	Tube:35pcs/min,20mm/pcs Label:35pcs/min,20mm/pcs
Ink Ribbon	Black:100m,White:80m,Red:80m
Input modes	Alphanumeric, Symbol, English character input
Character size	Label:1-7
Repeat	Tube:1-5 1-200
Media cutting method	Automatic half-cutting, Automatic full-cutting
Styles	Frame, Underline, Superscript, Subscript
Tape type	Tube, Heat shrink tube, Label
Keyboard	85keys standard keyboard
Dimension(L×W×H)	320mm*280mm*80mm
Weight	3kg(printer only)
Power supply	AC adapter(Input voltage: AC 100V-240V 50/60Hz)
Display	White back-lit LCD display; Up to 2-line editing interface
Internal memory	Up to 200 files 200 paragraph/file (12,000,000 characters)
Operating environment	15°C-35°C
PC interface	USB2.0 Full-speed, Professional editing software
Tube	PVC tubeΦ2.5-Φ6mm Heat shrink tube Φ2.5-Φ6mm
Label	Exclusive cassettes(White, yellow, silver) Width:6mm, 9mm,12 mm.Length:16m
Insert Stick Plate	Not Applicable



## Included Items



Packing box x 1 TP76E printer x 1 Hand suitcase x 1 Power line x 1 Power adapter x 1 Label Cassette x 1 Tube Adjuster x 1 Ribbon Cassette x 1 USB cable x 1 User Manual x 1 CD-ROM x 1 Quality Certificate x 1

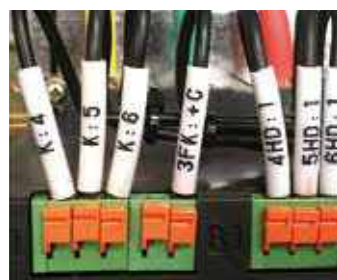
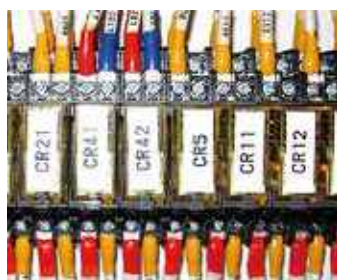
## TP80E

## WIRE TUBE PRINTER

- 1 Different printing materials: tube/ heat shrink tube (2.5-6mm diameter), label ( 6mm/9mm/12mm width), plate 4mm/4.6mm/9mm.
- 2 Large white back-lit LCD display, up to 10 lines display on TP80E.
- 3 Automatic feed/clean/ribbon pre tighten/half cut/full cut.
- 4 85-key standard keyboard makes operation easily.
- 5 Repeat, sequence and copy print functions can save your time.
- 6 USB PC link, professional editing software.
- 7 Large internal storage capacity can store up to 200 files.

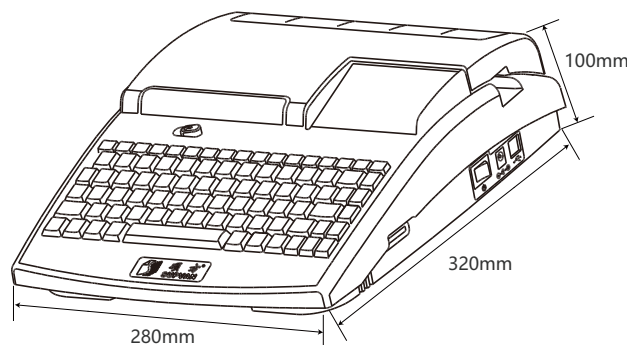


## Application



## Specification

Project	Parameter
Model	TP80E
Printing method	Thermal transfer
Resolution	300dpi
Printing speed	Tube:40pcs/min,20mm/pcs Label:40pcs/min,20mm/pcs
Ink Ribbon	Black:100m,White:80m,Red:80m
Input modes	Alphanumeric, Symbol, English character input
Character size	Label:1-7 Tube:1-5
Repeat	1-200
Media cutting method	Automatic half-cutting, Automatic full-cutting
Styles	Frame, Underline, Superscript, Subscript
Tape type	Tube, Heat shrink tube, Label, Plate
Keyboard	85keys standard keyboard
Dimension(L×W×H)	320mm*280mm*100mm
Weight	3.2kg(printer only)
Power supply	AC adapter(Input voltage: AC 100V-240V 50/60Hz)
Display	White back-lit LCD display; Single and double column display; Up to 5-line editing interface
Internal memory	Up to 200 files 200 paragraph/file (12,000,000 characters)
External memory	SD card and card reader
Operating environment	15°C-35°C
PC interface	USB2.0 Full-speed, Professional editing software
Tube	PVC tubeΦ2.5-Φ6mm Heat shrink tube Φ2.5-Φ6mm
Label	Exclusive cassettes(White, yellow, silver) Widths:6mm, 9mm,12 mm.Length:16m
Insert Stick Plate	Width:4mm, 4.6mm, 9mm



## Included Items

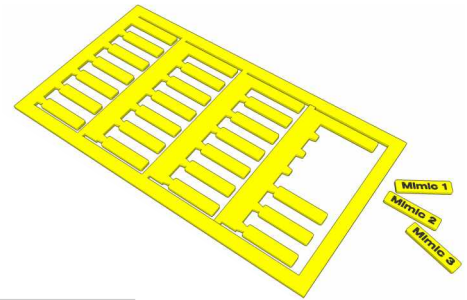


## Si2K02

## UNIVERSAL TAGS

These tags go into all sleeves used in the 3M™ Grafoplast™ TRASP\* Manual System, including wire and cable sleeves, cable ties sleeves, pin terminal sleeves, and self-adhesive sleeves. Specifications: PC/ABS material that meets UL-94 V-0 and can be used in temperatures ranging from -58°F to 176°F (-50°C to 80°C).

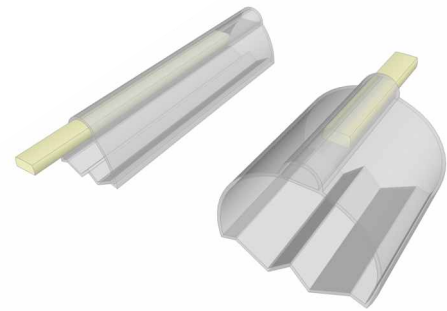
## 3M™ Grafoplast™ Universal Tags Si2K02 Series for Various TRASP System Sleeves



Part #	UPC (013166-)	Approx. Dim. in. (mm)	Color	No. Characters		Pkg Qty Tags (Modules)
				Standard	Narrow	
Si2K02W/10N	47436	.15 x .4 (3.7 x 10)	White	6	7	1152 (32)
Si2K02Y/10N	47440	.15 x .4 (3.7 x 10)	Yellow	6	7	1152 (32)
Si2K02W/15N	47438	.15 x .6 (3.7 x 15)	White	8	12	768 (24)
Si2K02Y/15N	47442	.15 x .6 (3.7 x 15)	Yellow	8	12	768 (24)
Si2K02W/18N	47439	.15 x .7 (3.7 x 18)	White	10	14	576 (18)
Si2K02Y/18N	47443	.15 x .7 (3.7 x 18)	Yellow	10	14	576 (18)
Si2K02W/30	46958	.15 x 1.2 (3.7 x 30)	White	18	24	600 (30)
Si2K02Y/30	46959	.15 x 1.2 (3.7 x 30)	Yellow	18	24	600 (30)

### Standard Sleeve 200 series

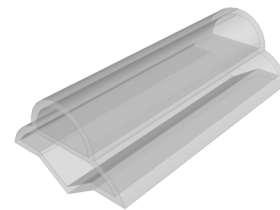
These standard transparent PVC sleeves are designed to accommodate a wider range of cables and wires and are particularly useful for jobs that encounter a variety of diameter ranges. They are more pliable than the 100 series sleeves. Specifications: Meets UL-94 Class V-0 standards and can be used in temperatures ranging from -58°F to 176°F (-50°C to 80°C).



PLEASE CONTACT US FOR LIST OF SIZES AND SPECS AVAILABLE

### Fine Wire Sleeve 190 series

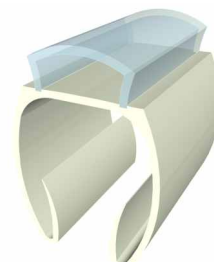
This transparent PVC sleeve is designed for marking fine wires in a clear and legible manner. Specifications: Meets UL-94 Class V-0 standards and can be used in temperatures ranging from -58°F to 176°F (-50°C to 80°C).



Part #	UPC (013166-)	Min. OD		Max. OD		Length		Matching Si2K Tags		No. of Si2K Characters		Qty.
		mils	mm	mils	mm	in.	mm	White	Yellow	Standard	Compressed	
190/10	19385	24	0.6	47	1.2	0.39	10	Si2K02W/10N	Si2K02Y/10N	6	7	1,000
190/15	19390	24	0.6	47	1.2	0.59	15	Si2K02W/15N	Si2K02Y/15N	8	12	1,000

### Snap-on Sleeves 301-304

The snap-on sleeve is ideal for marking cable after the electrical connection has already been made. The bottom of the snap-on sleeve is made of a rigid base that snaps onto the cable and the top of the sleeve is made of a soft, transparent PVC sleeve that is designed to hold tags. Specifications: Meets UL-94 Class V-0 standards and can be used in temperatures ranging from -58°F to 176°F (-50°C to 80°C). Refer to pages 36-38 for a quick reference selection guide by wire type and conductor size.



PLEASE CONTACT US FOR LIST OF SIZES AND SPECS AVAILABLE



**WWW.MIMIC.CO.ZA**



# CONTROLLERS

COST EFFECTIVE FAMILIES (Temperature, PID PWM Output)

**NEW**

**N1050**

Temperature

USB

N1050 is an LCD temperature PID controller that combines high performance with vivid design



**N1030T**

Temperature

USB



**N20K48**



**N1020**

Temperature

USB



**N480D**

Temperature

USB



**N960**

Temperature

USB

## ADVANCED FEATURES FAMILIES

(Universal Input, RS485 Modbus, Ramp & Soaks, PID Analog Output, 4-20 mA retransmission, Digital Input, Square Root)



**N120**

Process



**N3000**

Process



**N1200-HC**

Process



**N2000**

Process

USB

# PANEL INDICATION



**N1540**

Universal Indicator

USB



**N1040i**

Indicator

USB



**N1500**

N1500-LC / Load cells  
N1500-FT / Flow rate indication  
Universal Indicator



## ABD2...(20mm digit height)



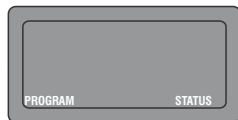
S - Normally Stock  
L - Limited Stock  
O - Ex Order

**ADDA**

## BCD INDICATORS

## ABD14624D (38mm digit height)

- 24V d.c. display.
- 24V Positive Logic.
- Direct or Multiplexed inputs.
- Terminal or Ribbon cable outputs.
- Multi-instrument multiplexed schemes available.
- Din 48x96mm
- Cutout 45x92mm



Special split display  
(optional silkscreened text)

These meters have been designed to be used with programmable logic controllers and function in the same manner as the four digit BCD meters in our range. The case is a standard DIN 48 \* 96 case and termination is provided with removable terminals on the rear of the unit. High brightness red 14mm led characters are used for the display. The units are available as standard with 24V logic and supply voltage level and special voltages can be supplied on special order. Can be cascaded to save PLC output lines.

- Din 48x96mm
- Cutout 45x92mm



## APM4020-24D 24VDC



S - Normally Stock  
L - Limited Stock  
O - Ex Order

## APM4120-24D (24VDC with 2 alarm set points)



S - Normally Stock  
L - Limited Stock  
O - Ex Order

- 4 Digit
- 48 x 96mm Bezel
- 45 x 92mm Cutout
- High brightness Red 20mm LED display.
- Programmable input range: 0-20mA and 4-20mA
- User programmable display range -1999 to 9999 (decimal point selectable)
- Controls available behind display lens (hidden controls prevent unauthorized adjustment) or Alternatively pushbuttons on front face with lockout selector on rear of enclosure.
- High quality tactile pushbuttons (no membrane to peel off).
- Programmable Hi and Low voltage free contacts with adjustable hysteresis (APM4120 only)
- LED indication of Hi and Low Alarms (APM4120 only)
- Removable plug in terminals
- 3 year guarantee
- High accuracy
- Supply voltage: 24VDC  $\pm 15\%$
- Power consumption: 2,5W max
- Accuracy, Linearity: 0,05% of full scale,  $\pm 1$  count
- Internal A-D resolution: 200 000 counts
- Input Impedance: 100  $\Omega$
- Temperature coefficient: 20 ppm/  $^{\circ}\text{C}$  typ
- Conversion rate: 1-5 per second (adjustable)
- Settling time: 1 second
- Memory retention: Non volatile operation
- Operating temperature range:  $-5^{\circ}\text{C}$  to  $50^{\circ}\text{C}$
- Alarm relay contact ratings: 1A@28VDC



## BARGRAPH DISPLAYS



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**ADDA**

## DPB205H-24D (Horizontal)

## ABG502....



S - Normally Stock  
L - Limited Stock  
O - Ex Order

## DPB205V-24D (Vertical)

- 50 High brightness Red or Yellow dual bar display.
- Factory calibrated to various ranges 0-2V/0-10V/0-20mA/4-20mA
- User adjustable for full scale deflection/Bar or dot mode etc.
- Galvanically isolated input.
- Peak hold function with external reset.
- Standard DIN size cut-out.
- Custom scaling available on request with customized legends.
- Vertical or horizontal format front plate options available.
- 3 year guarantee
- Also available as Modbus Bargraph display
- Supply voltage: 110/220Vac  $\pm 10\%$   
12/24Vdc  $\pm 15\%$
- Power consumption: 4 W max
- Bezel: 48x144x70mm(D)
- Cut-out: 45x138mm



- 20 LED bars each 1.47 x 4mm
- Signal input 4-20mA
- Supply voltage 24V DC non isolated
- Adjustments for center, span & zero
- Center linearity
- Bezel 24x72x90mm(D)
- Cutout 21x69mm





## N1540



S - Normally Stock  
L - Limited Stock  
O - Ex Order

NOVUS

## UNIVERSAL INDICATOR

N1540 process meter was designed with advanced technology for highest performance and reliability in the most demanding applications. The N1540 can be easily installed in panels and enclosures where space is at a premium.

- Accepts thermocouples J, K, T, E, N, R, S, B, Pt100, 0-50 mV, 0-5 Vdc, 0-10 Vdc, 0-20 mA and 4-20 mA
- Adjustable indication offset / Adjustable digital filter
- Programmable indicating range from -1999 to 9999
- Sampling rate: up to 50 measurements per second
- Two relay alarms: SPST 1.5 A / 240 Vac
- Alarm functions: LO, HI, differential, differential LO, differential HI, sensor break
- Flash function (display flashes under alarm condition)
- Bright 14 mm display
- Auxiliary 24 Vdc voltage source
- USB Interface for configuration and monitoring
- IP65 UL 94 V-2 front; IP20 UL 94V-0 enclosure
- Size: 96 x 48 x 35 mm
- Power: 100~240 Vac/dc  $\pm 10\%$



USB  
Interface

## N1040i



S - Normally Stock  
L - Limited Stock  
O - Ex Order

The Universal Indicator N1040i combines, in one compact and convenient 1/16 DIN enclosure, a high precision microprocessor based analog circuit with a very simple configuration interface to monitor a wide range of analog variables. Compatible with most common thermocouples, Pt100 RTD and linear as 4 to 20 mA and mV.

- Thermocouple inputs J, K, T, N, R, S, B, E, RTD Pt100 and linear 0-20 mA, 4-20 mA, 0-50 mV, 0-5 V e 0-10 V in one model
- Analog input signal retransmission over 0-20 mA or 4-20 mA
- Up to 2 programmable alarms outputs
- Up to 2 relay outputs, SPDT and SPST-NO
- Alarm functions: minimum, maximum, differential, minimum differential, maximum differential and sensor break
- Universal switching power supply ensures high precision even under mains voltage oscillations
- Power Supply: - 100 to 240 Vac ( $\pm 10\%$ ), 50/60 Hz - 48 to 240 Vdc ( $\pm 10\%$ ) - 24 to 240 Vdc ( $\pm 10\%$ ) (model N1040i-F)
- Dimensions: 48 x 48 x 80 mm



## N1500

## N1500LC (Load Cell)

## N1500FT (Flow Meter)



S - Normally Stock  
L - Limited Stock  
O - Ex Order



S - Normally Stock  
L - Limited Stock  
O - Ex Order



S - Normally Stock  
L - Limited Stock  
O - Ex Order

The N1500 series of Universal Process Indicators are high performance instruments used for monitoring analog signals in the vast majority of industrial and laboratory processes.

- Accepts: type J, K, T, E, N, R, S and B thermocouples; Pt100, 4-20 mA, 0-50 mV and 0-10 Vdc
- Programmable scaling from -1999 to +9999 and adjustable digital filter
- Accepts and linearizes non-linear 4-20 mA signals from thermocouple transmitters
- Accepts front panel input of custom created non-linear curve with up to 20 segments
- Selectable decimal point for Pt100, 4-20 mA and 0-50 mV
- Alarms: Two 3 A SPST relay alarms in the basic version and two extra relays optional
- Alarm functions: HI, LO, differential HI, diff. LO and sensor break detection
- Five digit 13 mm ultra bright LED display
- Standard 24 Vdc output for field transmitters
- Front panel: IP65, Polycarbonate UL94 V-2; Back panel: IP30, ABS + PC UL94 V-0
- Dimensions: 48 x 96 x 92 mm

- **N1500LC** - Dedicated for load cell application
- Dimensions: 48 x 96 x 92 mm (1/16 DIN)

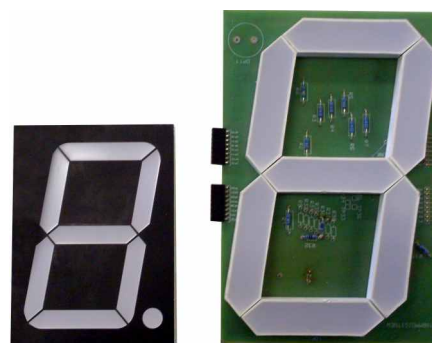
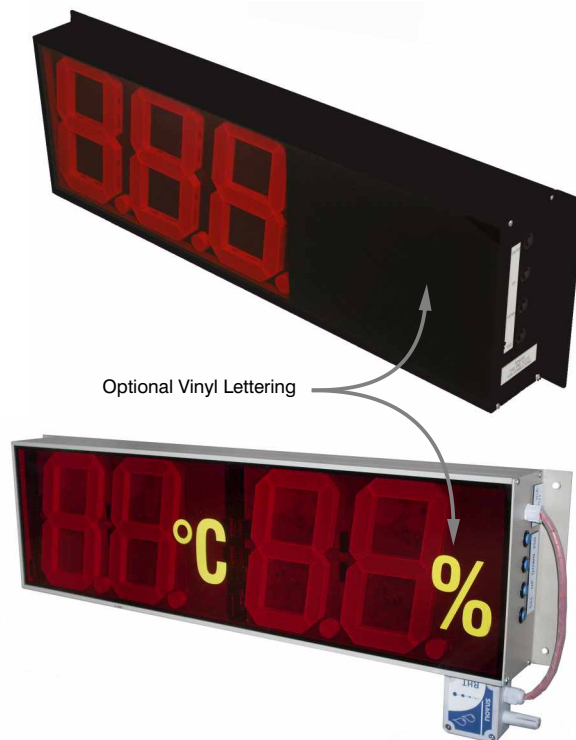
- **N1500FT** - Flow Meter Tailor made for flow applications, this instrument measures and displays both the instant measured value and the total value.

- Inputs: 4-20 mA, NPN, PNP, dry contact or coil signal
- 4-20 mA input with integral function and square root option
- Capable of reading pulsed signals from 0.1 to 8000 Hz
- Isolated 4-20 mA output (instant flow) and pulse output (NPN - totalized)
- Dual 6-digit displays, allows for several display messaging configuration
- Alarms: 2 SPDT 3 A / 250 Vac relays; Configurable alarms: HI, LO and sensor break





- Top quality Industrial Displays using large bright 100mm or 180mm digits.
- These units are for indoor use only, and are ideal for situations requiring a large clear display.
- The digits can be read from approx 60m away (depending on ambient light).
- Models are available to operate off a variety of input signals : 4-20mA, 0-10V, B.C.D etc
- 4 & 6 Digit Modbus versions also available.
- Black or Cream case options
- Optional Vinyl lettering
- Programmable input range : 0-20mA and 4-20mA
- User programmable display range -1999 to 9999 (decimal point selectable)
- Controls on the side of the housing.
- High Brightness Red 100mm LED display with user variable brightness.
- 3 Year guarantee
- High accuracy
- Supply voltages; 24Vdc  $\pm 15$ , 115VAC or 220VAC 10%
- Power consumption; 22W max
- Accuracy, linearity; 0,05% of Full Scale,  $\pm 1$  count
- Internal A-D resolution; >260 000 counts
- Input Impedance; 100 W
- Temperature coefficient; 30 ppm/  $^{\circ}\text{C}$  typ
- Conversion rate; 1-5 per second (adjustable)
- Settling time; 1 second
- Memory retention; Non volatile operation
- Operating temperature range;  $5^{\circ}\text{C}$  -  $50^{\circ}\text{C}$



100 or 180mm Digit Height Options



**SGD 24-M** (2.4" Programmable TFT Panel Meter)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**LASCAR****PANEL PILOT****SGD 28-M** (2.8" Programmable TFT Panel Meter)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**SGD 35-M** (3.5" Programmable TFT Panel Meter)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

The SGD series are programmable panel meters featuring dual analogue inputs, alarm outputs and 2.4"; 2.8" or 3.5" TFT colour touchscreen display options. Configured using the free PanelPilot M Software, choose from an ever-increasing number of configurations including bar-graph, tank level, analogue style and trend graphs. Then customise colours, text labels, units and input scaling before uploading to a display via USB.

- Display: 2.4", 2.8" or 3.5" colour TFT screen
- Resolution: 320x240 pixels (QVGA)
- Operating Voltage: 4 - 30V d.c.
- Measurement Range: 0 - 40V d.c.

**SGD 24-M420****SGD 28-M420**

(2.4"; 2.8" Programmable TFT 4-20mA Meter)

**SGD 24-M-IP**

(2.4" Waterproof Programmable TFT Panel Meter)

**SGD 24-M-IP420**

(2.4" Waterproof Programmable TFT 4-20mA Panel Meter)

**SGD 35-M420**

(3.5" Programmable TFT 4-20mA Loop Meter)

**SGD 43-A** (4.3" Display with Analogue, Digital, PWM and Serial Interfaces)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**SGD 70-A** (7" Display with Analogue, Digital, PWM and Serial Interfaces)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

SGD 70-A is a 7" AND SGD 43-A is a 4.3" are capacitive touch displays designed for use with PanelPilotACE Design Studio, a free drag-and-drop style software package for rapid development of advanced user interfaces and panel meters. This off the shelf display features a wealth of hardware interfaces, including four 16-bit bipolar analogue inputs (to a maximum of  $\pm 40V$  d.c.), eight digital input/output pins, two alarm outputs, four 8-bit PWM outputs, serial RS232 and RS485 and an additional add on board to measure temperature.

**SGD 43-A**

- Display: 4.3" TFT with 262k colours
- Touchscreen: Capacitive touch screen
- Resolution: 480 x 272px
- Processor: Freescale i.MX283 (454MHz, 32bit, ARM 9)
- Analogue Inputs: Four 16-bit to  $\pm 40V$  d.c.
- Supply: 5 to 30V d.c. (300mA typical at 5V d.c.)
- Outside Dimensions: 119.3mm (4.7") x 79.8mm (3.1") x 20.0mm (0.8")

**SGD 70-A**

- Display: 7" TFT with 16.7M colours
- Touchscreen: Capacitive touch screen
- Resolution: 1024 x 600 pixel
- Processor: Freescale i.MX 6SoloX (ARM Cortex A9 & M4)
- Analogue Inputs: Four 16-bit to  $\pm 40V$  d.c.
- Supply: 5 to 30V d.c. (300mA typical at 5V d.c.)
- Outside Dimensions: 186mm (7.3") x 122mm (4.3") x 21mm (0.8")

Can also be used for data logging

**SGD 43-ATP**

- 4.3" panel mounted display module with capacitive touch screen
- 4 channel thermistor temperature board
- 4 x temp probes
- -40°C to +125°C

**SGD 70-ATP**

- 7" panel mounted display module with capacitive touch screen
- 4 channel thermistor temperature board
- 4 x temp probes
- -40°C to +125°C

**SGD 43-A****SGD 70-A****SGD 43-ATP**

4 channel Temp data logger

**SGD 70-ATP**

4 channel Temp data logger



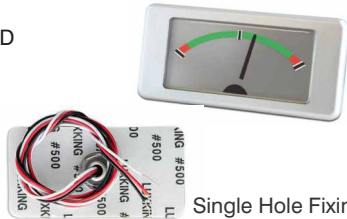
S - Normally Stock  
L - Limited Stock  
O - Ex Order

LASCAR

A series of low profile digital panel meters, designed to be mounted in a 5.5mm (7/32") diameter hole. The EM series has a splashproof option, by fitting the rubber seal provided, when installing the meters. All have a bezel size of 44x21mm.

**EMA 1710** (Analog DC Voltmeter)

- 9 segment virtual analog LCD
- Colour scale
- Auto-zero
- 1V full scale deflection
- No calibration required
- 3 wire connection



Single Hole Fixing.

**EMT 1900** (Thermometer)

- 3 digit LCD with °C and °F
- 12.5mm (0.5") digit height
- 4 measurement ranges
- Internal or external sensor
- 5 wire connection



Single Hole Fixing.

**EMV 1025S-01** (DC Voltmeter)

- 3½ digit LCD with low batt. sign
- 12.5mm (0.5") digit height
- 200mV full scale reading
- 3 wire connection



Single Hole Fixing.

**EMV 1200** (2 Wire DC Voltmeter)**EMV 1200-40** 1-40V d.c. Version

- 3 digit LCD
- 12.5mm (0.5") digit height
- Signal powered
- Range: 4-25V
- Reverse polarity protection
- No calibration required
- 2 wire connection



Single Hole Fixing.

**EMV 1125** (DC Voltmeter)

- 3½ digit LCD low battery warning
- 12.5mm (0.5") digit height
- Programmable decimal points
- Auto-zero, auto polarity
- 6-10 wire connection
- Supplied with screw terminal board



Single Hole Fixing.

**EMC 1500** (Elapsed hour meter Single-Hole Mounting)

- 5 digit LCD with annunciators
- 9.0mm (0.35") digit height
- Volt sense input
- Reset and trip/total inputs
- Leading zero blanking input
- Pulse output every hour
- Remembers elapsed time on power loss
- 3-8 wire connection



Single Hole Fixing.

## EM 32 SERIES



S - Normally Stock  
L - Limited Stock  
O - Ex Order

LASCAR

## DIGITAL PANEL METERS

The EM32 Series consists of an LCD and LED digital voltmeter designed to be panel mounted in most low and medium volume applications. Panel cut-out:  $\phi 32.5$ mm. These meters feature an 8mm digit height, 3½ or 4 digit display, 3 decimal points, auto-polarity, auto zero, 200mV full scale reading and low current consumption. Each product has been designed so that NO soldering is required. Connection is via screw terminals & options are selected via jumper links. The modules feature a round metal bezel, requiring a 32.5mm (1.28") diameter cut out, it is secured with the nut provided. Protection from the front to IP67 / NEMA 4X standards is achieved by fitting the rubber seal provided between the module and panel during assembly.

**EM32-1B**

- 3½ digit LCD with 8mm digit height
- 200mV d.c. full scale reading
- 500µA @ 3.5 to 6.5V d.c. or 150µA @ 7.5 to 14V d.c. Operation

**EM32-1B-LED**

- 3½ digit LED with 8mm digit height
- 200mV d.c. full scale reading
- 50mA @ 5V d.c. operation



LED

**EM32-4-LED**

- 4 digit LED with 8mm digit height
- 20mA @ 5V d.c. Operation
- Drives up to 4 External LED's
- Connection via 2 rows of posts



LED

**EM32-1900 LCD NTC Thermometer**

- 3 digit LED with 12.5mm digit height
- Range -40 to 105°C
- 3 samples / sec
- Supply Voltage 4 to 28 V d.c.
- Supply Current 1- 10mA





A new series of digital panel meters combining a low profile with miniature "Component style" body. The SP series can provide splash-proof protection, when the supplied silicon seal is fitted. All these units have a 35x22mm bezel & a 34x21mm cut-out.

**SP100 (LED VOLTMETER, 12 PIN VERSION)**

- 3½ digit LED voltmeter
- 9.4mm (0.37") digit height
- Auto-zero, auto polarity
- Programmable decimal points
- 200mV full scale reading
- Display blanking facility
- Compatible with other manufacturer's modules
- DIL connection
- Digital hold version **Sp101**

LED

**SP200 (LCD VOLTMETER, 12 PIN VERSION)**

- 3½ digit LCD voltmeter
- 9.75mm (0.38") digit height
- Low battery warning
- Auto-zero, auto-polarity
- Programmable decimal points
- 200mV full scale reading
- LED backlighting
- Compatible with other manufacturer's modules
- DIL connection

**SP300 (LED VOLTMETER, 8 PIN VERSION)**

- 3½ digit LED voltmeter
- 9.4mm (0.37") digit height
- Auto-zero, auto polarity
- Programmable decimal points
- 200mV full scale reading
- SIL connection

LED

**SP300 BLUE LED BACKLIGHTING**

SP 300 - 8 Pins.

LED

**SP400 (LCD VOLTMETER, 9 PIN VERSION)**

- 3½ digit LCD voltmeter
- 9.75mm (0.38") digit height
- Low battery warning
- Auto-zero, auto-polarity
- Programmable decimal points
- 200mV full scale reading
- LED backlighting
- SIL connection

**SP400-EB**

- 3½ Digit LCD Voltmeter
- Enhanced Black LCD
- LED Backlighting
- 200mV Full Scale Reading
- 9 Pin SIL Connection
- 7 colour options

**SP400 BLUE LED BACKLIGHTING****SP5 / SP8 SERIES****DIGITAL PANEL METERS**

The SP5 series consists of a 2-wire, signal powered voltmeter, 1V d.c. virtual analog voltmeter and a graphics display in a clip mount housing. This range of modules has a very low profile design. Once fitted, the face of the module sits almost flush with the panel. At the rear of the module, the mounting depth is also kept to a minimum, allowing use of the space behind the module. For harsher applications, the SP5 series is supplied with a rubber seal which, once fitted makes the modules splashproof from the front. Typical applications for this series include handheld Instrumentation and process equipment. All these units have a 48x36mm bezel & a 47x35mm cut-out.

**SP5-GFX1 (128 x 64 Pixel Graphics Display)**

- 128 x 64 pixel LCD
- LED backlighting
- 6 o'clock viewing direction
- Serial data interface
- No calibration required
- Supplied with splashproof seal
- SIL 10-way connection

**SP8-100 (LED Voltmeter, 8 Pin version)**

- 3½ digit LED voltmeter
- 14.2mm (0.56") digit height
- 200mV d.c. full scale reading
- 50mA @ +5V d.c. power supply
- Auto-zero and auto-polarity
- Programmable decimal points
- Bright red LED display







A series of digital panel meters with a one-piece, snap-in design, making installation a quick and easy procedure. Each meter has a large display in a miniature housing. All are backlit or use LED displays.

**DPM116** (3 ½ Digit LCD Voltmeter)

This compact panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height and a low-profile bezel for mounting. 12-way SIL.

**DPM125** (3 ½ Digit LCD Voltmeter)

This compact panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height and a low-profile bezel for mounting. Single-in-line SIL.

**DPM125-BL** (3 ½ Digit LCD Voltmeter LED backlight)

This compact panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height and a low-profile bezel for mounting. Single-in-line SIL.

**DPM160** (4 ½ Digit LCD Voltmeter)

This 200mV/2V voltmeter features a 4½ digit LCD with 12.5mm (0.5") digit height and a low-profile bezel for mounting.

**DPM160S** (4 ½ Digit LCD Voltmeter Single Rail Version)

This 200mV/2V voltmeter features a 4½ digit LCD with 12.5mm (0.5") digit height and a low-profile bezel for mounting.

**DPM 1AS-BL** (Compact 3 ½ Digit LCD Voltmeter)

This compact panel meter features a 3½ digit LCD with 5.5mm (0.22") digit height, one-piece snap-in housing and LED backlighting.

**DPM2000** (3 ½ Digit LCD Voltmeter)

Compact 200mV d.c. panel meter featuring a 3½ digit LCD with 15mm (0.6") digit height and a low-profile bezel for mounting.

**DPM2000s** (3 ½ Digit LCD Voltmeter Single Rail Version)

Compact 200mV d.c. panel meter featuring a 3½ digit LCD with 15mm (0.6") digit height and a low-profile bezel for mounting.

**DPM 2AS-BL** (Compact 3 ½ Digit LCD Voltmeter)

Compact 200mV d.c. panel meter featuring a 3½ digit LCD with 8.25mm (0.32") digit height, one piece snap-in housing and LED backlighting.

**DPM340** (Compact 3 ½ Digit LCD Voltmeter)

Compact 200mV d.c. panel meter featuring a 3½ digit LED with 8mm (0.31") digit height, one piece snap-in housing.

**DPM342** (Compact 4-20mA Loop Powered LCD Meter)

Compact 4-20mA loop powered panel meter featuring a 3½ digit LCD with 11mm (0.43") digit height, LED backlighting and one-piece snap-in housing.

**DPM 3AS-BL** (Compact 3 ½ Digit LCD Voltmeter)

Compact 200mV d.c. panel meter featuring a 3½ digit LCD with 11mm (0.43") digit height, one-piece snap-in housing and LED backlighting.

**DPM40** (200mV LED Voltmeter)

This panel meter features a 3½ digit LED display with 11mm (0.43") digit height.

**DPM400** (3 ½ Digit LCD Voltmeter)

This compact panel meter features a 3½ digit LCD with 10mm (0.4") digit height, annunciators and a low-profile bezel for mounting.

**DPM500** (3 ½ Digit LCD Voltmeter)

This compact panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height, annunciators and a low-profile bezel for mounting.

**DPM500S** (3 ½ Digit LCD Voltmeter Single Rail)

This compact panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height, annunciators and a low-profile bezel for mounting, Single Rail.







S - Normally Stock  
L - Limited Stock  
O - Ex Order

**LASCAR**

A series of digital panel meters with a one-piece, snap-in design, making installation a quick and easy procedure. Each meter has a large display in a miniature housing. All are backlit or use LED displays.

### DPM600 (200mV LCD Voltmeter with Annunciators)

This panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height and annunciators.



### DPM600S (200mV LCD Voltmeter with Annunciators)

This Single rail panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height and annunciators.



### DPM700 (200mV LCD Voltmeter with Annunciators)

This panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height, annunciators and LED backlighting.



### DPM700S (Bezel Mounted LCD Voltmeter with LED Backlighting)

This panel meter features a 3½ digit LCD with 12.5mm (0.5") digit height, annunciators and LED backlighting.



### DPM702S (Dual 200mV Voltmeter with LED Backlighting)

This dual channel 3½ digit LCD panel meter features 6.4mm (0.25") digit height, 200mV d.c. full scale reading, auto-zero and auto-polarity.



### DPM742-BL (4-20mA Loop Powered LCD Meter with LED Backlighting)

4-20mA loop powered panel meter featuring a 3½ digit LCD with 12.7mm (0.5") digit height and LED backlighting.



### DPM750S-BL (200mV LCD Voltmeter with Backlighting)

This panel meter features a 3½ digit LCD with 12.7mm (0.5") digit height, annunciators and LED backlighting.



### DPM750S-EB-W (LCD Voltmeter with White Digits & Black Background)

### DPM942 (Large 4-20mA Loop Powered LCD Meter)

This large loop powered indicator features a 3½ digit LCD with 19mm (0.75") digit height.



### DPM942-BL (Large 4-20mA Loop Powered LCD Meter & LED Backlighting)

### DPM942-FPSI (Large 4-20mA Loop Powered LCD Meter with Red/Green Programmable Backlighting)

This large loop powered indicator features a 3½ digit LCD with 19mm (0.75") digit height and programmable LED backlighting.



### DPM950 (Large Voltmeter with LED Backlighting)

This large panel meter features a 3½ digit LCD with 19mm (0.75") digit height and LED backlighting.



### DPM950S (Large 200mV LCD Single Rail Voltmeter with LED Backlighting)

Compact 4-20mA loop powered panel meter featuring a 3½ digit LCD with 11mm (0.43") digit height, LED backlighting and one-piece snap-in housing.



### DP950S-EB (Large 200mV Single-rail Voltmeter with White Digits & Black Background)

This large panel meter features a 3½ digit LCD with 19mm (0.75") white on a black background.



### DPM950S-FPSI (Large 200mV LCD Voltmeter with Red/Green Programmable Backlighting)

This large panel meter features a 3½ digit LCD with 19mm (0.75") digit height and programmable LED backlighting.



### DPM959B (Large 200mV LED Voltmeter)

This large panel meter features a 3½ digit LED display with 19mm (0.75") digit height.

LED



### DPM970 (Large AC LCD Voltmeter with LED Backlighting)

This large panel meter features a 3½ digit LCD with 19mm (0.75") digit height and LED backlighting.



## OEM SERIES



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**LASCAR**

## DIGITAL PANEL METERS

Designed as component style meters, the OEM series are ideally suited to both Medium & high volume applications. Typical uses for this series include personal instrumentation, integral sensor indicators and power supply monitoring. The range consists of two LCD meters, a bare PCB style meter & metal framed version and a potted LED meter. The LED meter is dimensionally compatible with the metal framed LCD version and has the same digit height.

## OEM 1B (Ultra Compact LCD Voltmeter)

This ultra-compact, low current consumption panel meter features a 3½ digit LCD voltmeter with 8mm (0.31") digit height.



## OEM 1B-LED (Ultra Compact LED Voltmeter)

This ultra-compact, low current consumption panel meter features a 3½ digit LED voltmeter with 8mm (0.31") digit height.



## V SERIES



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**LASCAR**

## DIGITAL PANEL METERS

A series of digital panel meters intended for use in high volume applications. Each meter has good performance, is easy to use and offers value for money. The V 1, V 125 and V 600 modules are only available in packs of 10. All modules are supplied with bezels. An evaluation pack V EVAL, containing one of each meter and a demonstration unit is also available.

## V1 (Low Cost 200mV LCD Voltmeter)

- 3½ digit LCD voltmeter
- 6.3mm (0.25") digit height
- Auto-zero, auto-polarity
- User selectable decimal points
- 200mV full scale reading
- DIL connection



## V125 (Low Cost 200mV LCD Voltmeter)

- 3½ digit LCD voltmeter
- 12.5mm (0.5") digit height
- Auto-zero, auto-polarity
- User selectable decimal points
- 200mV full scale reading
- SIL connection



## V600 (Low Cost 200mV LCD Voltmeter)

- 3½ digit LCD voltmeter
- 15mm (0.6") digit height
- Auto-zero, auto-polarity
- User selectable decimal points
- 200mV full scale reading
- Compatible with industry-standard types
- SIL connection



## N480D



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**NOVUS**

## TEMPERATURE CONTROLLERS

The N480D series of PID temperature controllers was designed for non-experienced novice users for combining extreme simplicity in operation with high performance only found in expensive high end controllers. It is a low-cost instrument which can be easily installed and operated. It accepts most thermocouples and Pt100 RTD, features a relay and pulse output for driving solid state relays and optionally can be supplied with a linear 4 to 20 mA output. Auto tuning PID function, dual display, full range universal power supply and ramps soak function are standard.

- Accepts thermocouples type J range -50 °C to 760 °C, type K range -90 °C to 1370 °C, type T range -100 °C to 400 °C, type R range 0 to 1760 °C, type S from 0 to 1760 °C, type E range -30 to 720 °C, type N range -90 to 1300 °C com with cold junction compensation.
- Accepts 2 or 3-wire Pt100 RTD, range -200 °C to 530 °C, with cable resistance compensation.
- Pt100 excitation current: 0.170 mA.
- Four-digit 10 mm red display for measured variable and four-digit 7 mm green display for set point.
- Sampling rate: 5 measurements per second.
- 5 Vdc 20 mA logic control output.
- 1 SPDT relay and 2 SPST 3A @ 250 Vac relays.
- Power: 100 to 240 Vac/dc, 50/60 Hz; optional 24 Vdc/ac.
- Power consumption: less than 9 VA.
- Operating environment: 0 to 55 °C, 20 to 95 % RH.
- Front panel: IP65, Polycarbonate UL94 V-2.
- Back panel: IP30, ABS+PC UL94 V-0.
- Dimensions: 48 x 48 x 110 mm (1.89" x 1.89" x 4.33").



USB Interface



## N960



S - Normally Stock  
L - Limited Stock  
O - Ex Order

NOVUS

## TEMPERATURE CONTROLLERS

Great substitute for the old and obsolete analog controllers for holding extreme simplicity in operation and yet featuring the highly accurate performance of digital technology. The 20 mm high display can be viewed from far away and the big functional keyboard can be operated by users wearing gloves.

- Display: 4 digits, 20 mm, high efficiency
- Input: Thermocouples and Pt100
- Control output: SPST relay and voltage pulse, both available in the basic model
- Power: 100-240 Vac/dc or 24 Vdc/ac (Optional)
- Ramp and soak: one controlled ramp and one timed soak are standard
- Auto tuning PID
- Detects any sensor failure
- Keyboard protection by hardware
- Size: 96 x 96 mm, ABS enclosure



USB  
Interface



## N1020



S - Normally Stock  
L - Limited Stock  
O - Ex Order

The temperature controller N1020 features advanced performance capability for the most complex and critical applications. Based on a high-end microprocessor and designed with a sophisticated auto-adaptive PID algorithm it continuously adjusts the PID parameters for best controlling performance. .

- Switching power supply: 100 to 240 Vac and 24 to 240 Vdc
- High brightness red LED display
- Universal input: thermocouples, Pt100 RTD and 50 mV
- Auto-adaptive PID control
- PID parameters auto-tuning
- Dual output: 1 pulse and 1 relay
- Output functions: control, alarm 1, alarm 2
- Configurable alarms with 8 different functions
- Silicone keypad
- Front pannel: IP65, polycarbonate UL94 V-2
- Enclosure: IP20, polycarbonate UL94 V-2
- Size: 48 x 24 1/32 DIN



USB  
Interface

## N1030



S - Normally Stock  
L - Limited Stock  
O - Ex Order

N1030 is a temperature controller that features a high performance PID algorithm in a compact housing, with only 35 mm depth. Its compact construction and the convenient detachable connector provide an easy set up on short profile panels, optimizing the space and reducing costs.

- Single Loop PID and ON/OFF controller
- PID auto tuning
- Dual relay output or 1 pulse and 1 relay versions
- Six alarm functions: LO, HI, differential, differential LO, differential HI, sensor break
- Thermocouples J, K, T and Pt100 input
- Dual red and green four-digit display
- Front panel material PC UL94 V-2 / Enclosure material: PC UL94 V-2
- Front panel protection: Ip65
- Operating environment: 0 to 60 °C, 20 to 80 % RH
- Dimensions: 48 x 48 x 35 mm
- Power supply: 100 to 240 Vac/dc or 12 to 24 Vdc / 24 Vdc/ac



## N1030T

## TEMP / TIME CONTROLLER / PID

N1030T is a temperature controller with timer that features high performance PID algorithm, ideal for manufacturers of machines and equipment, in compact housing, with only 35 mm depth. Its compact size and the detachable connector provide an easy setup on thinner profile panels, optimizing space and reducing costs. It has two outputs always available in which both can be configured as control, alarm or timer output.

It also has two independent timers and several operation modes that redirect to one of the controller outputs or to act joined with temperature controller. It accepts sensors Pt100 and thermocouples J/K/T and it has a quick coupling electric connection that reduce installation setup time.

N1030T is an excellent process controller where reliability and precision are demanded, besides cost effectiveness in PID controller.





## N1040



S - Normally Stock  
L - Limited Stock  
O - Ex Order

NOVUS

## TEMP / TIME CONTROLLERS

The microprocessor based N1040 was conceived for low cost applications and yet achieving high degree of accuracy. It features a short depth enclosure of only 70 mm thus reducing panel space considerably. Another important innovation is the exclusive removable wiring connection block which translates into ease of use during installation process.

- Accepts thermocouples J, K, T and Pt100 RTD without any hardware change or recalibration
- Auto tuning of PID parameters
- Outputs: logic pulse (ideal for driving solid state relays) and 1 SPST relay
- Alarm functions: low, high, differential, low differential, high differential, sensor break
- Two alarm functions can be directed to one single output
- LBD (Loop Break Detection) function detects failures in the control loop
- Simplified programming menu makes operator programming very easy
- Silicone rubber frontal keypad / Keypad protection
- Front panel protection: Ip65



USB  
Interface

## N1040T (Time &amp; Temp Controller)



S - Normally Stock  
L - Limited Stock  
O - Ex Order

NOVUS

N1040T is an economic and efficient Time and Temperature controller, developed with modern technology and automatic tuning of PID parameters, ON-OFF control and totally configurable. It has a reduced depth flameproof plastic enclosure.

It has two independent timers with several operation modes that allow timer association to the controller output or to the temperature control.

It accepts Pt100 sensors and thermocouples types J/K/T with decimals on all sensors. It has a fast electrical connection coupler system that reduces installation time.

Single model with 4 configurable outputs for process control, alarm or timing. Configuration protection by password and factory calibration recovery.



## N1050



S - Normally Stock  
L - Limited Stock  
O - Ex Order

NOVUS

## LCD TEMP PID CONTROLLER

N1050 is an LCD temperature PID controller that combines high performance with vivid design. With the fastest sampling rate upon the competition, it has the ability to operate in slow and dynamic processes. Combining the widely proven robustness of the NOVUS PID algorithm with a new display design, the LCD display provides 11-segment easy-to-read alphanumeric mnemonics, larger digits and clear status signaling.

Besides the PID auto tuning capability, N1050 outputs PWM control mode through pulse or relay. Up to three optional output relays can be selected. It also has 5 ramp-and-soak programs for set point profile, output soft start and timer function. With password protected, all parameters are configurable by the display menu, via USB port or optional RS485 Modbus interface.

Easy to install and maintain due its detachable connector, N1050 offers the lowest power consumption and light weight in the market. Housed in anti-flame material, it has 48x48 (DIN 1/16) format and low profile front panel. Suitable for hostile environments, it complies with standard EMC regulations, providing robustness and reliability including untapped temperature applications.



USB  
Interface

IP65  
FRONT PANEL



<b>Display</b>	Alphanumeric 11-segment LCD type, high contrast multi viewing angle	<b>Communication</b>	RS485 Modbus RTU (optional)
<b>Input Type</b>	Thermocouple J, K T, S and Pt100	<b>Power Consumption</b>	max. 6 VA
<b>PID Features</b>	PWM Auto tune	<b>Software configuration</b>	NConfig, via USB (micro-B type)
<b>Control Action</b>	Heat or Cool	<b>Certifications</b>	CE, UL, cUL
<b>Output Control</b>	Pulse for SSR and relay 3 Relays (optional)	<b>Power Supply</b>	100-240 Vac/dc or 12-24 Vdc (Optional)
<b>Ramp &amp; Soak</b>	5 Programs with 4 Segments	<b>Operating Conditions</b>	Temperature: 0 to 50 °C ( 32 to 122 °F) Humidity: 80 % @ 30 °C (86 °F)
<b>Sampling Period</b>	20 ms	<b>Front Panel</b>	IP65 Polycarbonate (PC) UL94 V-2
<b>Special Functions</b>	Soft-Start PID Loop Break alarm Ramp and Soak event 2 Alarms (7 alarm types)	<b>Enclosure</b>	48x48 mm (DIN 1/16) ABS+PC UL94 V-0



## N1100

## N1200



S - Normally Stock  
L - Limited Stock  
O - Ex Order

NOVUS

## TEMPERATURE CONTROLLERS

**N1100** Universal Controller boasts features required in a majority of Industrial processes. Input and output functions are selected through the front keyboard without hardware change. **N1200** is an advanced self-adaptive PID controller with an algorithm that constantly monitors the process performance and adjusts PID settings in order to always obtain the best possible control response. A single model is able to accept most industrial sensors and signals and provides all output types required to control different processes. The multi-purpose inputs and outputs can be combined to provide tremendous versatility with extremely high accuracy in the most demanding applications

- Accepts thermocouples J, K, T, E, N, R, S, B, Pt100, 0-50mV, 0-5Vdc and 4-20mA
- Outputs: 2 relays SPST, Pulse for SSR and linear 4-20mA
- Up to 2 alarms with timers from 0 to 6500s
- Input resolution: 12000 levels
- PV or SP retransmission in 0-20/4-20mA
- Bumpless Auto/Manual function
- Remote setpoint input (4-20mA)
- Programmable soft start (0-9999s)
- Auto tuning PID
- Access password for configuration protection
- Sizes: 48 x 48 x 106 mm



USB Interface



## N2000 &amp; N2000S

## N3000 (big digit)



S - Normally Stock  
L - Limited Stock  
O - Ex Order



S - Normally Stock  
L - Limited Stock  
O - Ex Order

The N2000&N3000 Universal Process Controllers offer a breakthrough in versatility for holding in one single instrument all the major features required in the vast majority of industrial processes. From the very simple applications as a temperature controller to the most complex systems of distributed control with PLC's or SCADA networks. These units are specific for applications in controlling servo motorized valves, servo actuators and dampers by means of two time proportional relays. **N2000S** has twice as many proportionally driven relays to control servo-positioning valves and dampers.

- Accepts thermocouples type J, K, T, N, R, S; Pt100, 0-50mV, 0-5Vdc and 4-20mA
- Outputs: 2SPDT and 2 SPST relays, pulse for SSR and linear 4-20mA
- 4 software configurable alarms
- Up to 2 alarms with timers from 0 to 6500s
- Input resolution: 12000 levels
- Built-in auxiliary 24Vdc voltage source
- PV or SP retransmission in 4-20mA
- Bumpless Auto/Manual function
- Remote setpoint input (4-20mA)
- Programmable soft start (0-9999s)
- Auto tuning PID
- IP65 UL 94 V-2 front panel; IP20 UL94 V-0 enclosure
- Silicone Rubber keypad
- Power 100~240 VAC/DC  $\pm 10\%$
- **N2000**: Size 48x96x92mm
- **N3000**: Size 96x96x92mm



USB Interface



N2000



N3000

## N2020



S - Normally Stock  
L - Limited Stock  
O - Ex Order

The N2020 PID temperature controller was designed to deliver high accuracy performance while keeping low cost. It features Auto/Manual function accessible via front keypad and several other advanced control characteristics.

- Accepts thermocouples J, K, T and Pt100 RTD
- Outputs: 2 SPST relays, Pulse and optional 4-20 mA
- Dual red and green 4-digit displays
- Sampling rate: 10 measurements per second
- Internal resolution: 15000 levels
- Alarm functions: LO, HI, differential LO and differential HI
- Quick function keypad: ON/OFF/auto/Manual, etc
- PV or SP retransmission in 4-20 mA
- Loop Break Detection function / Fail safe function
- Ramp and soak functions programming
- Access password for configuration protection
- IP65 UL94 V-2 front; IP20 UL94 V-0 enclosure
- Size: 48 x 96 x 92 mm
- Power: 100~240 Vac/dc  $\pm 10\%$



USB Interface



N20K48

NOVUS

We Measure, We Control, We Record

MODULAR PROCESS CONTROLLER



## Modular Process Controller

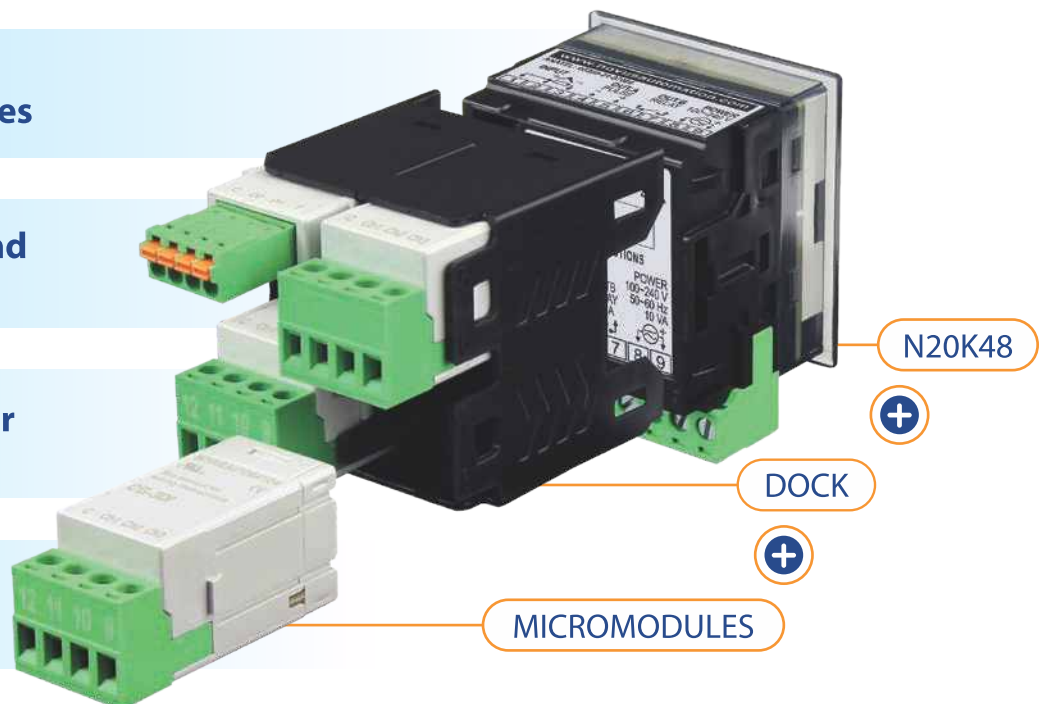


Adaptable resources  
by adding micromodules

Wireless diagnostics and  
easy field maintenance

Lowest depth controller  
in the market

Smartphone and PC  
friendly configuration



Global innovation product from **NOVUS**, we proudly release our **N20K48** controller family. Its new and consistent concept is based on a compact, powerful core controller plus a growing family of micromodules that enables it to meet a wide range of application requirements in the industry. Its excellent cost-effective expansion micromodules allow for scalability of I/O, features and connectivity, in addition to being a single controller model for all family, which avoids dealing with specific and expensive models, allowing easy spare parts inventory management.

The **NOVUS ClickNGo** technology for **N20K48** micromodules ensures expandable capacity for more demanding applications and standardizes the learning and training of industry technical staff.

The native Bluetooth interface offers simple field diagnostic and commissioning through the **QuickTune Mobile** app, which reduces eventual downtime, while the USB interface provides batch configuration option, optimizing workbench series production.

With a new elegant and distinctive design, the controller features large and bright clear-to-read display, while keeping a compact depth enclosure, making it suitable for installation in restricted spaces.

With a design focused on the best user experience, the **QuickTune Mobile** app provides to the user an intuitive mobile platform for configuration management for all controllers and micromodules on the shop floor.

## Expansion ClickNGo Micromodules

DOCK FOR  
MICROMODULES

DOCK N20K48

3 DIGITAL  
OUTPUTS

CG-3DO



## 2 RELAYS 5 A

CG-2R5

1 ANALOG  
OUTPUT

CG-1AO

3 DIGITAL  
INPUTS

CG-3DI

RS485  
MODBUS RTU  
INTERFACE

CG-485



## 1 RELAY 16 A\*

CG-R16

WIFI INTERFACE\*  
CG-WIFI  
NOVUS AIR WIRELESS  
INTERFACE\*  
CG-NAIRMore Micromodules  
COMING SOON

\*IN DEVELOPMENT

## Topology

## SuperView



## QuickTune



RS485



N20K48

QuickTune  
Mobile

## Technical specifications

Display	11-segment alphanumeric LCD type
Input Type	Thermocouple J, K, T, E, S, N, R, B, Pt100, 0-50 mV, 0-5 V, 0-10 V, 0-20 mA and 4-20 mA
PID Features	PWM, Auto tune
Control Action	1 Loop (Heat or Cool)
Output Control	1 Pulse and 1 Relay 3A
Ramp & Soak	20 Programs, 9 Segments
Sampling Period	18 ms
Power Consumption	10 VA
Special Functions	Soft-Start, PID Loop Break, Ramp and Soak event, 4 Alarms (9 alarm types) and Timer Function

Configuration	<b>QuickTune</b> software for Windows, via USB or Bluetooth <b>QuickTune Mobile</b> app for Android and iOS via Bluetooth
Certifications	CE, UKCA, Anatel and FCC
Power Supply	100-240 Vac/dc or 12-24 Vdc (Optional)
Operate Conditions	Temperature: -20 to 60 °C (-4 to 140 °F) Humidity: 80 % @ 30 °C (86 °F)
Front Panel	IP65, Polycarbonate (PC) UL94 V-2
Enclosure	48x48 (DIN 1/16), material in ABS+PC UL94 V-0



**Selection Guide: NOVUS CONTROLLERS**

**COST EFFECTIVE FAMILIES**



We Measure, We Control, We Record

Controller Type	N1030	N1030T	N1040	N1040T	N1020	N480D	N960	N2020	N120	N3000	N1200	N1200-HC	N2000	N2000-S
PID Output Control Mode	Temperature	Temperature	Temperature	Temperature	Temperature	Temperature	Temperature	Temperature	Process	Process	Process	Process	Process	Process
Auto Tune PID	PWM	PWM	PWM	PWM	PWM	PWM & Analog (optional)	PWM & Analog (optional)	PWM & Analog (optional)	✓	✓	✓	✓	✓	✓
Self-Adaptive PID Control Loops	1	1	1	1	1	1	1	1	2	1	1	2	1	1
Control Action	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat or Cool	Heat & Cool with Overlap	Heat or Cool	Heat or Cool	Heat & Cool with Overlap	Heat or Cool	Servo
Output Relay	1	1	Up to 3	Up to 3	1	Up to 3	2	2	2	Up to 4	Up to 3	Up to 3	Up to 4	Up to 4
Output Pulse	✓	✓	✓	✓	✓	Optional	✓	Optional	✓	✓	✓	✓	✓	✓
Output Analog						✓	✓	✓		✓	✓	✓	✓	✓
Ramp & Soak Function						1		1	20	7	20	20	7	7
Ramp & Soak Programs			✓	✓				✓	✓	✓	✓	✓	✓	✓
Soft-Start Function								✓	✓	✓	✓	✓	✓	✓
Bumpless Function								✓	✓	✓	✓	✓	✓	✓
Manual Operation								✓	✓	✓	✓	✓	✓	✓
Display	Double	Double	Double	Double	Single	Double	Double	Double	Double	Double	Double	Double	Double	Double
Input Type	J, K, T, e Pt100													
Input Resolution Levels	32767	32767	32767	32767	32767	32767	32767	32767	J, K, T, R, S, E, B, N, Pt100, 0-50mV	J, K, T, R, S, E, B, N, Pt100, 0-50mV e 0-5V	J, K, T, R, S, E, B, N, Pt100, 0-50mV e 0-5V	J, K, T, R, S, E, B, N, Pt100, 0-50mV e 0-5V	J, K, T, R, S, E, B, N, Pt100, 0-50mV e 0-5V	J, K, T, R, S, N, Pt100, 4-20mA, 0-50mV e 0-5V
Input Sample Rate	5 sps	5 sps	55 sps	55 sps	55 sps	55 sps	55 sps	20 sps	55 sps	10 sps	55 sps	55 sps	10 sps	5 sps
Detection of Sensor Break	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Detection of PID Loop Break									✓					
Detection of Heater Break									✓					
Alarm Number	1	1	2	2	2	2	2	2	2	4	4	4	4	2
Alarm Types	Low, High, Dif, DifLo, DifHi and InputErr													
Digital Input									✓	✓	✓	✓	✓	✓
Remote Setpoint Input										✓	✓	✓	✓	
Setpoint Retransmission								✓		✓	✓	✓	✓	
Square Root										✓	✓	✓	✓	✓
Timer		✓		✓	✓				Optional					
Data Logger Function														
Password Protection			✓	✓	✓			✓	✓	✓	✓	✓	✓	✓
24V Power Supply for Sensors														
RS-485 ModBus RTU									✓	Optional	Optional	Optional	Optional	Optional
USB									✓	✓	✓	✓	✓	✓
CE Certification	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
UL Certification	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Frontal IP65	✓	✓	✓	✓	✓	✓	✓	✓	n/a	✓	✓	✓	✓	✓
Power Supply	100-240 Vac/dc or 12-24 Vdc (Optional)													
Panel Format	48x48 DIN 1/16	48x48 DIN 1/16	48x48 DIN 1/16	48x48 DIN 1/16	48x24 DIN 1/32	48x48 DIN 1/16	96x96 DIN 1/4	96x48 DIN 1/8	Board only Dual Display	96x96 DIN 1/4	48x48 DIN 1/16	48x48 DIN 1/16	96x48 DIN 1/8	96x48 DIN 1/8
Model Variations	2	1	9	2	2	8	2	1	2	4	11	9	4	4





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# BIG DIGIT DISPLAYS

AVAILABLE IN 100 or 180mm DIGIT HEIGHT  
PROGRAMMABLE CLOCKS, COUNTERS OR TIMERS



APM4020



## DATA LOGGING

### COLD CHAIN MONITORING RANGE



EL-CC

EL-PDF



EL-GFX DATA LOGGERS



EL-WIFI DATA LOGGERS

### EL-USB DATA LOGGERS



EL-USB-1-LCD  
Temperature with LCD



EL-USB-2  
Temperature & Relative Humidity



EL-USB-CO  
Carbon Monoxide



EL-USB-5  
Event, Count & State



EL-USB-3  
Voltage



EL-USB-TC-LCD  
Thermocouple with LCD



TAGTEMP-NFC



LogBox BLE



LogBox WIFI



LogBox 3G



LogBox-RHT-Climate



LogBox-RHT-LCD



SMART THERMO BOX EP



New LogBox Connect family provides the wireless connectivity of new times and the compatibility with cloud data portals, like Novus Cloud. Wireless communication, large autonomy and inputs for any type of sensors are the big highlights of LogBox Connect. It has large display and removable bracket and connectors. The configuration and data download can be performed with mobile application LogChart BLE or notebook/desktop software Nxperience, used to access all LogBox Connect models via USB.

### LOGBOX BLE (Bluetooth)

- Monitoring of inner facilities that allow a visual inspection of data loggers
- Configuration and data download via Bluetooth with smart phone using LogChart BLE app
- External power supply 10-30Vdc or 4 AA alkaline batteries
- Autonomy higher than 2 years with batteries (5 min acquisition interval)



#### Applications:



Environment Monitoring  
of Laboratories



Temperature Recording  
in Cold Rooms



Climate Control in  
Data Centers

### LOGBOX WiFi

- Monitoring of larger facilities with WiFi existing infrastructure;
- Configuration and data download via USB or WiFi with Nxperience PC software;
- External power supply 10-30Vdc (backup operation with 4 AA alkaline batteries);
- WiFi Data transmission to Nxperience, NOVUS Cloud, SCADA or other cloud systems;



#### Applications:



Climate Monitoring in  
Distribution Centers



Monitoring of Freezers and Refrigerators  
in the Cold Chain



Commercial or  
Supermarket Refrigeration

### LOGBOX 4G

- Monitoring in mobile applications or distributes over long distances;
- Configuration and data download via USB with Nxperience PC software;
- External power supply 10-30Vdc;
- Internal rechargeable backup battery for up to 8 hours autonomy;
- Data transmission via 3G cellular network to NOVUS Cloud, SCADA or other cloud systems



#### Applications:



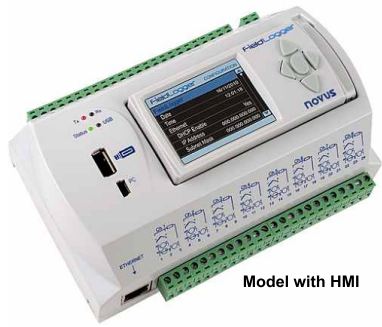
Telemetry of Utility  
Services



Monitoring of Sensible  
Products in Transportation



Climate Control in  
Agricultural Greenhouses



Model with HMI



Model without HMI

FieldLogger is a versatile, powerful and yet cost effective data logger handling analog, digital and other types of variables with high resolution and speed. It is a high performance and high connectivity equipment and yet easy to configure and operate.

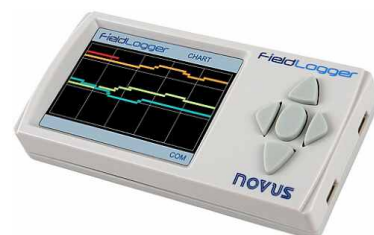
It has 8 configurable analog inputs that can read thermocouples, Pt100, Pt1000, voltage and current signals. It also has 2 relay outputs and 8 digital ports individually configurable as inputs or outputs. Up to 128 mathematical channels can be used to perform operations on the measured values. Up to 32 alarm events can be detected, allowing output activations, e-mails and SNMP traps sending.

Its RS485 interface can operate as a Modbus RTU master or slave. As a master, it can read and log up to 64 external channels. It has a 10/100 Mbps Ethernet interface that allows for access through a browser (HTTP), FTP (client and server), e-mails sending (SMTP), SNMP and Modbus TCP. FieldLogger has one USB interface to be connected to a computer (for configuration, monitoring and data download) and another USB port for plugging a flash driver for data retrieval. The 512k logging basic memory is used to store data and it can be greatly expanded with an SD card. An exclusive color HMI can be attached or remotely installed for local indication or configuration. A user friendly configuration software can be accessed by Ethernet, USB or RS485 and also provides means for on-line monitoring, logged data downloading and exporting to spread sheets and other formats.

- 8 universal analog input channels:
  - Thermocouples, V, mV, mA, Pt100 and Pt1000;
  - Reading and logging rates of up to 1000/second;
  - 24 bit A/D conversion resolution.
- 8 digital I/Os (individually configured as input or output).
- 2 relay outputs (NO, NC and common).
- RS485 interface (Modbus master or slave).
  - When acting as a master, can read up to 64 registers from other slaves;
  - Registers read can be used in logging, alarms or mathematical operations.
- Ethernet interface with a lot of services available:
  - Sends alarm warning e-mails (SMTP);
  - Provides web pages with channels and status information (HTTP);
  - Allows logged data download via FTP (client and server);
  - Accesses status and channels values through network management software (SNMP and traps);
  - Allows Modbus communication by ethernet interface (Modbus TCP).
- USB-device interface for configuring, monitoring and download.
- USB-host interface for logged data retrieval through a USB flash drive.
- Up to 32 configurable alarms.
  - Alarm actions can include:
    - Activating relays;
    - Activating digital outputs;
    - E-mails sending to multiple receivers;
    - Sending SNMP traps;
    - Starting and/or stopping loggings.
- Up to 128 virtual channels.
  - Basic mathematical functions to be applied on other channels: sum, subtraction, multiplication,
  - division, logic (AND, OR and exclusive OR), square root and power.
- 24 Vdc output for powering up to eight 4-20 mA transmitters.
  - AC power (100 to 240 Vac);
  - DC Power (19 to 30 Vdc) optional (2011).
- Detachable human-machine interface (optional).
  - Keypad and color TFT QVGA display;
  - RS485 communication with FieldLogger.
- Loggings:
  - Up to 100 channels can be logged at a configurable rate.
  - Data download through the configuration software or through the freely distributed download DLL.
  - Rated UL

## FIELD LOGGER HMI

- Colour QVGA screen 2.4"
- 96 x 48mm format
- Shows the current channel values or a historical chart
- Indicates FieldLogger status and alarms information
- Allows parameter checking and configuration
- Local or remote installation with Rs485 communication
- Optional kit for HMI remote monitoring





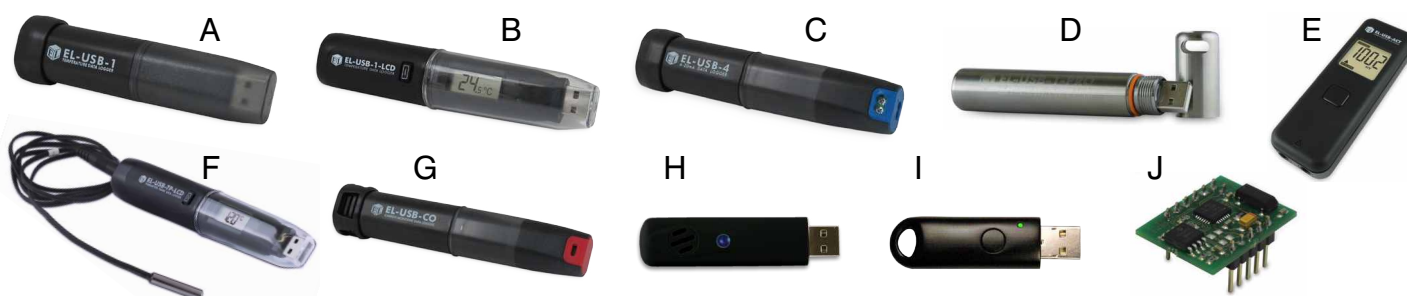
## EL-USB Data Loggers



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**LASCAR**

## DATA LOGGERS



PART NUMBER	CASE	FUNCTION	DESCRIPTION
EL-USB-1	A	Temperature	These standalone data logger measures and stores more than 16,000 temperature readings over a -35 to +80°C / -31 to +176°F range.
EL-USB-1-LCD(LCD display)	B		
EL-USB-1-PRO	D	Temperature	This standalone data logger measures more than 32,000 readings over a -40 to +125°C (-40 to +257°F) range.
EL-USB-1-RCG	D	Temperature	This standalone data logger measures over 32,000 readings over a -20 to +60°C (-4 to +140°F) range.
EL-USB-2	A	Temp/RH	These standalone data logger measures over 16,000 readings over a -35 to +80°C (-31 to +176°F) and 0 to 100% humidity (RH) range.
EL-USB-2+ (higher accuracy)	B		
EL-USB-2-LCD(LCD display)			
EL-USB-2-LCD+ (LCD, higher accuracy)			
EL-USB-3	C	Voltage	This standalone data logger measures more than 32,000 readings over a 0 to 30V d.c. range at a resolution of 5mV d.c.
EL-USB-4	C	Current	This standalone data logger measures more than 32,000 readings over a 4-20mA d.c. measurement range.
EL-USB-5	C	Event, State & Count	These standalone data logger measures more Event counter data logger (32510 recordings).
EL-USB-5+ (higher accuracy)			
EL-21CFR-TP-LCD	F	Thermistor	This 21CFR-compliant standalone data logger records and displays over 32,000 temperature readings from the supplied thermistor probe. The data logger features an LCD and push-button which allow the user to cycle through the most recent, highest and lowest stored readings.
EL-21CFR-TP-LCD+ (higher accuracy)			
EL-21CFR-1-LCD	B	Temperature	This 21CFR-compliant standalone data logger measures more than 16,000 readings over a -35 to +80°C (-31 to +176°F) range. At the touch of a button, use the on-board display to cycle between the current, minimum and maximum temperature logs seen during the session.
EL-21CFR-2-LCD	B	Temp/RH	These 21CFR-compliant standalone data logger measures more than 16,000 readings over a -35 to +80°C (-31 to +176°F) and 0 to 100% relative humidity (RH) range. At the touch of a button, use the on-board display to cycle between the current, minimum and maximum logs seen during the session for both temperature and humidity.
EL-21CFR-2-LCD+ (higher accuracy)			
EL-21CFR-TP-LCD-PROBE-G	F	Thermistor	This 21CFR-compliant standalone data logger records and displays over 32,000 temperature readings from the supplied high accuracy thermistor probe. The data logger features an LCD and push-button which allow the user to cycle through the most recent, highest and lowest stored readings.
EL-USB-TP-LCD	F	Thermistor	These standalone data logger records and displays over 32,000 temperature readings from the supplied thermistor probe.
EL-USB-TP-LCD+			
EL-USB-TC-LCD	F	Thermocouple	This standalone data logger measures over 32,000 readings from inter-changeable J, K or T type thermocouples.
EL-USB-CO	G	Carbon Monoxide	Carbon monoxide data logger 0 - 1000ppm CO.
EL-USB-CO300	G	Carbon Monoxide	Carbon monoxide data logger 0 - 300ppm CO.
EL-USB-ACT	E	Current	AC and DC millivolt data logger with current clamp input.
EL-OEM-3	J	Voltage	This low-cost, component-style data logger measures and stores up to 64,000 voltage readings over a 0 to 2.4V d.c. measurement range.
EL-USB-Lite	H	Temperature	This standalone data logger measures temperature every 30 minutes over a -10 to +50°C (+14 to +122°F) range.
EL-USB-RT	I	Temp/RH	When plugged into a PC's USB port, this sensor measures ambient temperature and relative humidity.
EL-USB-TC	A	Thermocouple	This standalone data logger measures over 32,000 readings from inter-changeable J, K or T type thermocouples.
EL-USB-TP-LCD-Probe-G	F	Thermistor	Lascar Electronics has paired its EL-USB-TP-LCD thermistor probe data logger with a glycol bottle thermistor probe for users who need a complete vaccination temperature monitoring system.

## EL-GFX Data Loggers



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## DATA LOGGERS



PART NUMBER	FUNCTION	DESCRIPTION
EL-GFX-2 EL-GFX-2+ (higher accuracy)	Temp /RH	These high accuracy USB data logger records over 250,000 temperature and relative humidity readings in one or more sessions for up to 4 months.
EL-GFX-1	Temperature	This USB data logger records over 250,000 temperature readings in one or more sessions for up to 6 months.
EL-GFX-TC	Thermocouple	This USB data logger records over 250,000 temperature readings in one or more sessions for up to 4 months.
EL-GFX-DTP-PROBE-G	Thermistor	This standalone data logger measures more than 32,000 readings over a 4-20mA d.c. measurement range.
EL-GFX-DTP EL-GFX-DTP+ (higher accuracy)	Thermistor	These USB data logger records over 250,000 temperature readings in one or more sessions for up to 4 months.
EL-GFX-DTC	Thermocouple	This USB data logger records over 250,000 temperature readings per channel in one or more sessions for up to 4 months. It is compatible with K, J and T-type thermocouples.

## EL-WIFI Data Loggers



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L - Limited Stock  
O - Ex Order



PART NUMBER	FUNCTION	DESCRIPTION
EL-WIFI-TC EL-WIFI-21CFR-TC	Thermocouple	These WiFi-enabled data logger can remotely monitor an environment using an inter-changeable J, K or T type thermocouple.
EL-WIFI-TP EL-WIFI-TP+ (higher accuracy) EL-WIFI-21CFR-TP+ (higher accuracy)	Thermistor	These WiFi-enabled temperature data logging sensor can remotely monitor an environment over a -40 to 125°C (-40 to 257°F) measurement range.
EL-WIFI-TH EL-WIFI-TH+ (higher accuracy) EL-WIFI-21CFR-TH+ (higher accuracy)	Temp /RH	These WiFi-enabled temperature, humidity and dew point data logger can remotely monitor an environment over a -20 to +60°C (-4 to +140°F) and 0 to 100% RH measurement range.
EL-WIFI-T EL-WIFI-T+ (higher accuracy) EL-WIFI-21CFR-T+ (higher accuracy)	Temperature	These WiFi-enabled data logger can remotely monitor an environment over a -20 to +60°C (-4 to +140°F) measurement range.
EL-WIFI-DTP+ EL-WIFI-21CFR-DTP+	Thermistor	These WiFi-enabled dual channel data logger can remotely monitor an environment using two high accuracy thermistor probes.
EL-WIFI-DTC EL-WIFI-21CFR-DTC	Thermocouple	These WiFi-enabled dual channel data logger can remotely monitor an environment using two inter-changeable J, K or T type thermocouples.
EL-WIFI-TP+-PROBE-G EL-WIFI-21CFR-TP+-PROBE-G	Thermistor	The EL-WiFi-TP+-PROBE-G allows remote vaccine monitoring and data collection over a WiFi network, viewable from any internet enabled device including smartphone, tablet or PC.
EL-WIFI-DTP+-PROBE-G EL-WIFI-21CFR-DTP+-PROBE-G	Thermistor	The EL-WiFi-DTP+-PROBE-G allows remote vaccine monitoring and data collection over a WiFi network, viewable from any internet enabled device including smartphone, tablet or PC.
EL-WIFI-ALERT	Audible Visual Alert	The EL-WiFi-Alert is a standalone monitoring system for all sensor devices in the EasyLog WiFi range. The EL-WiFi-Alert will receive alarm messages from any EL-WiFi sensor device connected to the same wireless network.

## Remote Monitoring Range



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L - Limited Stock  
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## DATA LOGGERS



PART NUMBER	FUNCTION	DESCRIPTION
EL-NFC-1	Temperature	The EL-NFC-1 is a small waterproof temp data logger that transmits data to an NFC enabled Android™ device. -20 to +60°C (-4 to +140°F) range.
EL-SMS-2G-TP EL-SMS-2G-TP + (higher accuracy)	Temperature	The battery operated EL-SMS-2G-TP is a temperature alert module communicating daily, weekly or monthly temperature summaries via SMS. -40 to +125°C (-40 to +257°F) range.
EL-BT-2 (Bluetooth connectivity)	Temp/RH	The EL-BT-2 data logger measures and stores up to 500,000 temperature and humidity readings. The LCD screen on the device indicates Bluetooth connection status as well as logger operation.
EL-SMS-2G-PROBE-G	Temperature	EL-CC-2-001 Chilled Goods data logger measures and stores both temperature and humidity information. The unit comes pre-configured with High 8°C, Low 2°C Alarms - simply press the button to start logging.

## Cold Chain Monitoring Range



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PART NUMBER	FUNCTION	DESCRIPTION
EL-CC-1-001 (Chilled Goods)	Temperature	The EL-CC-1-001 Chilled Goods data logger comes pre-configured with sample High 8°C, Low 2°C Alarms - simply press the button to start logging.
EL-CC-1-002 (Frozen Goods)	Temperature	The EL-CC-1-002 Frozen Goods data logger comes pre-configured with sample High -16°C, Low -20°C Alarms - simply press the button to start logging.
EL-CC-1-003 (Ripening Goods)	Temperature	The EL-CC-1-003 Ripening Goods data logger comes pre-configured with sample High 14°C, Low 12°C Alarms - simply press the button to start logging.
EL-CC-2-001	Temp/RH	EL-CC-2-001 Chilled Goods data logger measures and stores both temperature and humidity information. The unit comes pre-configured with High 8°C, Low 2°C Alarms - simply press the button to start logging.
EL-CC-2-002	Temp/RH	EL-CC-2-002 Frozen Goods data logger measures and stores both temperature and humidity information. The unit comes pre-configured with High -16°C, Low -20°C Alarms - simply press the button to start logging.
EL-CC-2-003	Temp/RH	EL-CC-2-003 Ripening Goods data logger measures and stores both temperature and humidity information. The unit comes pre-configured with High 14°C, Low 12°C Alarms - simply press the button to start logging.
EL-CC-2-004	Temp/RH	EL-CC-2-004 Ambient Pharmaceutical Goods data logger measures and stores both temperature and humidity information. The unit comes pre-configured with High 25°C, Low 8°C Alarms - simply press the button to start logging.
EL-CC-2-005	Temp/RH	EL-CC-2-005 Blood Shipments data logger measures and stores both temperature and humidity information. The unit comes pre-configured with High 10°C, Low 1°C Alarms - simply press the button to start logging.
EL-CC-2-006	Temp/RH	EL-CC-2-006 Platelets Transportation data logger measures and stores both temperature and humidity information. The unit comes pre-configured with High 24°C, Low 20°C Alarms - simply press the button to start logging.
EL-PDF-1-001	Temperature	EL-PDF-1-001 Chilled Goods data loggers come pre-configured with High 8°C, Low 2°C Alarms - simply press the start button to begin logging. No software required
EL-PDF-1-002	Temperature	EL-PDF-1-002 Frozen Goods data loggers come pre-configured with High -16°C, Low -20°C Alarms - simply press the start button to begin logging. No software required
EL-PDF-1-003	Temperature	EL-PDF-1-003 Ripening Goods data loggers come pre-configured with High 14°C, Low 12°C Alarms - simply press the start button to begin logging. No software required
EL-PDF-1-004	Temperature	EL-PDF-1-004 Ambient Pharma Goods data logger comes pre-configured with High 25°C, Low 8°C Alarms - simply press the start button to begin logging. NSR

## EL-MOTE WiFi



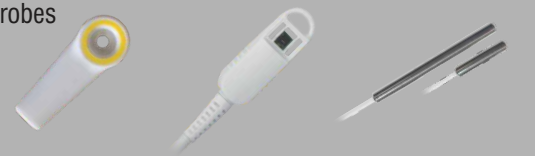
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## DATA LOGGERS



## Smart Probes



PART NUMBER	FUNCTION	DESCRIPTION
EL-MOTE-T EL-MOTE-T+	Temperature	The EL-CC-1-001 Chilled Goods data logger comes pre-configured with sample High 8°C, Low 2°C Alarms - simply press the button to start logging.
EL-MOTE-TP EL-MOTE-TP+	Temperature	WiFi Temperature sensor with external thermistor probe Supplied with 1 probe -40°C to +125°C (-40°F to +257°F)
EL-MOTE-TH EL-MOTE-TH+	Temp/RH	WiFi Temperature and humidity sensor with external temp/RH probe Supplied with 1 probe -20°C to +60°C (-4°F to +140°F) & 0 to 100% RH range
EL-MOTE-DTP EL-MOTE-DTP+	Temperature	High accuracy dual channel WiFi Temperature sensor with x2 external thermistor probes.
EL-MOTE-PROBE-T EL-MOTE-PROBE-T+	Temperature	Short Temperature Probe
EL-MOTE-PROBE-2M-TH EL-MOTE-PROBE-2M-TH+	Temp/RH	Temperature and Humidity probe with 2 metre cable
EL-MOTE-PROBE-1M-25-TP EL-MOTE-PROBE-3M-25-TP EL-MOTE-PROBE-3M-75-TP+	Temperature	25mm or 75mm Temperature probe with 1 or 3 metre cable

## DigiRail- OEE

**NOVUS**

## DATA ACQUISITION

DigiRail OEE is an I/O module for IoT application designed for OEE (Overall Equipment Effectiveness) and MES (Manufacturing Execution System) industrial systems.

It has the main industrial approvals, in order to ensure monitoring reliability in harsh environments. Its internal memory buffer capability grants data retention and integrity in an eventual downlink, keeping the data logging seamlessly. Provided with secure MQTT protocol, DigiRail OEE transmits data natively to Google Cloud, Microsoft Azure, Amazon AWS, NOVUS Cloud, or any other compatible IoT cloud platform.

The configuration software NXperience provides a user-friendly configuration interface, allowing input simulation and output forcing, locally through USB port and remotely through Modbus TCP. System diagnosis and maintenance become very easy thanks to the remote configuration and functions viewing. DigiRail OEE allows to send MQTT and Modbus TCP commands to read status and to set device parameters

**Reliable and stable connectivity for data transmission**

**DigiRail OEE has the main industrial approvals, in order to assure monitoring reliability in harsh environments.** Its internal memory buffer capability grants data retention and integrity in an eventual downlink, keeping the data logging seamlessly.

**Native compatibility with main cloud providers**

**Provided with secure MQTT protocol, DigiRail OEE transmits data natively to Google Cloud, Microsoft Azure, Amazon AWS, NOVUS Cloud, or any other compatible IoT cloud platform.**

**Allows remote settings and diagnosis**

System diagnosis and maintenance become very easy thanks to the remote configuration and viewing functions. **DigiRail OEE allows to send MQTT and Modbus TCP commands to read status and to set device parameters.**

**Intuitive software designed for easy commissioning**

**NXperience** software provides a user-friendly configuration interface, allowing input simulation and output forcing, locally through USB port and remotely through Modbus TCP.



## DigiRail-VA



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L - Limited Stock  
O - Ex Order

**novus**

## DATA ACQUISITION

The DigiRail-VA is the latest addition to the successful and cost effective DigiRail family. Specifically designed for single phase AC power analysis applications, it is able to measure the most important AC signals and retransmit them in both analog and digital way.

It measures and calculates:

- Voltage: 0 to 300 Vac (True-RMS)
- Current: 0 to 5 Aac (True-RMS) - It does allow use of CTs for higher current applications
- Active Power
- Reactive power
- Apparent power
- Frequency: 45 to 65 Hz
- Power Factor: 0.00 to 1.00



## DigiGate Profibus



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**novus**

DigiGate Profibus is the ideal equipment for interconnecting a Profibus DP network with a Modbus RTU network. It works as a gateway, operating as a master station in the Modbus network and as a slave station in the Profibus network. Thus, according to its previous configuration, DigiGate will read the data of the other devices (slaves) of the Modbus network and send the read values to the Profibus master. In the same way, it will write at the output of the Modbus slaves according to the Profibus master requests, providing a complete control of the Modbus network devices through the Profibus network.

- Protocol: Profibus DP
- Operates at the entire range of communication rates, from 9600 bps to 12 Mbps
- Addressing range: 0 to 125
- Automatic detection of supported baud rate
- "GSD" file included
- Termination and polarization resistors included (activated by jumper)
- Profibus connection: DB9 connector



## DigiRail (Signal conditioning and digital transmitter)



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**novus**

The DigiRail line of smart transmitters with Modbus RTU communication interface provide a simple way for integrating analog or digital signals to supervisory systems.

- Analog inputs: programmable for thermocouples (J, K, T, E, N, R, S, B), Pt100, mV, V, mA
- Cold junction compensation for thermocouples and compensation for Pt100 3-wire cables
- Open loop detection for thermocouples, Pt100 and mV
- Sampling rate for 1 analog input: 10Hz for mV, V and mA. 5 Hz for t thermocouples and Pt100
- Analog input resolution: 17 bits
- Digital inputs: in voltage, 4 to 35 V to activate. Internally limited current in 5 mA
- Digital outputs: 8 A / 250 Vac SPDT relay, resistive load
- Power: 10 to 35 Vdc, 50 mA maximum current
- 2-wire RS485 communication with Modbus RTU protocol. Configurable address and baud rate (1,200 to 115,200bps)
- LED indicators for communication and status
- Key for resetting communication parameters to original factory default
- Accuracy (at 25 °C): Pt100, mV, V and mA:  $\pm 0.15$  % of full scale. Thermocouples:  $\pm 0.25$  % of full scale
- Temperature effect: 0.003 % of full scale/°C
- Cold junction compensation for thermocouples: 1 °C at 25 °C.  $\pm 0.05$  °C / °C
- Isolation: 1000 Vac from inputs (analog or digital) and power or communication
- Windows based configurator software.



## DATA ACQUISITION



FIELD LOGGER



USB-i485



## SUPERVIEW MOBILE

SuperView Mobile is a SCADA (Supervisory Control and Data Acquisition) system designed for users who want to do monitoring, control and supervision of devices and equipment in industrial plants using Smartphone.



DigiRail Connect is a versatile I/O module to be used as an extension of any brand automation system. Its rich mixed inputs and outputs offer industrial standard analog and digital signaling. The available DigiRail Connect options ensure the choice of suitable configuration for the customer application.

Bringing the Industry 4.0 to the rail level, the connectivity of DigiRail connect allows it to be used as slave Modbus RTU device in RS485 networks or as a server Modbus TCP device under Ethernet network.

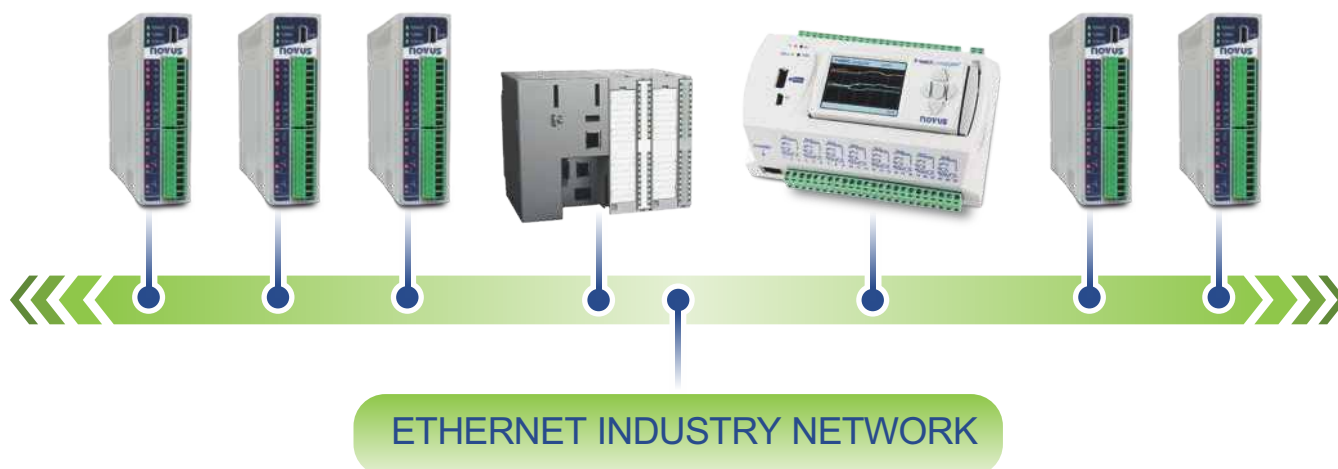
Specially designed for harsh environments, DigiRail Connect complies with the main EMC and EMI standards, providing robustness and reliability for industrial applications.

- Mixed I/Os (Analog and Digital)
- Ethernet Modbus TCP
- RS485 Modbus RTU
- USB configurable
- Robust and Reliable for Industry



## Technical Specifications

Models	RAMIX Rich Analog Mix	DMIX Digital Mix	Communication Interface	USB IEEE standard 802.3u Ethernet 10/100 Mb/s RS485 CAN (future release)
Inputs	4 digital, 2 analog (isolated)	8 digital	Communication Protocol	Modbus RTU Slave (RS485) Modbus TCP Server (Ethernet)
Outputs	3 digital or 2 relays, 2 analog (isolated)	4 relays or 8 digital	Software	NOVUS NXperience (via USB)
Analog Input Types	Thermocouple J, K, T, N, E, R, S and B Pt100, Pt1000, NTC, 0-60 mV, 0-5 V, 0-10 V, 0-20 mA, 4-20 mA	-	Power Supply	Voltage: 10 Vdc to 36 Vdc Maximum Power Consumption: 5 W Typical Current Consumption: 20 mA
Analog Output Types	0-20 mA, 4-20 mA, 0-10 V	-	Operating Conditions	Temperature: -20 to 60 °C (-4 to 140 °F) Humidity: 5 to 95% RH, non-condensing
Analog Resolution	Analog inputs: 16 bits (65000 levels) Analog outputs: 12 bits	-	Enclosure	ABS+PC





AirGate 4G is a cellular network VPN router for industrial use that ensures secure remote access for distributed applications as it has the most common encryption protocols in IT infrastructure and fallback function for 4G / 3G / 2G.

It has high availability of operation at extended operating temperature and can be mounted on a DIN rail with external magnetic antennas.

Endowed with high connectivity and connection redundancy, it has cellular network (dual simcard), Ethernet, Wi-Fi, RS485 and RS232 interfaces. With excellent flexibility, it can operate with any communication protocol on any interface.

#### Cellular Interface

- 4G LTE: LTE FDD, LTE TDD
- 3G UMTS: DC-HSDPA, HSUPA, WCDMA
- 2G GSM: EDGE, GPRS
- 2 x SMA female antenna connector
- 2 x SIM (3.0 V and 1.8 V)

#### Wi-Fi Interface

- Standards: 802.11 b/g/n, 300 Mbps;
- 2 x RP-SMA male antenna connector;
- Support Wi-Fi Access Point and Client modes;
- Security: WEP, WPA and WPA2 encryption;
- Encryption: TKIP and CCMP.

#### Ethernet Interface

- Standards: IEEE 802.3, IEEE 802.3u;
- 2 x ports 10/100 Mbps, RJ45 connector;
- 1 x WAN interface (configurable on Web GUI interface);
- 1.5KV magnetic isolation protection.

#### Serial Interface

- 1 x RS232 (3 pin): TX, RX, GND;
- 1 x RS485 (2 pin): D1, D0;
- Baud Rate: 300 bps to 115.200 bps;
- 15 KV ESD protection.

#### Digital Input and Digital Output

- 2 x Digital Inputs;
- 2 x Digital Outputs;
- Isolation: 3 KVDC or 2 Kvrms;
- Absolute maximum VDC: 36 VCC;
- Absolute maximum ADC: 100 mA.

#### LED

- 1 x SYS;
- 1 x NET;
- 1 x USR;
- 3 x RSSI.

#### Software

- Network protocols: DHCP, ICMP, PPPoE, HTTP, HTTPS, DNS, VRRP, NTP;
- VPN: IPSec, GRE, OpenVPN, DMVPN;
- Policy: RIPv1 / RIPv2 / OSPF / BGP (optional);
- Firewall & Filter: Port forwarding, DMZ, anti-DoS, ACL;
- Serial Port: TCP, UDP;
- Management: Web Interface.

#### Power Supply

- Connector: 3-pin 3.5 mm female socket with lock;
- Input voltage range: 9 to 48 VDC;
- Power consumption:
- Idle: 100 mA @ 12 V;
- Data Link: 400 mA (peak) @ 12 V.

#### Dimension

- 106 mm x 106 mm x 40 mm (excluding antenna).

#### Mounting

- DIN rail.

#### Environmental

- Operation temperature: -40 to 60 °C (-40 to 140 °F);
- Storage temperature: -40 a 85 °C (-40 to 185 °F);
- Operation humidity: 5 to 95 % non-condensing.

#### Housing Metal

- 300 g.

#### Protection

- Ip30.

#### Certification

- CE, Anatel (07661-19-12560), RoHS



**TxBLOCK-USB** (Native USB port)**TxIsoPack** (Isolated 4-20mA)**TxMiniBlock** (Programmable RTD)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

S - Normally Stock  
L - Limited Stock  
O - Ex Order

S - Normally Stock  
L - Limited Stock  
O - Ex Order

## TEMPERATURE TRANSMITTER

**TxBLOCK** is fully customer programmable head mount temperature transmitter.

In the field configuration of input type and working range can be achieved by means of a cable and an RS232 port from a PC or, optionally, from a Palm PDA infrared port.

- Programmable input: Pt100 RTD and thermocouples type J, K, T, E, N, R, S, B.
- 2 wire loop powered 4-20mA output.
- Power supply: 10 to 35Vdc
- Linearized output and cold junction compensation for thermocouples.
- 2 or 3 wire Pt100 with linearization.
- Programmable working range
- Windows configurator or Palm (optional).
- Manual frontal zero (offset) adjustment.
- Accuracy:  $\pm 0.2\%$  full scale for Pt100 and 0.3% max. Of FS for thermocouples.
- Temperature effect: 0.003% SPAN $^{\circ}$ C.
- Working temperature: -40 to +85 $^{\circ}$ C.
- Programmable burnout upscale or downscale sensor failure protection.
- Dimensions:  $\phi 44\text{mm} \times 25\text{mm(H)}$

**TxRail** (4-20mA) / (0-10VDC)**TxIsoRail** (Isolated 4-20mA/0.5 output)**TxRail-USB** (USB Configurable)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

S - Normally Stock  
L - Limited Stock  
O - Ex Order

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**TxRail** represents the utmost technology in DIN rail mount temperature transmitters.

Input type, working range and output calibration can be achieved by means of a cable and an RS232 port from a PC or, optionally, from a Palm PDA infrared port.

- Programmable input: Pt100 RTD and thermocouples type J, K, T, E, N, R, S, B.
- 2 wire loop powered 4-20mA output.
- Optional 0 to 10Vdc or frequency output.
- Power supply: 10 to 35Vdc
- Linearized output and cold junction compensation for thermocouples.
- 2 or 3 wire Pt100 with linearization.
- Programmable working range
- Windows configurator or Palm (optional).
- Manual frontal zero (offset) adjustment.
- Accuracy:  $\pm 0.2\%$  full scale for Pt100 and 0.3% max. of FS for thermocouples.
- Temperature effect: 0.003% SPAN $^{\circ}$ C.
- Working temperature: -40 to +85 $^{\circ}$ C.
- Programmable burnout upscale or downscale sensor failure protection.
- Dimensions: 78x70x19mm



ISOLATED



NON-ISOLATED

**TxIsoPack-HART****TxIsoRail-HART**

S - Normally Stock  
L - Limited Stock  
O - Ex Order

S - Normally Stock  
L - Limited Stock  
O - Ex Order

The TxIsoPack-HART and TxIsoRail-HART are high performance temperature transmitters which convert RTDs, Thermocouples and voltage signals into a 4-20 mA current along with a superimposed HART protocol digital communication. Complete configuration, calibration and parameters monitoring can be fully achieved through the two-wire current loop by means of a convenient PC software and USB interface called TxConfig-HART. Sensor type input is fully programmable for most relevant RTDs, thermocouples, variable resistors, and voltage in mV.

High Isolation between input and output drastically improves stability and reliability with greater immunity to electromagnetic noises in extremely harsh industrial environments





## TEMP WM-DM



S - Normally Stock  
L - Limited Stock  
O - Ex Order

NOVUS

## TEMPERATURE TRANSMITTER

The TEMP-WM and TEMP-DM transmitter series incorporate the best high accuracy and great stability temperature sensors. They convert the measured values into linear 4 to 20 mA signals and optional 0 to 10 Vdc output can also be offered under request. The microprocessor based circuit enables full configuration of output range when used with the TxConfig PC interface and the Windows® based software. The TEMP-WM model is dedicated to wall mounted applications and the TEMP-DM version is suitable for duct and through-the-wall applications.

## Power:

- 12 to 30 Vdc (model 4-20 mA)
- 18 to 30 Vdc (model 0-10 V)
- Cable input: PG7 cable gland

## Output:

- Two-wire loop powered 4-20 mA or 20-4 mA

## Voltage output:

- 0-10 Vdc or 10-0 Vdc (optional)

## Output resolution:

- 0,006 mA (4-20 mA)
- 0,003 V (0-10 Vcc)
- Output load: (RL)
- Model 4-20 mA:  $RL \text{ (max. in Ohms)} = (Vdc - 12) / 0.02$ ; where: Vdc=power voltage in Volts
- Model 0-10 Vdc: 10 kOhms minimum

## Ingress Protection:

- Electronic module case-IP65
- Sensor probe-IP40
- Internal protection against reversed voltage wire polarity
- No electrical isolation between input, output and power circuits



## USB i485



S - Normally Stock  
L - Limited Stock  
O - Ex Order

NOVUS

## CONVERTERS

The USB-i485 module is a cost-effective way to convert RS485 or RS422 industrial buses to a USB interface. When connected to a PC USB port the USB-i485 module is automatically detected and is installed as a native COM port which is compatible with any existing serial communication application.

- Computer interface: USB V1.1 Plug and Play
- Operational system virtual serial port driver
- Supports Windows 7/Vista/XP/2008Server/2003Server/98/ME/2000/CE, MAC and Linux 2.4.20 or above. 64 bit options for latest operating systems.
- Field Interfaces: RS485 Half Duplex (dual buses), RS485 Full Duplex or RS422
- Jumper selected RS485 / RS422
- Automatic flow control for RS485 Half Duplex
- 120 Ohms internal resistors termination enabled by jumpers
- Transmission rate: from 300 bps to 250 kbps
- Maximum RS485/RS422 cable length: 1200 m
- Maximum number of devices in the RS485 network
- Half Duplex: 2 x 32 devices
- Full Duplex: 32 devices
- Data transmission and reception LED indicators
- Consumption: <100 mA
- Isolation: 1500 Vdc from USB interface and the RS485/RS422 interface
- RS485/422 bus protection:  $\pm 60$  Vdc, 15 kV ESD
- USB connection: Mini-B connector
- A 1.5 m cable with plugs mini-B and A is provided with the module
- RS485/422 connector: screw terminal type accepting 1.5 mm<sup>2</sup> (16 AWG) wires
- ABS enclosure: 70 x 60 x 18 mm
- Operating environment: 0 to 70°C, 10 to 90% relative humidity, non-condensing



## ISO485-1



S - Normally Stock  
L - Limited Stock  
O - Ex Order

RS485/232 isolated converter



## LOOP VIEW



S - Normally Stock  
L - Limited Stock  
O - Ex Order

NOVUS

## CURRENT LOOP INDICATOR

LoopView is a two-wire 4-20 mA loop indicator, loop powered and low power. Its excellent precision allows to indicate several measurements like pressure, differential pressure, flow, pH, temperature, acceleration and other. It has valve type connector standard EN 175301-803 (old DIN 43650) male and female. LoopView is powered by the current loop itself and allows to be inserted into sensors already installed in industrial facilities, with same connector type. This device has a 4-digit display and 2 keys, which allows adjustment in indication value and range, decimal point position, applying digital signal filter and user calibration quick and easily. The parameters modification is password protected and can be done directly in the loop indicator, through panel keys. The configured parameters are stored in non-volatile memory, which means they keep saved in loop break occurrence.



- Operational Mode: two-wire 4-20 mA passive mode
- Display: 4-digit red LED display, 0.91 mm height
- Keys: 2 keys with tactile feedback for parameters configuration
- Resolution of measurement: 65535 levels (16 bits)
- Resolution on indication: 11998 levels (from -1999 to 9999) with decimal point adjustment
- Precision: 0.5% of span
- Thermal deviation: 0.003% per °C
- Temperature of operation: -40 to 85°C
- Power supply: current loop 4-20 mA
- Polarity protection: Embedded protection against polarity inversion and reverse current when off
- Voltage drop on the loop: < 2,5 V for 4 mA and < 3 V for 20 mA
- Connection: Valve connector standard EN 175301-803 (old DIN 43650) male and female
- Dimensions: 65 x 45 x 45 mm
- Case: ABS (Gasket in Polyurethane)
- Mechanic protection: IP65, NEMA4X
- Configuration: calibration range, indication range, decimal point, offset and digital filter

Coupled to pressure sensors



Coupled with temperature sensors



## PRESSURE TRANSMITTERS

PRESSURE TRANSMITTER - NP400



NP400 Relative Pressure Transmitter Series is a great solution for cost-effective pressure measurement.

PRESSURE TRANSMITTER - NP600



NP600 product family of industrial pressure transmitters features programmable range and digital field calibration capabilities. They are offered in the ceramic thick film pressure front-end technology with a wide range of pressure measurement options.

PRESSURE TRANSMITTER - NP620



NP620 product family of industrial pressure transmitters features programmable range and digital field calibration capabilities. They are offered in the piezo resistive oil-filled pressure front-end technology with a wide range of pressure measurement options.

RELATIVE PRESSURE - 520 AND 528



The 520 and 528 series Pressure Transmitters are compact, precise and economical. They have a rapid coupling and installation system (Quickon System), which substantially reduces the signal cable assembly time. The model 520 is designed for use in industrial and refrigeration applications. It has a welded stainless steel diaphragm allowing its use in any gas or cooling medium, including ammonia. The model 528 is ideal for industrial applications that require pressure measurement in liquids and gasses. This model uses a ceramic sensor that has a high mechanical stability and is capable of withstanding a wide range of temperatures. It is particularly suitable for applications involving compressors or steam.

PRESSURE TRANSMITTER - NP640



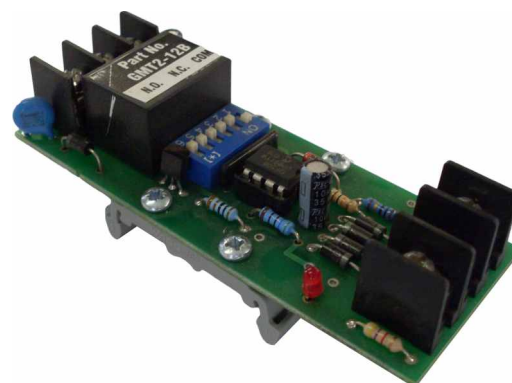
NP640 series relative pressure transmitters are configurable and can be calibrated in the field. They offer a wide range of pressure ranges. This family has the ability to adjust the range of pressure transmission up to 1/3 of full scale, and allows adjusting the factory calibration directly or in the lab.

**GMT2-12B** (12V AC/DC)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**GREENLINE ECONO TIMER****GMT2-24B** (24V AC/DC)**GMT2-48B** (48V AC/DC)**GMT2-110A** (110V AC)**GMT2-220A** (220V AC)

- Dipswitch selectable functions
- Dipswitch selectable present times
- Better than 2% accuracy
- Small footprint DIN Rail mountable
- Low cost - High reliability
- LED-Relay state indication
- Change over relay contacts with ARC protection
- Supply Voltage: 220VAC
- Current consumption: <26mA
- Timing Accuracy: <2%
- Max continous current: 10A
- Max switching Voltage: 30V DC, 250V AC
- Max switching current: 10A
- Max switching power :24W, 1.Kva





WD.....



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**WDCLK5100** (5-Digit Clock)**WDCLK6100** (6-Digit Clock)**WDCNT4100** (4-Digit Counter)**WDCNT5100** (5-Digit Counter)**WDCNT6100** (6-Digit Counter)**WDTIM4100** (4-Digit Timer)**WDTIM5100** (5-Digit Timer)**WDTIM6100** (6-Digit Timer)

This range of clocks/counters have been designed specifically for the industrial market for time and counter applications. These modules can be supplied with six digits up to 180mm high and with count/time backup on power failure. All inputs are isolated via onto-couplers giving the units flexibility with regards to the input voltage. All the units are fitted in a rugged powder coated aluminium enclosure with wall mounting brackets on the sides. All the displays are constructed from red high brightness seven segment LED displays giving excellent visibility over large viewing area. The battery back-up function keeps the last-count or the time and blanks the display until the main supply is restored and then continues to function normally. Re-adjusting the time or count therefore is not required after a power failure. The clocks have been upgraded with a high stability temperature compensated crystal oscillator to give an accuracy of 1 min per year from 0°C to 40°C. Top quality industrial display's using large bright 100 or 180mm high digits. These units are for indoor use only, and are ideal for situations requiring a large clear display. The digits can be read from approx. 60m away (depending on ambient light), and models are available to operate off a variety of input signals:- e.g. 4-20mA, 0-10V, B.C.D etc...

Voltages: 24VDC & 110V or 220VAC.

#### Clocks

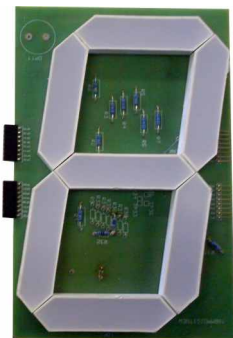
- Size variants (digit height 100mm or 180mm)
- Digit count HH:MM:SS (4 digits or 6 digits)
- Enclosure options (colour) (Matt black or beige)(include IP rated enclosure?)
- Bracket options (wall mount with swivel or panel mount)
- Setting options: Remote, Cabled remote, Side Panel, Data feed, iRig, b signal
- Master clock slave clock
- Optional extras (IP rated enclosures)
- Optional extras (flip flop time/date ,time/date/temp, date/temp, time/temp, Shift alarms)
- Temp signal conditioners (Novus Txblock)

#### Big digit Displays

- Inputs (4-20mA) Stop watch, up counter, down counter, event counter, frequency meter.
- Size variants (digit height 100mm or 180mm)
- Digit count 2, 4, 6
- Enclosure options (colour) (Matt black or beige)(include IP rated enclosure?)
- Bracket options (wall mount with swivel or panel mount)
- Setting options: Remote, Cabled remote, Side Panel, Data feed
- Optional extras (485 relay)
- Vinyl lettering

#### Products currently available

- Elapsed time counters (Stop, Start & Count)
- Up/down counters
- 24 hour clocks







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L - Limited Stock  
O - Ex Order

NOVUS

NOVUS CLOUD

NOVUS Cloud is an IoT platform solution for monitoring devices that expands the horizon of process data visualization. Ready-to-use with NOVUS smart IoT devices, NOVUS Cloud is especially beneficial for customers with low IT infrastructure segments or in verticals such as logistics, healthcare, building management, power, water waste management and agriculture. It also meets monitoring needs of customers who require unified data from multiple devices at multiple locations. NOVUS Cloud can receive measurements of any kind from the IoT devices, store them in the cloud database and present the data in nice and elegant dashboards. NOVUS Cloud can be configured and activated easily and quickly by a lay user, without any programming experience, due to its intuitive way of use. Properly tuned, the monitoring process allows the management by exception with NOVUS Cloud. Features such as E-mail or SMS can be used to generate notifications in the detection of process alarms or alerts, providing online awareness about deviations to the operation or management staff. Hosted on cloud server, NOVUS Cloud is accessible worldwide on the internet from any computer or mobile device. With encrypted authentication, the access to the customer data is totally secure for the login owner, providing the required level of data protection for the operation.

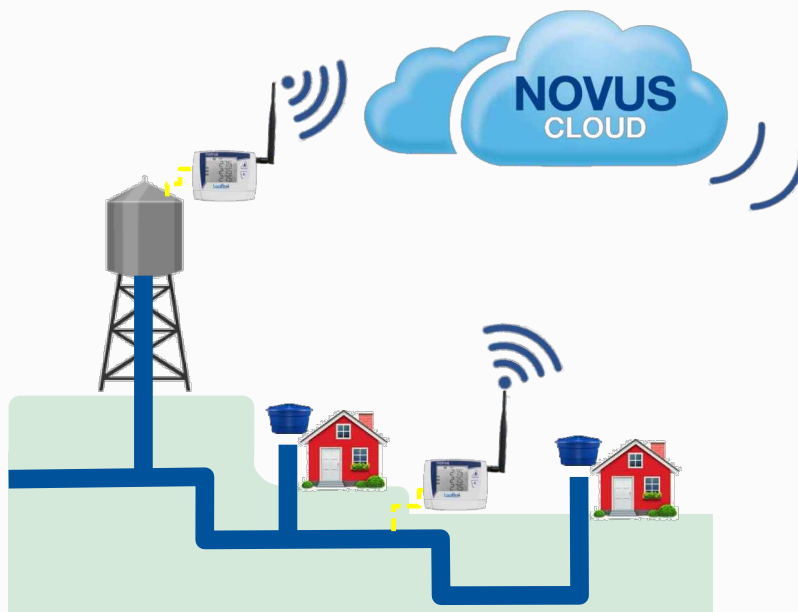
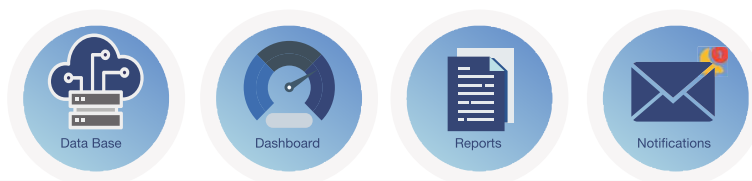


Ready-to-use IoT platform

Easy and Intuitive user interface

Deviation awareness through notifications

Secure data access over the internet



<b>Dashboard</b>	1 Default dashboard for each registered device User-customizable dashboards (depends on the cloud service plan)	<b>Compatible Devices</b>	FieldLogger LogBox Wi-Fi LogBox 3G AirGate 3G AirGate 4G
<b>Alarms</b>	Configuration of activation and deactivation conditions Alarms generates notification to the registered contacts	<b>Integration with other systems or cloud</b>	Data access via API through device token
<b>Notification</b>	E-mail or SMS. * Please consult plans for SMS	<b>Cloud Service Plans</b>	Free, Basic, Advanced and Custom (see website for scope and pricing)
<b>Widgets</b>	Gauge, Card, Chart, Display, Map, Tile, Pie, Report	<b>Free Service Plan Scope</b>	Free use for 1 year Limited to 1 device 50000 data records * 1 Month Storage 1 Custom Dashboard 5 Users 2 Alarms No SMS 50 E-mails/month * Equivalent to 5 min logging rate of 5 variables
<b>User Management</b>	2 user profiles: managers and viewers		
<b>Data Export</b>	Export data on demand, by selecting the device, variables and desired period		



**WWW.MIMIC.CO.ZA**

WWW.MIMIC.CO.ZA

## ALARM ANNUNCIATORS

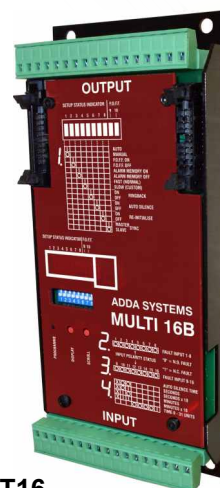


**ADD APM4 MICRO CONTROLLER  
ALARM ANNUNCIATOR SYSTEM**



**VUE16 - ALARM WINDOWS**

LED BACKLIT INDICATOR SYSTEM FOR USE  
WITH PLC, MULTI 16 PLUS OR AEM4



**MLT16**

A FULL FUNCTION 16 WAY REMOTE  
ANNUNCIATOR MODULE EXPANDABLE  
UP TO 1024 WAYS.



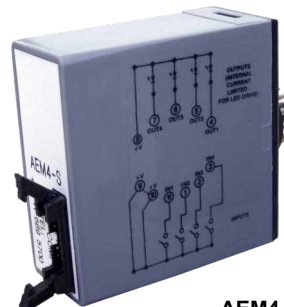
**ADD 8G  
LOW COST RELIABLE STANDARD  
ALARM SEQUENCE ANNUNCIATOR**



**AEM4-MASTER**

**AEM4**

THE AEM4 MICRO CONTROLLER BASED ALARM ANNUNCIATOR  
SYSTEM WAS DESIGNED FOR USE AS AN INDUSTRIAL  
RAIL MOUNT ALARM SYSTEM.



**AEM4-SLAVE**

## ADDA VUE



S - Normally Stock  
L - Limited Stock  
O - Ex Order

ADDA

## DISPLAY SYSTEMS

## VUE16-1N-24D 24VDC (Neg. comm.)

## VUE16-1P-24D 24VDC (Neg. comm.)

- Jumper selectable colour per window (Red/Green/Amber)
- 34mA / window @ 24V DC (Amber) only 17mA for Red/Green
- Removable terminals
- User laser printable indicator window insert
- Fully solid state - life expectancy > 150 000Hours
- Standard DIN size Bezel (96x192) & Cutout size (90x183)
- Common negative & common positive versions



## VUE8

- Dipswitch selectable colour per window (Red/Green/Amber)
- 34mA / window @ 24V DC (Amber) only 17mA for Red/Green
- Removable terminals
- User laser printable indicator window insert
- Fully solid state - life expectancy > 150 000Hours
- Standard DIN size Bezel (44x96) & Cutout size (91x139)
- Common negative & common positive versions



LED BACKLIT INDICATOR SYSTEM for use with PLC, MULTI 16 PLUS or AEM4

Tri-colour select (by input signals) & Modbus versions also available

## ADSYS96-24D 24VDC

## ADSYS96-110D 110VDC

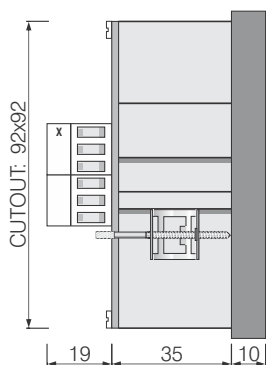
## ADSYS96-220A 220VAC

## SYSTEM 96

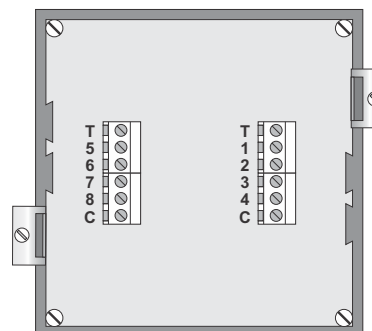
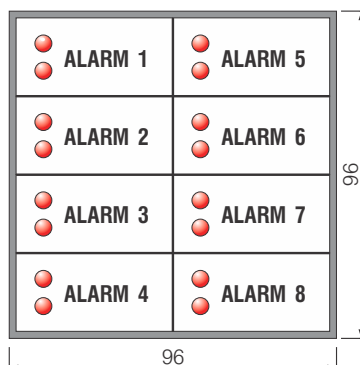
SPOT LED INDICATOR SYSTEM for use with PLC, MULTI 16 PLUS or AEM4

- All **long life LED** indications
- Number of indications from 8 to 16 per module and modules can be increased to any number. (8 indications per module is standard)
- Industrial numbered terminals make for rapid wiring.
- Custom ribbon termination types available to PLC manufacturers so that complete indication systems can be plugged in 1 cable.

- Multiplexed version available (on special order). Each unit operates from an 8 way central unit which has 18 terminals. (8 Data lines, 8 strobe lines and 2 power lines). From this, 7 extension units of 8 indications each can be driven, giving a total of 64 indications for 16PLC outputs.



Cutout





## SYSTEM 248



S - Normally Stock  
L - Limited Stock  
O - Ex Order



## DISPLAY SYSTEMS

Using our tile and grid system there are many different LED indicator systems available to suite your needs. We can fully rear illuminate the following tile sizes:

24x24, 24x48 & 48x48mm

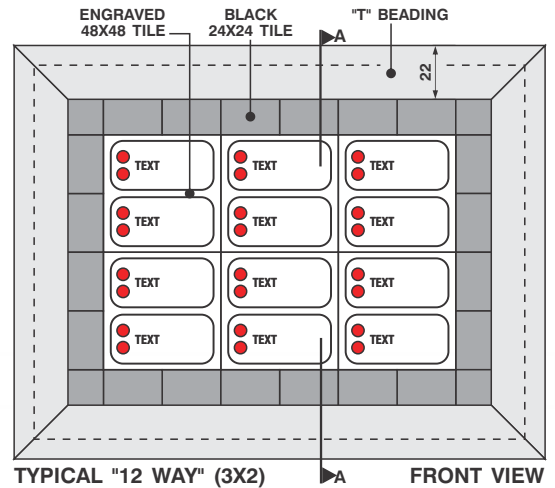
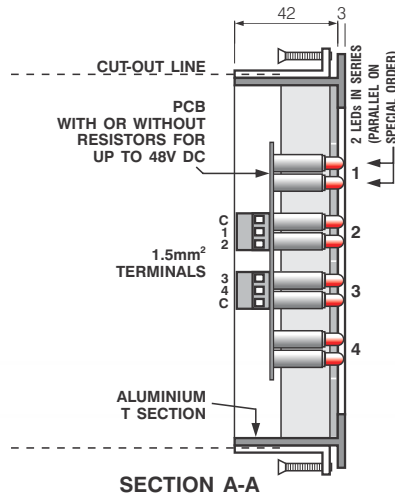
Colours:

Red, Green, Yellow, Blue or White

There are also various options regarding the surround of this system.

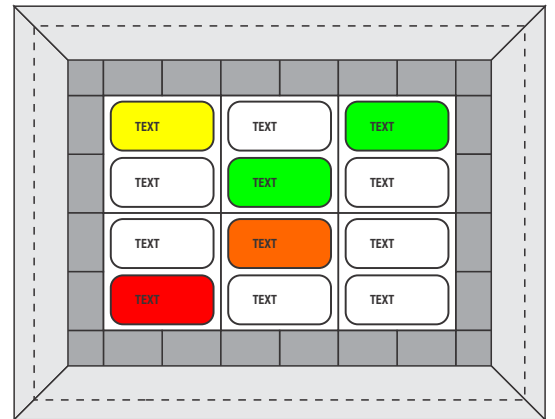
Edge tile, Aluminium T-section or our new Alutec type T-section that matches our Alutec Enclosures.

See our "Mimic Crafts" catalogue for more information.



**SPOT LED INDICATOR SYSTEM** for use with PLC, MULTI 16 PLUS or AEM4

## SYSTEM 248-BL



## ADDA APM4



S - Normally Stock  
L - Limited Stock  
O - Ex Order



## 4 WAY MODULAR PANEL MOUNT ALARM ANNUNCIATOR SYSTEM

The Adda APM4 micro controller based alarm annunciator system was designed for use as an industrial panel mount alarm system. This modular system comprises of 4 way panel mount alarm modules which wire directly to the field. The system comprises of a control unit which houses the pushbuttons, inputs and power supply inputs as well as potential free contacts for the horn and trip functions. The alarm units consist of 4way alarm modules with field inputs and integrated displays. One control unit can drive up to 16 slave units, thus expanding the alarm unit to a 64 way alarm. With custom ribbon cables this limit can be extended to above 150 alarms.

Main functions:

- Each input provides for normally open or normally closed alarms via Dip-switch.
- Each unit provides for normally on (inverse) led drive e.g. For use as Mains On alarms etc. (Jumper setting on rear of unit)
- All slave modules have dip-switch settings for the following control options: First on fast flash / Manual or Auto reset / ringback / and input fast or slow response time.
- The system is modular expandable - up to 64 slave units.
- The units are interconnected via a standard 10-way ribbon system.
- The master unit has pushbutton facilities for Lamp Test / Accept / Reset inputs as well as potential free relay contacts for Horn and Trip outputs.
- Optional opto-coupled inputs with additional external PSU.

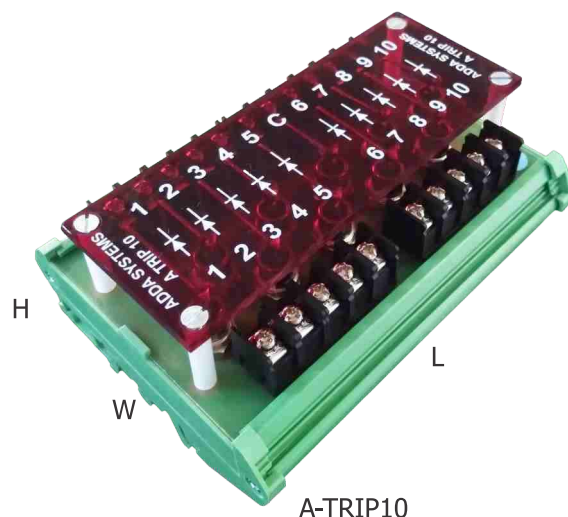


**ALARM UNIT**  
(Bezel 48x144mm)  
(Cutout 44x138mm)

**CONTROL UNIT**  
(Bezel 48x144mm)  
(Cutout 44x138mm)



MODEL	DESCRIPTION	DIMENSIONS(LxWxH)
A-TRIP10	10 WAY CARD	(120x90x50)
A-TRIP8	8 WAY CARD	(120x90x50)
A-TRIP6	6 WAY CARD	(81x90x50)
A-TRIP5	5 WAY CARD	(70x90x50)
A-TRIP4	4 WAY CARD	(70x90x50)
A-TRIP3	3 WAY CARD	(50x90x50)
A-TRIP2	2 WAY CARD	(50x90x50)



A-TRIP10

We supply a range of CURRENT TRIP STEERING AVALANCHE DIODE boards rated at 25 Amp 1600V.

The boards are supplied in 10, 8, 6, 5, 4, 3 & 2 way Din rail boated units. The reason for using avalanche diodes is that during the opening and closing of large circuit breakers very high back EMF surges can be developed. If normal rectifiers were used for current steering they would work once and on application of the very high Back EMF the diodes could be destroyed preventing them from working correctly a second time.

Since the TRIPPING system is mainly a safety concern it is important that it always works correctly. To ensure this Avalanche Rectifiers are used which work as normal rectifier diodes up to the PIV (1600V) and for transient voltages above that the diode breaks down like a Zener Diode, passes the current and then heals back to its original state ready for its next use.

The diodes are specified at 25 Amps but as they are not on a heatsink they are only rated for intermittent use in this application.

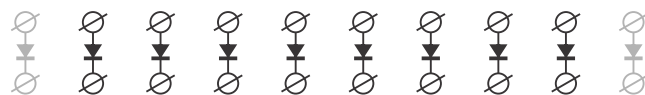
For normal use the diode boards are supplied wired as discreet diodes but on special order they can be wired with the Anodes of all the diode on the board connected to a common terminal.

### Specifications

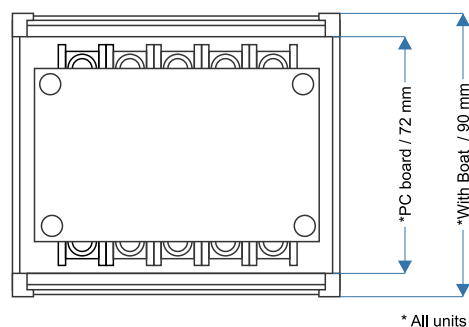
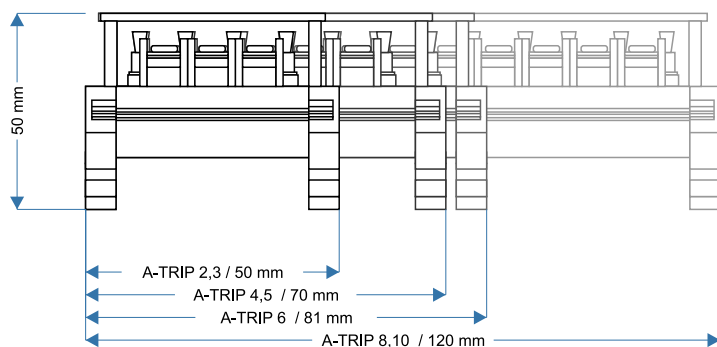
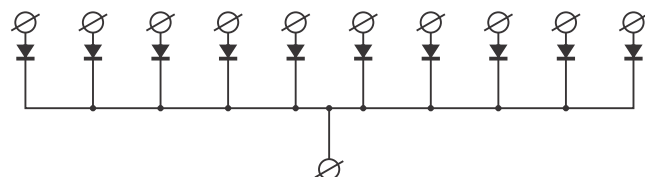
Symbol	Ratings	Unit
$V_{RRM}$	1600	V
$I_{RRM}$	6	mA
$I_{F(AV)} (^{\circ}C)$	25 (120)	A
$I_{FRMS}$	39	A
$I_{FSM} (10ms)$	0.34	kA
$I^2t$	0.58	$A^2s \ 10^3$
$V_{FM} / I_{FM}$	1.35 / 78	V / A
$V_{T(TO)}$	0.90	V
PRSM 100mks	2.5	kW
$T_{jmax}$	160	$^{\circ}C$
$R_{th(j-c)}$	1.100	$^{\circ}C / W$
$M_d$	0.9-1.1	Nm
w	0.006	kg

This is a 10 way diode board that can be supplied in 2 formats, for mounting on DIN Rail. Normally used for combining multiple TRIP signals to a single output to drive a Trip Relay.

a). As 5,8 or 10 individual diodes.



b). Diodes with anodes connected to a common.



The AEM4+D micro controller based alarm annunciator system was designed for use as an industrial rail mount alarm system. This modular system comprises of DIN Rail Boated modules which wire directly to the field. The system comprises of a master unit which consists of the user pushbutton inputs and supply inputs as well as potential free contacts for the G.A. (Horn) and Trip functions. The slave units consist of 4way alarm modules with field inputs and display output drives. One master unit can drive up to 32 slave units, thus expanding the alarm unit to a 128 way (maximum) alarm system.

The unit has been designed so that no covers have to be removed for programming but the DIP Switches are not accessible in normal use as they are covered by the next module.

**Power supply:**

Supply voltage	24Vdc or 12V $\pm 10\%$
Slave current consumption (leds)	80mA (max) / module
Slave current consumption (lamps)	20mA + (4* lamp current)/module
Master unit current consumption	90mA (max)

**Module Dimensions**

Width on Din Rail	50 mm
Length across Din Rail	122 mm
Height above top of Din Rail	50 mm

**Alarm inputs:**

Input voltage	24Vdc $\pm 30\%$
Input current	4mA @ 24V (max)

**Alarm Response Time:**

Fast response.	Nominal 4 m Secs. Actual 3.8m Secs.
Slow response.	Nominal 0.5 Secs. Actual 0.48 Secs.

**Alarm outputs:**

Open collector type outputs.	
Max. Output current (led mode)	17mA each
Max output current (lamp mode)	50mA each
Total system max current	2A (all lamps + leds)

**Relay outputs:**

Horn relay	SPST Contact rating 2A @ 250Vac
Trip output	SPDT Contact rating 2A @ 250Vac

**Operating Temperature:**

When operating in the LED Output Mode @ a load of less than 25mA the unit can operate in ambient temperature of greater than 45°C



## AEM4 Alarm Annunciator

The Aem4 micro controller based alarm annunciator system was designed for use as an industrial rail mount alarm system. This modular system comprises of 11Pin plug-in modules which wire directly to the field. The system comprises of a master unit which consists of the user pushbutton inputs and supply inputs as well as potential free contacts for the horn and trip functions. The slave units consist of 4way alarm modules with field inputs and display outputs. One master unit can drive up to 32 slave units, thus expanding the alarm unit to a 128 way(maximum) alarm.

Each input provides for normally open or normally closed alarms via a base mounted dip-switch. Each unit provides for normally on (inverse) led drive e.g. For use as Mains On alarms etc. This is an internal jumper setting. All slave modules have dip-switch settings for the following control options: First on fast flash / Manual or Auto reset / Ringback / and input fast or slow response time. The system is modular expandable - up to 32 slave units. All connections are via standard 11PIN relay bases. The units are interconnected via a standard 10-way ribbon system. The master unit has pushbutton facilities for Lamp Test / Accept / Reset inputs as well as potential free relay contacts for Horn and Trip outputs.

**Power supply:**

Supply voltage	24Vdc $\pm 10\%$
Slave current consumption (leds)	80mA (max) / module
Slave current consumption (lamps)	20mA + (4* lamp current)/module
Master unit current consumption	90mA (max)

**Alarm inputs:**

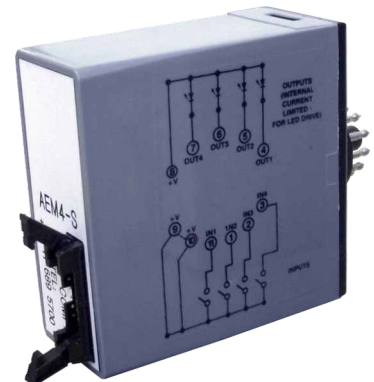
Input voltage	24Vdc $\pm 30\%$
Input current	7mA @ 24V (max)

**Alarm outputs:**

Open collector type outputs.	
Max. output current (led mode)	17mA each
Max output current(lamp mode)	50mA each
Total max current	2A (all lamps+leds)

**Relay outputs:**

Horn relay	SPST
Trip output	SPDT
Contact rating	2A @ 250Vac



**ARM 4P** (ALARM ANNUNCIATOR CARD)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**ADDA**

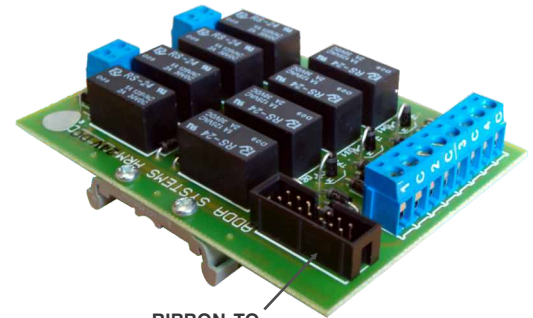
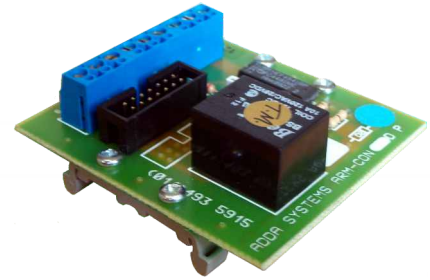
**ALARM SYSTEMS**

This is a 12 or 24V DC, Relay based, Full Function Alarm Annunciator Card which is ideal for smaller applications where alarm annunciation is required, e.g. on mimics or control panels.

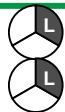
Each **ARM 4P** Card drives 4 LEDs; 20 cards can be driven by one control card **ARM-CON** which contains all common circuits and a flasher. It is available from the factory in Automatic or Manual reset models. It can be used in an existing 24V DC system but it should be noted that the LEDs require positive common connection. The "Test Accept" button accepts alarms and also provides lamp test. A full system requires 12 or 24VDC, an ARM Card for every 4 ways, 1 control card, a buzzer, an accept button (and also a reset button in the case of a Manual Reset model).

The **System** operates on a normally open contact which closes on fault. On receipt of a closing contact the hooter sounds and the appropriate LED flashes. On acceptance, the hooter silences and the LED goes steady.

- In the 'Auto Reset' model the LED goes out when the fault clears.
- In the 'Manual Reset' model the LED stays on until the reset button is pressed.
- In either case, fleeting alarms are latched until accepted.
- Subsequent alarms are recognized, i.e. if there are alarms on the system, a new alarm will initiate a flashing LED and sound the hooter, without affecting existing alarms.
- If a panel mount self contained alarm annunciator is required see "ADDA 8", and
- for a large system see our "MULTI 16 PLUS" which can drive 1008 LEDs and
- incorporates advanced features.
- Also see our "MF 1", a motor flasher card which is ideal for motors that require
- steady run indication which flashes on trip and initiates a hooter.



RIBBON TO  
"ARM-CON"  
CONTROL CARD

**SASB-12B-N** 12VDC (Neg. comm.)**SASB-24B-N** 24VDC (Neg. comm.)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**SIMPLE ALARM CARD - 8 WAY**

This is an 8 way Alarm Card with Lamp Test and subsequent Buzzer output. It has been designed primarily as a driver for remote active repeat Mimics for fire Panels and other similar alarm systems where there is a Latched output. It provides an economical method of indicating alarms on a mosaic panel or alarm window display. LED's do not flash and fleeting alarms are not latched (when the signal goes, the LED goes out).

It is much better than a simple diode steered alarm card in that it also indicates subsequent alarms by restarting the buzzer every time a new alarm arrives, even if existing alarms are still present.

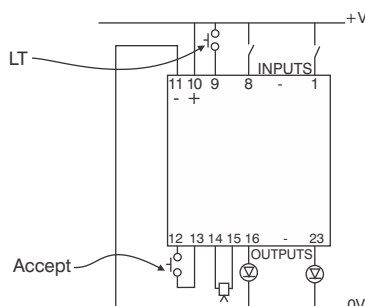
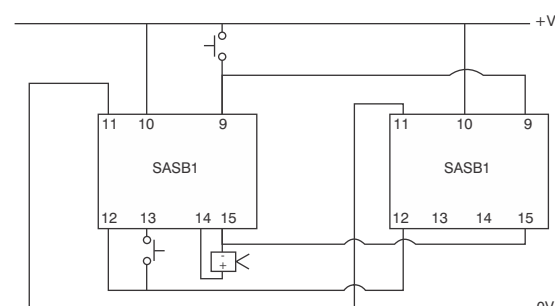
It incorporates lamp test, LED ballast resistors and a horn driver. It is available in 12V and 24V DC versions.

**APPLICATIONS:**

Fire alarm & other alarm annunciator repeat panels.

Process controlled applications where operators need to be made aware of new events but a full alarm annunciator is not required. This unit combined with a standard Lamp test card will provide a low cost solution for Motor run/ Trip indication. IE: Use the Standard Lamp test card for the steady state RUN indications and the SASB Alarm card for the Overload Latched Trip circuits.

See; Door Monitoring Modules, AEM4 Modules.

**CONNECTION & WIRING DIAGRAM****WIRING MULTIPLE SASB CARDS TO COMMON SWITCHES & BUZZER**





S - Normally Stock  
L - Limited Stock  
O - Ex Order



Developed by MIMIC COMPONENTS, this alarm annunciator has been designed specifically for use with High Voltage Panels which normally operate with a battery supplied control voltage of 110V DC.

The main distinguishing feature is ADDA's extremely low current consumption, hence battery power is conserved and this in turn enables the unit to operate directly off 110V DC with very little heat.

ADDA can be supplied in modular compact modules (96x96mm) either 4 ways or 8 ways, which can be added together to make up any reasonable quantity of alarm points.

The standard unit is made for 110V DC, however 12V - 24V - 32V - 48V - 60V DC units are also available.

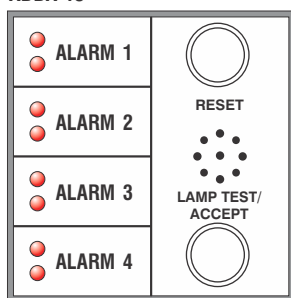
The system operates on a normally open contact which closes on fault. On receipt of a closing contact, the hooter sounds and the appropriate LED flashes. On acceptance, the hooter silences and the LED goes steady. In the Auto-Reset model the LED goes out when the fault clears. In the Manual Reset model, the LED stays on until the Reset button is pressed. In either case, fleeting alarms are latched until accepted.

Subsequent alarms are recognized, i.e. If there are alarms on the system, a new alarm will initiate a flashing LED and sound the hooter without affecting existing alarms.

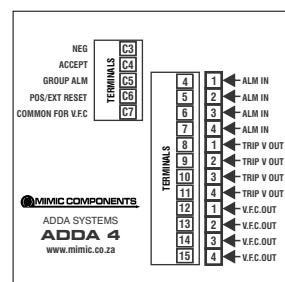
The aim of the ADDA is to plug the gap in the market between the imported flag relays (which are expensive), and the industrial alarm annunciators. It also provides a locally manufactured unit designed specifically for reliable and immune operation in H.T. switch gear panels.

Using conventional Industrial Alarm Annunciators for 110V DC is not satisfactory as they usually operate on 24V DC and thus require an expensive and often unreliable DC to DC converter.

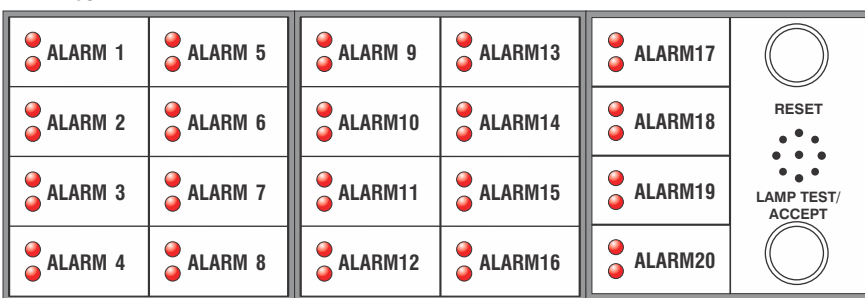
ADDA 4C



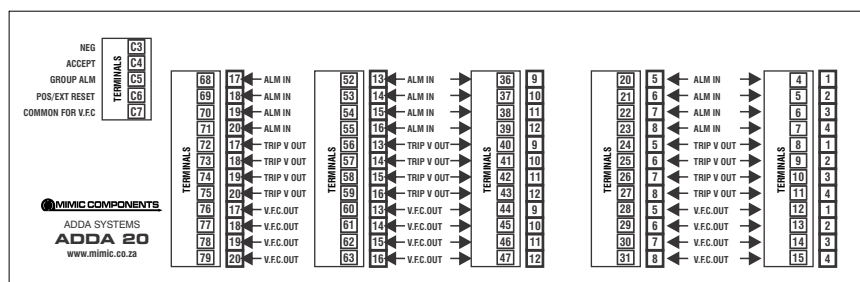
ADDA 4C LEGEND BACKPLATE



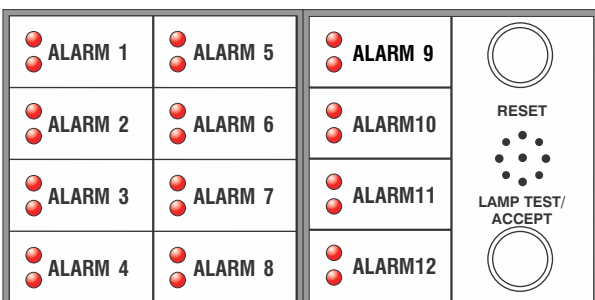
ADDA 20C



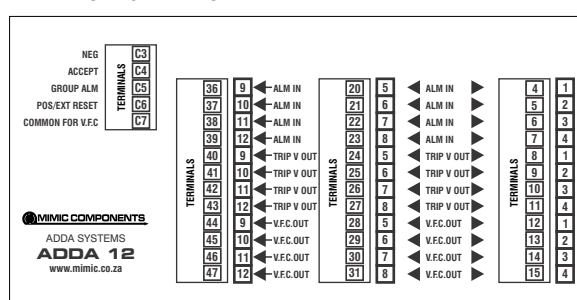
ADDA 20C LEGEND BACKPLATE



ADDA 12C



ADDA 12C LEGEND BACKPLATE



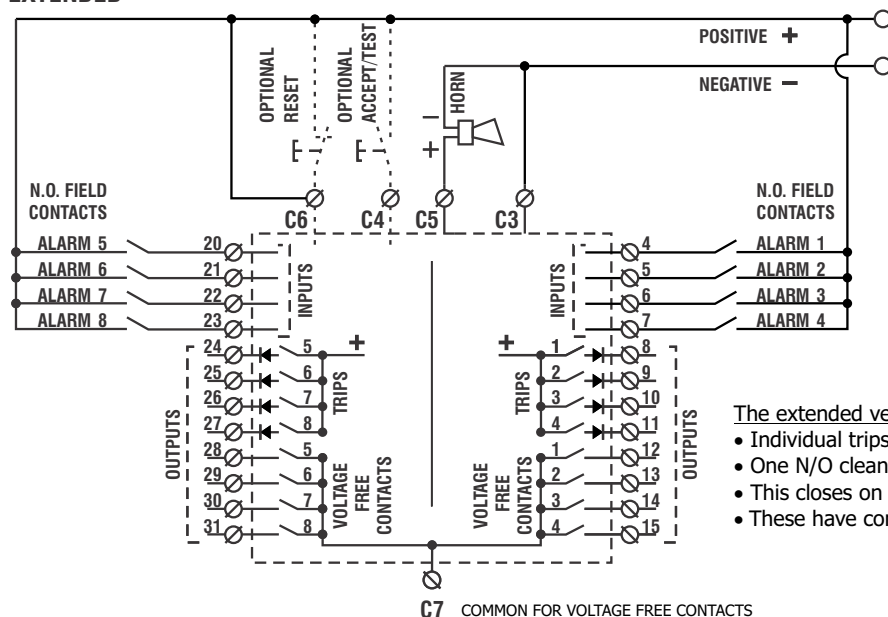


AVAILABLE IN MANUAL OR AUTO-RESET MODELS, & FOR OPERATION ON 12, 24, 32, 48, & 110V DC.

THIS UNIT IS ONLY SUITABLE FOR NORMALLY OPEN FIELD CONTACTS THAT CLOSE ON FAULT

Max. current draw from terminals 3, 8 to 11, 16, 19, 24 to 27 is 250mA. **Group Alarm** is positive out at supply voltage 250mA, for Horn etc. In the **Auto-Reset** model there is no Reset button & positive is connected directly to terminal 2.

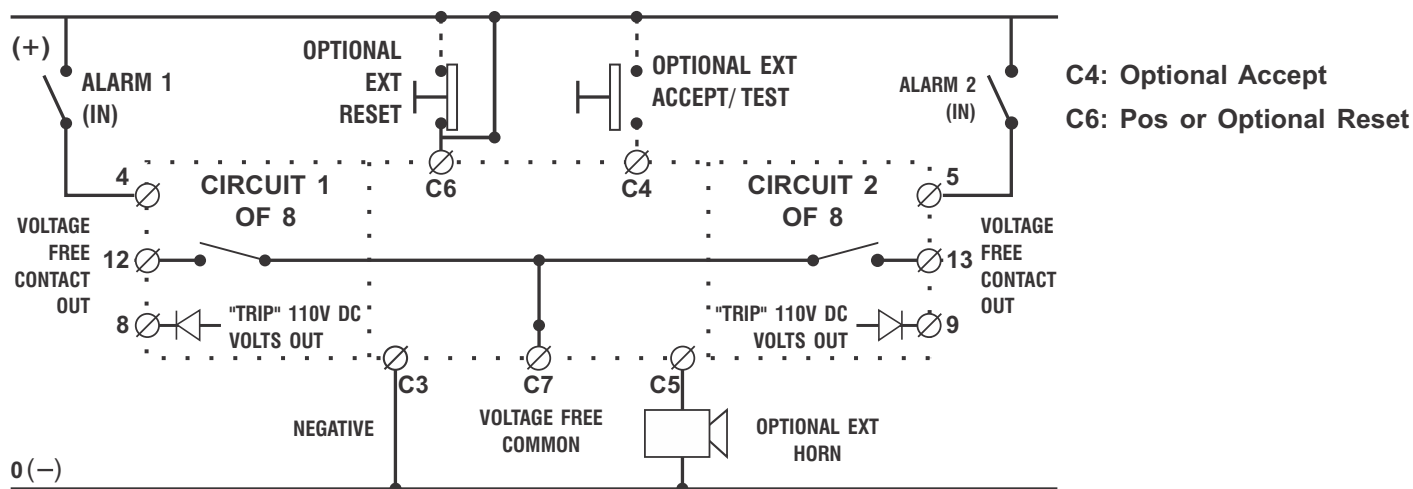
## EXTENDED



The extended version offers:

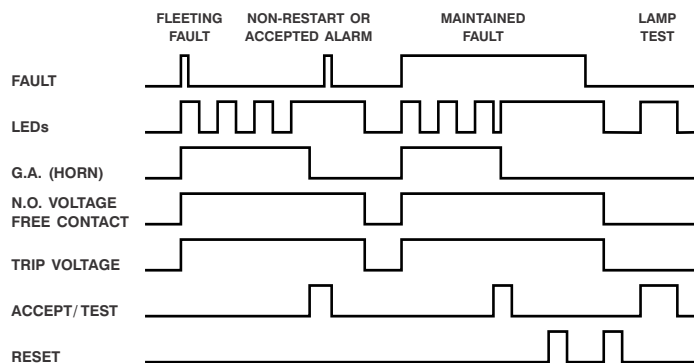
- Individual trips per alarm circuit.
- One N/O clean contact per alarm (12, 13, 14, 15, 28, 29, 30, 31).
- This closes on receipt of fault and opens when the fault is reset.
- These have common C7.

## TYPICAL WIRING



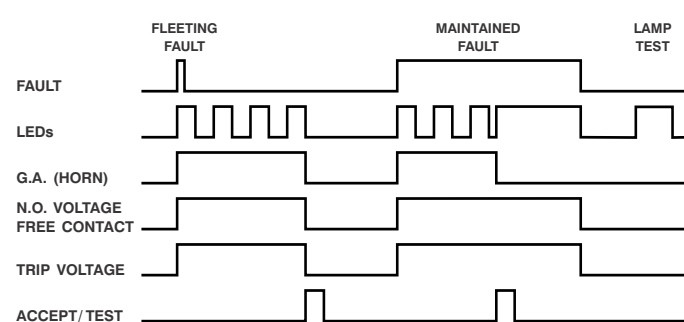
C4: Optional Accept  
C6: Pos or Optional Reset

## MANUAL RESET



NOTE: MAXIMUM CURRENT DRAW FROM TRIP OUTPUTS IS 200mA.  
INDIVIDUAL TRIPS MAY BE GROUPED (WIRED OR 'ED).  
I.E. FOR DELAYED AND NON-DELAYED TRIPS THEY CAN BE GROUPED & THE DELAYED GROUP FED TO AN EXTERNAL TIME RELAY.

## AUTOMATIC RESET



NOTE: MAXIMUM CURRENT DRAW FROM TRIP OUTPUTS IS 200mA.  
INDIVIDUAL TRIPS MAY BE GROUPED (WIRED OR 'ED).  
I.E. FOR DELAYED AND NON-DELAYED TRIPS THEY CAN BE GROUPED & THE DELAYED GROUP FED TO AN EXTERNAL TIME RELAY.  
RESET INPUT BECOMES POSITIVE (+) INPUT.



S - Normally Stock  
L - Limited Stock  
O - Ex Order



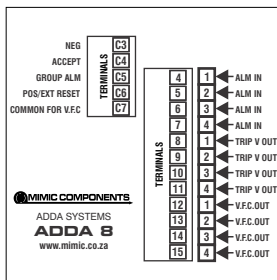
ADDA 8

ALARM 1	ALARM 5
ALARM 2	ALARM 6
ALARM 3	ALARM 7
ALARM 4	ALARM 8

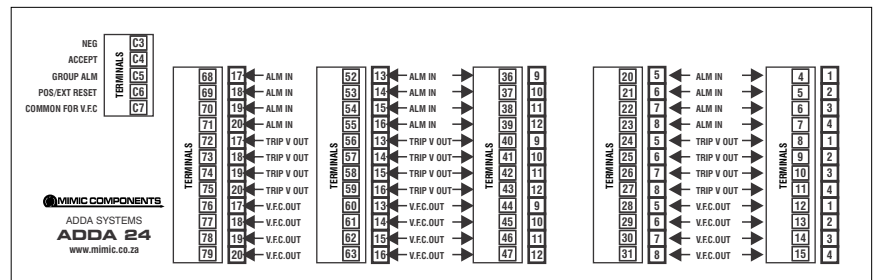
ADDA 24

ALARM 1	ALARM 5	ALARM 9	ALARM13	ALARM17	ALARM21
ALARM 2	ALARM 6	ALARM10	ALARM14	ALARM18	ALARM22
ALARM 3	ALARM 7	ALARM11	ALARM15	ALARM19	ALARM23
ALARM 4	ALARM 8	ALARM12	ALARM16	ALARM20	ALARM24

ADDA 8 LEGEND BACKPLATE



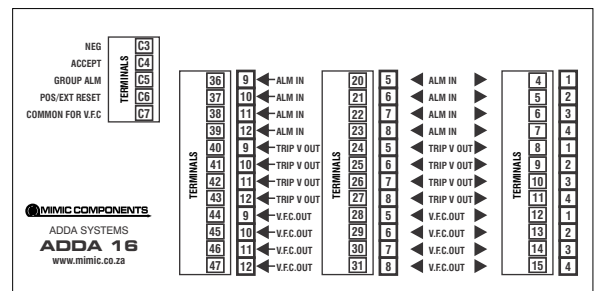
ADDA 24 LEGEND BACKPLATE



ADDA 16

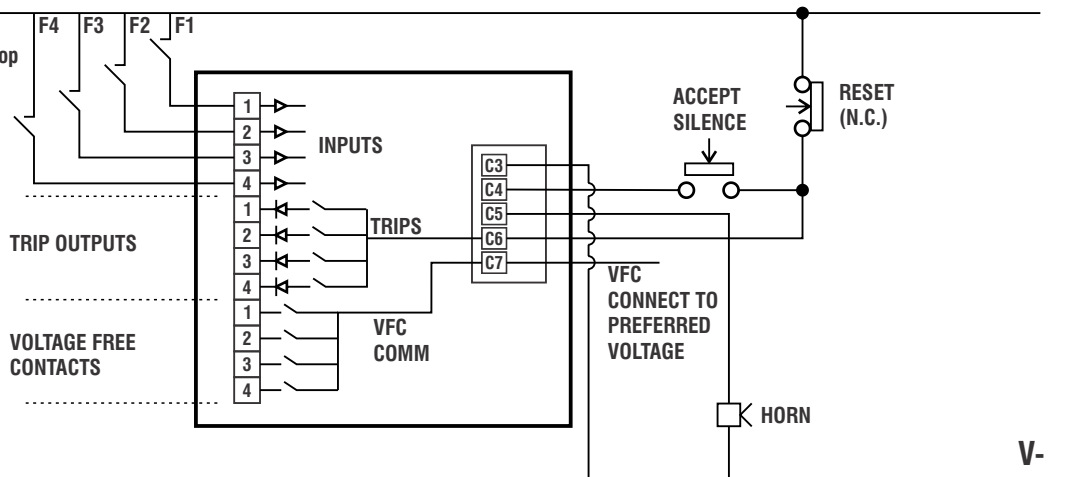
ALARM 1	ALARM 5	ALARM 9	ALARM13
ALARM 2	ALARM 6	ALARM10	ALARM14
ALARM 3	ALARM 7	ALARM11	ALARM15
ALARM 4	ALARM 8	ALARM12	ALARM16

ADDA 16 LEGEND BACKPLATE



V+

At supply voltage - 1 diode drop  
maybe "wired" together  
max current 250mA



AD8G-24D (24DC)

AD8G-110A (110VAC)

AD8G-220A (220VAC)



S - Normally Stock  
L - Limited Stock  
O - Ex Order

ADDA

ADDA 8G - ALARM ANNUNCIATOR

The ADDA 8 G alarm annunciator was specifically designed as an addition to our standard range of alarm annunciators to provide a low cost reliable unit for use where potential free alarm relay contacts in the field are provided.

This alarm annunciator uses a standard alarm sequence (I.S.A standard alarm sequence A-14) i.e. on receipt of fault, a siren sounds and the appropriate LED flashes; on acceptance the siren stops and the Led goes to the steady state. When the fault is corrected the Led extinguishes. Subsequent faults start the same sequence and previous accepted alarms stay as is.

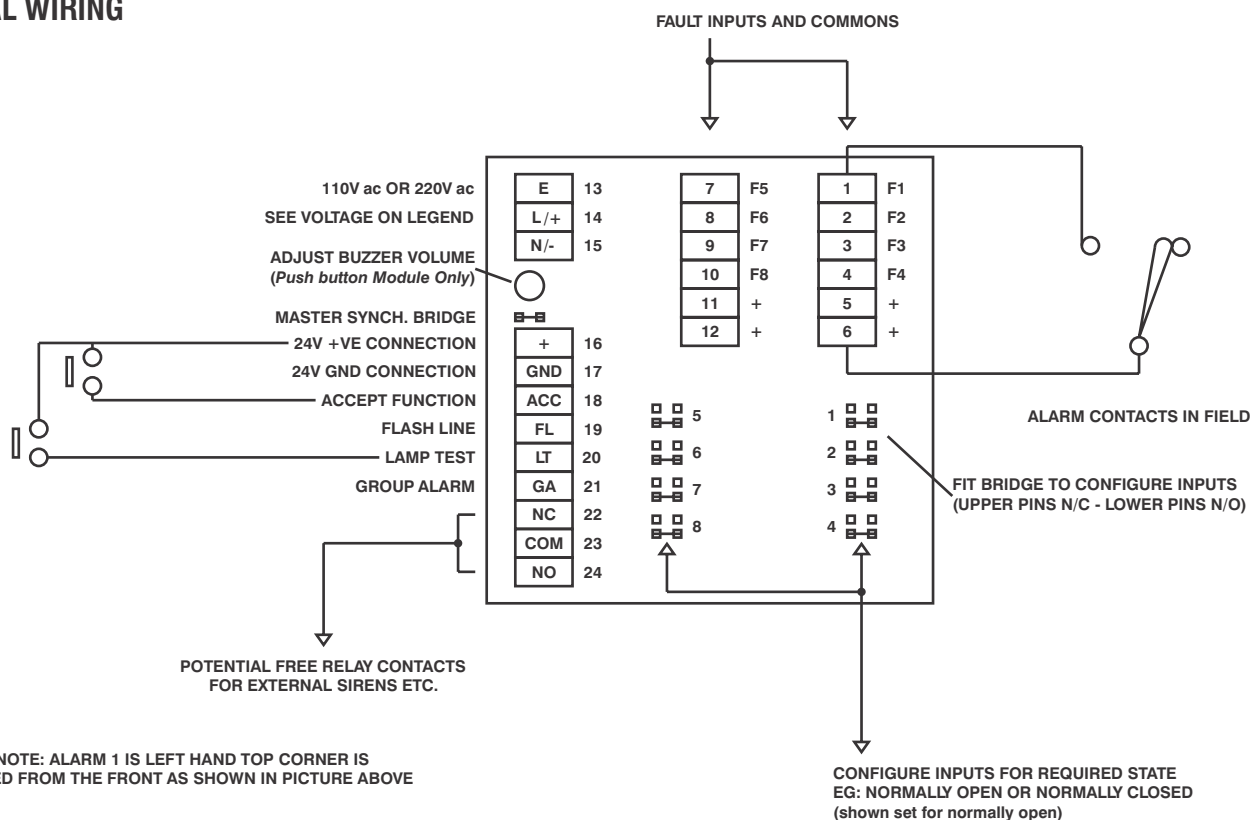
These alarm units all have internal power supplies and can quite simply be ADDED together to make up a larger alarm system. The basic alarm unit can be used in conjunction with external pushbuttons for "ACCEPT" and "LAMP TEST" as well as an external buzzer and will provide 8 alarm circuits each. The pushbutton module alarm provides 4 alarm circuits as well as internal buzzer with volume adjustment and two front panel pushbuttons for the "ACCEPT" and "LAMP TEST" functions.

- Internally protected inputs
- Jumper selectable for normally open or normally closed inputs.
- 24DC/110/220VAC internal power supplies
- Fully expandable
- Synchronized flash
- Uses standard engraving material for front panel legends
- Strong aluminium extruded enclosures
- Potential free relay output for sirens etc.
- Simple reliable and compact (only 96mmx96mm for 8 way).
- 92 x 92mm Cutout



NOTE: Engraving of front panel is free if details are supplied on order, otherwise engraving is R 9-75 per alarm window.

## GENERAL WIRING







S - Normally Stock  
L - Limited Stock  
O - Ex Order

**ADDA**

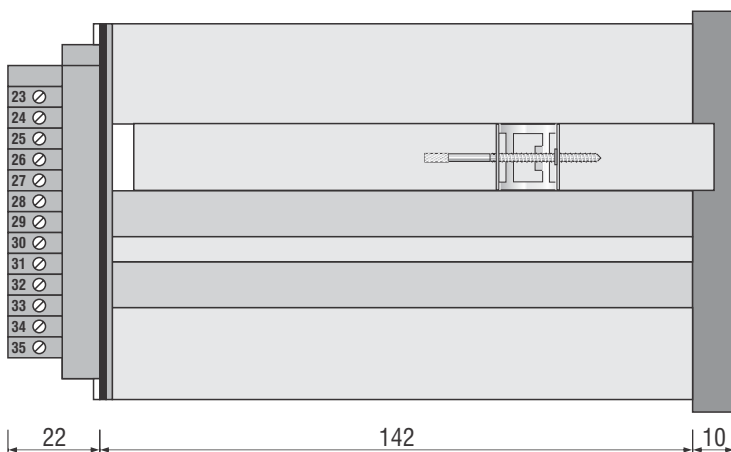
The ADDA 8-F is a purpose designed 110 /220 Vdc relay based flag unit for panel mounting purposes. The complete unit is housed in an extruded aluminium enclosure with removable front engraving plate for easy customization to the clients requirement. All terminations to the unit are via locking removable terminals for easy installation and maintenance. The 8 way flag unit consists of eight individual latching relay based circuits. Each circuit offers the following output functions:

1. Individual potential free contact ( only the common of the contact is common to other circuits.)
2. Instantaneous avalanche diode protected trip output for each two grouped alarms ( alarms 1,2 - 3,4 - 5,6 - 7,8 are grouped together)
3. Individual double switched trip reinforcing contact ( for improved dc load breaking) for each alarm (the common of these contacts are also grouped in pairs as before.)
4. Two high brightness LED alarm indicators for each alarm on the front panel.

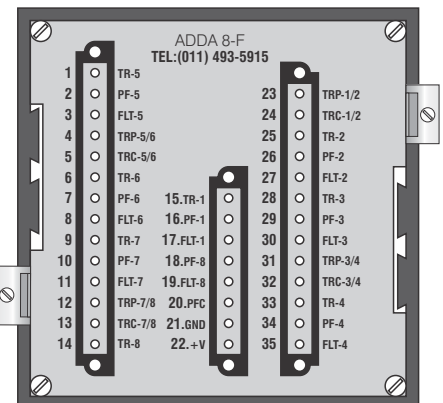
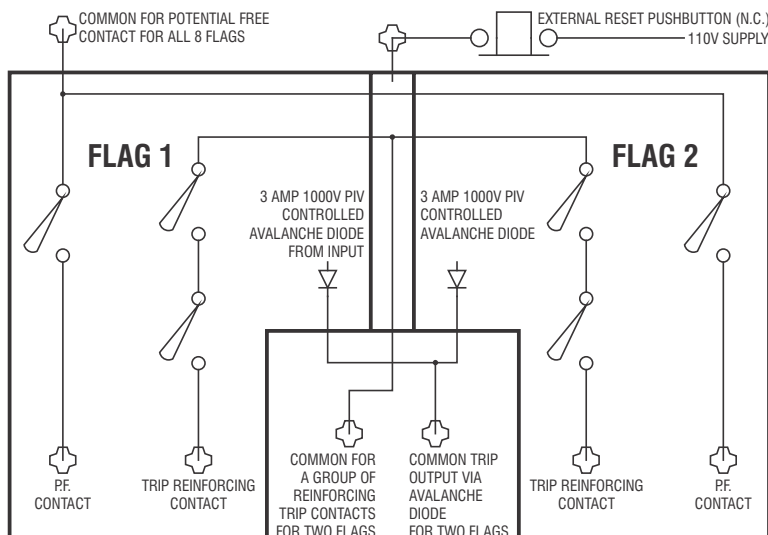
All these alarm output functions are available at the output terminals on the rear of the enclosure , as well as the input and power connections. All the plug-in terminals are of the screw-down locking type, to prevent the plugs from becoming unsocketed while in operation and thus invalidating the safety tripping circuits.

## ADDA 8F - Electrical Operation

On application of the supply voltage all alarms will be in the off condition and all outputs will be de-activated. When an alarm input (+110/220 Vdc ) is applied to one of the "fault in" inputs , that particular alarm will trip. This activates that relevant alarm's outputs and illuminates the two LED's on the front panel. The alarm will remain in this condition regardless of the input status , until the main power to the alarm unit is removed.(Reset) All the alarm inputs function in the same manner. (The alarm inputs are protected against false alarm triggering due to transients and inductive pickup by means of positive temperature coefficient resistors in parallel with the input relay coils.)



**Note:** Engraving of Front Panel is free if details are supplied on order, otherwise engraving will be charged for.



### REAR

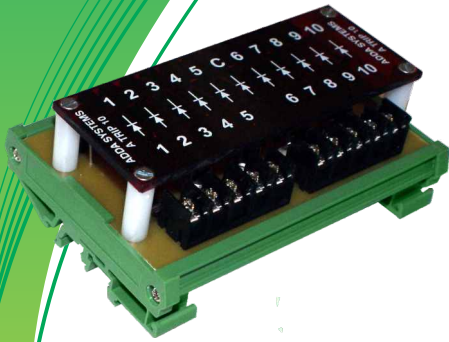
ALL CONTACTS ARE 5 AMP RATING (AC NOMINAL) WITH DC1 LOAD BREAK AS FOLLOWS:

55V DC=700mA, 110V DC=260mA & 220V DC=100mA



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# CARDS



**A-TRIP (10 WAY)**

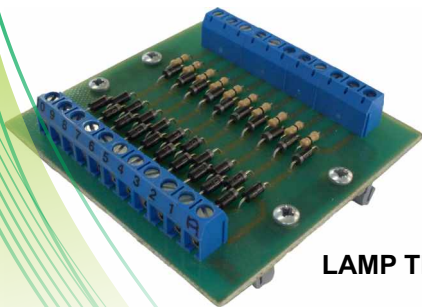
COMBINING MULTIPLE TRIP SIGNALS  
TO A SINGLE OUTPUT TO DRIVE A TRIP RELAY.  
ALSO AVAILABLE IN 3, 5 OR 8 WAY.



**SASB....SIMPLE ALARM CARD 8 WAY**

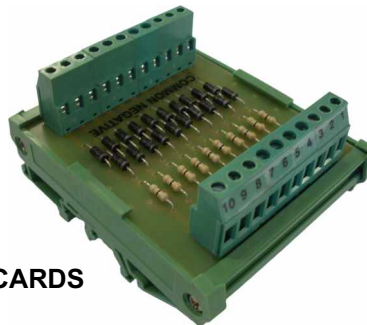


**ARM4P-ALARM ANNUNCIATOR CARD**

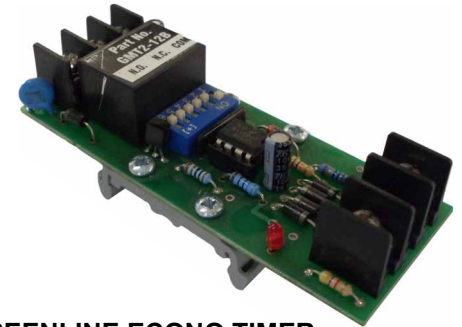


**LAMP TEST CARDS**

LT+ALARM FUNCTION



BOATED LT



**GREENLINE ECONO TIMER**

DIPSWITCH SELECTABLE FUNCTIONS  
LED RELAY STATE INDICATION  
LOW COST - HIGH RELIABILITY

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## FAB-2 Series PLC



S - Normally Stock  
L - Limited Stock  
O - Ex Order

**ARRAY**

## PLC's

- CE approval
- 2 channel with RS485
- Supports Array text Panel
- Supports Modbus RTU protocol
- Power Indicator
- Improve RTC accuracy
- Improve PLC running speed
- Free programming Quick II software
- Removable panel with LCD
- FB programming and strong program storage capacity



## SR Series PLC

- UL/CE approval
- Wireless remote control
- Supports Array text Panel
- Removable panel; cost saving
- Power failure protection(customised function)
- More compact, more powerful, flexible connection/ EHC
- Features 1k high-speed input port(customised function)
- 30 function blocks, the total amount of function blocks 128
- Telephone remote control, automatic dialing alarm and voice broadcasting.
- I/O can be extended freely, the optimum configurations 50DI, 30DO, 8AI.
- 64 Human-Machine Interfaces, and the parameters can be displayed and modified directly.
- Power: AC110V-240V
- Degree of Protection: IP20

**SR-HMI (REMOVABLE LCD DISPLAY)**

32 Virtual Keys  
64 Human-Machine Interfaces  
Time, Input & Output State, Counter,  
Alarming Interfaces etc

**SR-22MRAC (22 I/O PLC UNIT)**

14 Point AC or DC digital Inputs  
8 point relay outputs  
8 point transistor outputs (NPN / PNP)

**SR-12MRAC (12 I/O PLC UNIT)**

8 Point AC or DC digital Inputs  
4 point relay outputs  
4 point transistor outputs (NPN / PNP)



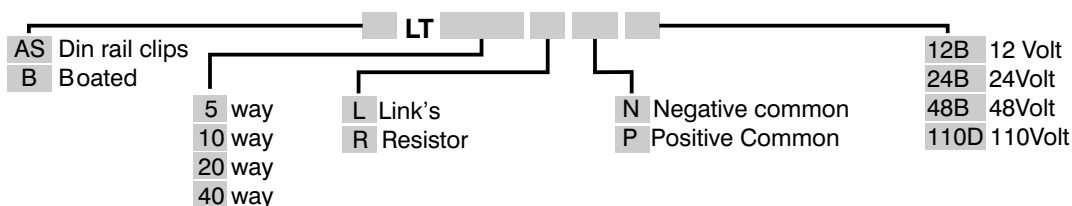
**P24AC1** (24VAC to DC CONVERTER)

S - Normally Stock  
L - Limited Stock  
O - Ex Order

**AC/DC CONVERTER**

The P24AC1 is a rail mount switch-mode regulator for use on small 24Vdc systems. The regulator accepts an AC or DC voltage input and supplies a current limited, regulated 24Vdc at a nominal 500mA. The regulator has an LED output indicator to indicate the presence of an output voltage. The complete unit is a open - frame design in a rail mountable boat.

- Input Voltage Range: 24-29 Vac or 28-40 Vdc
- Output Voltage: 24Vdc  $\pm$  5%
- Output current (limited): 500mA @ 24Vdc
- Output Ripple: <80mV (ptp)

**LAMP TEST CARD**

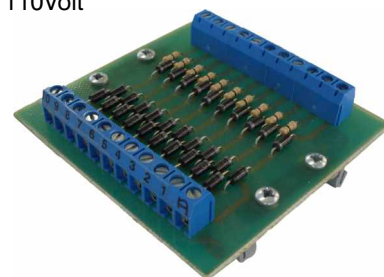
Mimics Lamp Test Cards are available in either a bare board economy format, normally with wire protected terminals or mounted in a PCB boat normally with higher capacity raising clamps terminals. The part no's with resistors are designed to operate a single LED at 17mA. If your pilot lights operate at supply voltage please order a LINK type card.

Link used on our boards

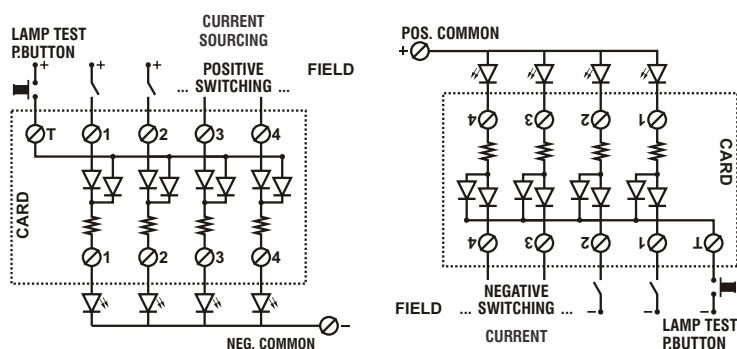
This is a zero ohm resistor marked with a single black band = 0W



- 24V DC is standard
- Raising Clamp Terminals or Boated options
- DIN Rail mountable
- 5 way
- 10 way
- 20 way
- 40 way
- Voltages 12, 24, 48, 110 & 220VDC

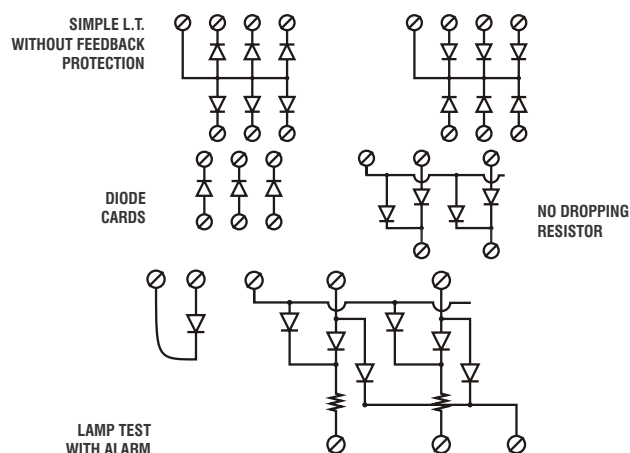
**LT+ALARM FUNCTION****BOATED LT****Typical diagrams for LEDs**

(FOR LAMPS THERE ARE NO RESISTORS)



**TYPE A**  
NEG. COMMON - POS. SWITCHING

**TYPE B**  
POS. COMMON - NEG. SWITCHING

**Other options:-**

## NCH8-20



S - Normally Stock  
L - Limited Stock  
O - Ex Order

## HOUSEHOLD CONTACTOR

## NCH8-40/20

**NCH8-20** household AC contactor is mainly applicable to a power system of AC 50Hz or 60Hz, rated working voltage up to 230V, and in a line of application class AC-7a with rated working voltage up to 230V and rated working current up to 20A. It is used to remotely close and/or switch off the line. The product is widely used in dwelling houses, hotels and so on. Its main performance indices is in conformity with that specified in code IEC1095.



- Electrical ratings: up to 20A, 25A, 40A, 63A, 230V, AC50/60Hz.
- Utilization category: AC-1, AC-7a, AC-7b
- Standard: IEC / En61095
- Compact design and modularization design
- Insulation material with excellent performances has been adopted to enhance the operation security to a great extent
- Elegant appearance
- Mechanical lifetime: Not less than  $1 \times 10^5$  times
- Electrical lifetime: Not less than  $3 \times 10^4$  times

## SP Series

## POWER SUPPLY UPS FUNCTION

Compact design, small size and light weight. High efficiency and good reliability. Internal EMI filter. Power Output LED Indicator. Remote Control Function.

Input Voltage: 100-240VAC, 50/60Hz

Output Voltage: 24V

Rated Power: 36W

Output Current: 1.5A

Cost effective power supplies with

- UPS function
- Adjustable current limit protection
- "Soft start".
- Wide input voltage range (85-264VAC, 120-370VDC)
- Output voltage adjustable (-5%~+10% by potentiometer V).

**SP-05A5** - 5VDC 6amp

**SP-12AS** - 12VDC 3amp

**SP-24AS** - 24VDC 1.5amp

Dimensions: 71x106x65mm

**SP-05AL** - 5VDC 10amp

**SP-12AL** - 12VDC 6amp

**SP-24AL** - 24VDC 3amp

Dimension: 126x106x65mm

**BZ12V72POR** - 12V 7.2AH Battery (for UPS function)



## PCB TERMINAL BLOCKS

While industrial controls become more and more complex and important, the interface modules are utilized as the improved solution to replace traditional single wiring usage. The diverse interface units are taken to convert signal between flat ribbon cable connector with screw type terminal, D-Subminiature connector with screw type terminal, and the relay with screw type terminal.

By applying wire technology and compact design, the interface units provide advantages on integration, space saving, flexibility, and costing efficiency. The interface modules, which are widely adapted, are considered the simple, convenient, economic and tech-oriented alternative for all common PLC's.

We stock a wide range of terminals.

Please contact us to discuss your requirements.

