



element14

AN AVNET COMPANY

# MANUFACTURING SOLUTIONS

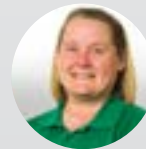
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**A global electronics distributor that provides you with local support:** In person, via phone or online.



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# HELLO AND WELCOME TO OUR MANUFACTURING SOLUTIONS SHOWCASE

At element14, we're really excited about Industry 4.0 and the opportunities offered with IIoT to drive efficiencies in manufacturing. Reducing downtime, improving energy efficiency and productivity whilst reducing costs, offer significant benefits for manufacturers. However, the principles of Industry 4.0 can be complex and knowing where and how to begin is challenging.

At element14, we are working with some of the biggest suppliers to enable customers of all sizes to take advantage of these concepts and have significantly expanded our range of products to support you in driving greater efficiencies in your manufacturing processes.

Explore our highlights of over **350,000** industrial products online.



**Simon Meadmore**

VP Product & Supplier Management

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### LED PANEL MOUNT INDICATOR, SATIN CHROME BEZEL, GREEN



The 1904011P is a panel-mount green LED Indicator with satin chrome bezel and maximum 30mA current at 2.2VDC voltage. Due to production tolerances, colour temperature variations may be detected within the individual consignments. The plastic (polycarbonate) is limited resistant against chemicals.



Order Code

**1369151**

### SIGNALLING INDICATOR NEON - RED



The C0180AANAA is a Neon Indicator with 15mm round lens and terminal barrier (6.3 x 0.8mm QC). It comes with a Starlock fixing ring.



Order Code

**140006**

### THE 559 RECTANGLE SERIES SNAP-IN LED INDICATORS



The 559-3501-007F from Dialight is a LED panel mount indicator. This is a bi-colour, non tinted, diffused LED with 3 leaded wire termination designed for quick positive insertions in panels from 0.787mm through 1.57mm [.062] thick.



Order Code

**1138319**

### SNAP-IN NEON INDICATOR WITH A MODERN STYLE POLYCARBONATE COLOURED ROUND LENS



The C282000NAB is a Neon Indicator with 6.3mm termination tabs and long terminal barrier. Snap-in neon indicator with a modern style polycarbonate coloured round lens (13.6mm). An appropriate resistor is incorporated in the body moulding.



Order Code

**147410**

### CURTIS 700 SERIES IS PCB MOUNTABLE HOUR METER



The CD701-024 is part of the Curtis 700 series is PCB mountable hour meter, it is suitable for OEMs, contract manufacturers, and panel makers for monitoring equipment usage, scheduling maintenance, warranty validation, rental/leasing use and more.



Order Code

**516284**

### DIALIGHT RED PANEL MOUNT INDICATOR



The 559-0103-007F is a 5mm front diffused panel-mount red snap-in LED Indicator for 0.25-inch mounting hole, 12V integral resistor. It is designed for quick positive insertions in panels. The straight 14-inch wire leads terminals are suitable for wire-wrapping.



Order Code

**1138325**

### RED PANEL-MOUNT STANDARD LED INDICATOR



The T000305 is a red panel-mount standard LED Indicator offers prominent-style bezel with flying leads.



Order Code

**2472233**

### LED PANEL INDICATOR 24V 20MA QUICK CONNECT



The 19050351 is a LED Panel Mount Indicator with satin chrome recessed metal bezel, M8 screw thread and 8mm maximum panel thickness. Round-shaped green lens. Brass terminal for anode, tinned terminal for cathode.



Order Code

**1105287**

### NEON INDICATOR AMBER



The C0180AANAB is a Neon Indicator with 15mm round lens and terminal barrier (6.3 x 0.8mm QC). It comes with a Starlock fixing ring.



Order Code

**140007**

### NEON PANEL INDICATOR AMBER QUICK CONNECT



The C027500NAE is a red low profile neon indicator with a nylon body and polycarbonate round-shaped lens. The neon indicator comes with a chrome bezel and fixing nut. An appropriate resistor is incorporated in the body moulding.



Order Code

**254915**

### INDUSTRIAL PANEL MOUNT INDICATORS / SWITCH INDICATORS



The 19010351 is a 24VDC 2-connector panel-mount standard green LED Indicator with satin chrome metal super-flat bezel and M8 screw thread. It has brass anode and tinned cathode terminal pin assignment, Makrolon 2805 plastic construction, diffused lens surface and tab terminals connector.



Order Code

**1105266**

### RED PANEL MOUNT INDICATOR



The 19050353 is a LED Panel Mount Indicator with satin chrome recessed metal bezel, M8 screw thread and 8mm maximum panel thickness. Round-shaped green lens. Brass terminal for anode, tinned terminal for cathode.



Order Code

**1105286**

### LED HOLDER WITH FOCUSING REFLECTOR



The A105000 from Arcoelectric is a LED holder with focusing reflector for use with 5mm, T-1 3/4 LEDs.



Order Code

**232312**

### PANEL-MOUNT GREEN LED INDICATOR



The 19010051 is a panel-mount green LED Indicator with satin chrome bezel and maximum 30mA current at 2.2VDC voltage. Due to production tolerances, colour temperature variations may be detected within the individual consignments.



Order Code

**1368960**

### SNAP-IN NEON INDICATOR WITH A MODERN STYLE POLYCARBONATE COLOURED ROUND LENS



The C282000NAD is a Neon Indicator with 6.3mm termination tabs and long terminal barrier. Snap-in neon indicator with a modern style polycarbonate coloured round lens (13.6mm). An appropriate resistor is incorporated in the body moulding.



Order Code

**147411**

**INDUSTRIAL ETHERNET SWITCHES**
**multicomp** PRO

Plug and play industrial 5 port fast Ethernet network switch with integrated DIN mounting. The high operating temperature range and IP20 rated case makes it ideal for a range of applications.


 Order Code  
**3257512**
**SWITCH SIZED NEON INDICATOR LIGHTS**
**multicomp** PRO

These snap in, panel mount indicators can be easily fitted next to a switch on a panel to ensure continuity of design. Green, Red and Amber colour options and 13x19mm, 11x30mm or 22x30mm panel cut out sizes.


 Order Code  
**3833948**
**LIQUID LEVEL CONTROLLERS**
**OMRON**

Fully automatic operation enables both draining and filling simultaneously with a single device. Adjustable sensitivity level from 1k to 200k Ohm, 110VAC, 240VAC & 400VAC supply voltage options.


 Order Code  
**2612083**
**CONNECTOR END STOP FOR DIN RAIL TERMINAL BLOCKS**
**WAGO**

The 249-117 from Wago is a 10mm wide, grey colour screwless end stop for use with terminal blocks.


 Order Code  
**537895**
**INDUSTRIAL PANEL MOUNT INDICATORS / SWITCH INDICATORS**

 Life Is On | **Schneider Electric**

The ZBVB1 is a 24VAC/DC white LED Light Block for Ø22mm pushbutton head.


 Order Code  
**2058818**
**POE INDUSTRIAL SWITCHES**
**multicomp** PRO

A range of 5 ports 10/100 Fast Ethernet Switches. Send power and data to remote hardware. No software required. Simply plug in and connect.


 Order Code  
**4141429**
**T120 PANEL INDICATOR LIGHTS**
**multicomp** PRO

250V dome-shaped Neon indicators available in red, green or amber with 10mm, 12mm or 13mm cut-outs.


 Order Code  
**3833959**
**IPS TFT DISPLAYS - SCREEN SIZES FROM 4.3" TO 15.6"**
**multicomp** PRO

These next-generation of IPS TFT HDMI Displays offer a simple & fast method to integrate a display into your product via an LVDS conversion module on board. Simply connect the display with any single board computer, or computer device with an HD output. Ideal for use with Raspberry Pi, UP or iBASE computers.


 Order Code  
**4067627**
**SINGLE GANG 47MM DRY LINING BOX**
**APPLEBY**

This SFSB632 dry lining box from Appleby has a large flange around the front that prevents slipping into cavities and matches the profile of the front plate. The box is manufactured from flame retardant thermoplastic and the adjustable tough yellow nylon lugs have large bearing faces for superior strength.


 Order Code  
**3458750**
**PUN-H SERIES HYDROLYSIS-RESISTANT PLASTIC TUBING**
**FESTO**

Pneumatic Tubing, 2 mm, 1.2 mm, PU (Polyurethane), Red, 6 bar, 50 m.


 Order Code  
**3432486**
**DIGITAL TIME SWITCHES**
**GIC**

Precise time programming for astro / daily / weekly / pulse switching, 16A single and dual relay outputs, 12/24 hour display format, 6 years battery reserve.


 Order Code  
**1895460**
**PTC THERMISTOR RELAYS - MP-225**
**ABB**

Uses integrated PTC resistors to monitor and protect Motors against overheating under heavy duty load, high switching frequencies and high operating temperatures & insufficient cooling conditions.


 Order Code  
**3223716**
**OPEN FRAME TFT DISPLAYS**
**multicomp** PRO

Choice of 7", 10.1", 10.4" and 12.1" active displays within a metal frame that is ideal for use with SBCs, as an HMI or with any device which has an HDMI output. The displays have projected capacitive touch, HDMI interface, automatic dimming and support Rear or VESA mounting enabling easy installation into your equipment.


 Order Code  
**4156127**
**QUICK MOUNTING END CLAMP**
**PHOENIX CONTACT**

End clamp, din rail terminal block, grey.


 Order Code  
**3259549**
**NPQP SERIES PUSH-IN CONNECTOR**
**FESTO**

Pneumatic Fitting, Push-In Fitting, 10 bar, 6 mm, PP (Polypropylene), NPQP.


 Order Code  
**3431908**



## MULTI-TUBE HOLDER

**FESTO**

Multi-Tube Holder, Pneumatic Cylinder.



Order Code  
**3439465**

## NPQP SERIES PUSH-IN CONNECTOR

**FESTO**

Pneumatic Fitting, Push-In L-Fitting, R1/4, 10 bar, 8 mm, PP (Polypropylene), NPQP.



Order Code  
**3431864**

## PUSH-IN T-FITTING

**FESTO**

Pneumatic Fitting, Push-In T-Fitting, R3/8, 10 bar, 10 mm, PP (Polypropylene), NPQP.



Order Code  
**3431888**

## QSLV SERIES MULTI-CONNECTOR FITTING

**FESTO**

Pneumatic Fitting, Multiple Distributor, R1/4, 14 bar, PBT (Polybutylene Terephthalate), QSLV3.



Order Code  
**3439283**

## QSY STANDARD SIZE PUSH-IN Y-CONNECTOR

**FESTO**

Pneumatic Fitting, Push-In Y-Fitting, 14 bar, 10 mm, PBT (Polybutylene Terephthalate), QSY.



Order Code  
**3431820**

## QSS STANDARD SIZE PUSH-IN BULKHEAD CONNECTOR

**FESTO**

Pneumatic Fitting, Push-In Bulkhead Fitting, M12, 14 bar, 4 mm, Brass, QSS.



Order Code  
**3432103**

## PNEUMATIC FITTING - REDUCING NIPPLE

**FESTO**

Pneumatic Fitting, Reducing Nipple, G3/8, G1/4, 50 bar, Brass, NPFC.



Order Code  
**3437109**

## UC PE 10BAR PNEUMATIC SILENCER

**FESTO**

Pneumatic muffler, 10 bar, G1/4.



Order Code  
**3432467**

## PNEUMATIC REGULATOR

**FESTO**

Pressure regulator, 14 bar, G1/4, 1700lpm.



Order Code  
**3437072**

## DOUBLE ACTING COMPACT AIR CYLINDER BASED ON ISO 21287

**FESTO**

Cylinder, DBL acting, 40mm, 10 bar, 40mm.



Order Code  
**3431268**

## ONE-WAY FLOW CONTROL VALVE

**FESTO**

One-way flow control valves regulate the piston speed of pneumatic drives during the advance and return strokes. This is done through suitable restriction of the flow rate of compressed air in exhaust air or supply air direction.



Order Code  
**3432612**

## SHORT-STROKE CYLINDER

**FESTO**

Cylinder, DBL acting, 20mm, 10 bar, 20mm.



Order Code  
**3431111**

## INDUSTRIAL 5 PORT FAST ETHERNET NETWORK SWITCH

**brainboxes**

Switch, 5 Ports, Industrial, Unmanaged Fast Ethernet, DIN Rail, RJ45 x 5, 10Mbps, 100Mbps.



Order Code  
**2723863**

## DC MOTOR GEARMOTOR 160 RPM 6VDC

**Nidec**  
NIDEC COMPONENTS

Geared DC Motor, 60:1, 6 V, 213 rpm, 60 mN-m.



Order Code  
**3498735**

## CONTACT BLOCK WITH SCREW TERMINALS

**EATON**  
Powering Business Worldwide

Contact Block, 1NO, 6 A, 500 V, 1 Pole, M22 Series, Screw.



Order Code  
**3718347**

**MARL 113 SERIES PCB MOUNTED LED**
**MARL**

The 113-305-01 is a 3mm 1-way PCB Mount LED suitable for a wide range of PCB applications. This nylon66 (A82) housing material offers UL94V-0 flame retardancy and high-impact strength. This material has a melting point of 200 to 220°C and is suitable for use in the majority of automatic soldering processes.

Order Code  
**9739220**


**PCB MOUNT LED- RED**
**MARL**

The 103-305-04 is a 3mm 20mA red right angle PCB Mount LED saves on board space and assembly time. The 103 series diffused LED gives a wide viewing angle. It offers reduced power consumption, outstanding reliability and meets industrial requirements. The long lead of a non cropped unit can also be used to help identify the anode.

Order Code  
**9737286**


**LED LAMP HOLDER SEALED WITH FOCUS REFLECTOR**


The A10500A is a 5mm LED Lamp Holder Sealed with focus reflector, Ø8mm panel cutout, 10mm diameter, 17.9mm length, brass holder with a chrome finish.

Order Code  
**232336**


**LED PANEL MOUNT INDICATOR - GREEN**


The T010315 is a green panel-mount standard LED Indicator offers recessed bezel with flying leads.

Order Code  
**2472251**


**GREEN NEON INDICATOR. PANEL MOUNTING**


The L024500MAC is a mains voltage rated panel-mount green LED indicator with a resistor and diode. It is a direct fit replacement for standard neon indicators. It is less susceptible to damage, vibration and flicker-free.

Order Code  
**9630759**


**BULGIN LED PANEL MOUNT INDICATORS CHROME ASSEMBLED W/SEALING**


The A10480A from Arcoelectric is a LED holder for use with 5mm, T-1 3/4 LEDs.

Order Code  
**232324**


**PCB MOUNT LED - YELLOW**
**MARL**

The 103-311-04 is a 3mm PCB Mount LED suits semi-custom PCB designs. This nylon 66 (A82) housing material offers UL94V-0 flame retardancy and high impact strength. This material has a melting point of 200 to 220°C and is suitable for use in the majority of automatic soldering processes.

Order Code  
**9737294**


**GREEN NEON INDICATOR WITH THREADED BODY FOR PANEL THICKNESSES, FITTED WITH A RESISTOR**


The IND515205-240-T/GRN is a 240V Green Neon Indicator with threaded body for panel thicknesses, fitted with a resistor. The indicator with polycarbonate lens/body, chrome bezel, supplied with nut and shake proof washer, PVC stripped red wire termination, top hat transparent amber lens.

Order Code  
**745182**


**LED PANEL INDICATOR RED WIRE LEADS**


The L024500MAA is a mains voltage rated panel-mount red LED indicator with a resistor and diode. It is a direct fit replacement for standard neon indicators. It is less susceptible to damage, vibration and flicker-free.

Order Code  
**9630732**


**3MM 1-WAY PCB MOUNT LED**
**MARL**

The 113-311-01 is a 3mm 1-way PCB Mount LED suitable for a wide range of PCB applications. This nylon66 (A82) housing material offers UL94V-0 flame retardancy and a high impact strength. This material has a melting point of 200 to 220°C and is suitable for use in the majority of automatic soldering processes.

Order Code  
**9739238**


**MARL 103 SERIES PCB MOUNTED LED**
**MARL**

The 103-314-04 is a 3mm 20mA green right angle PCB Mount LED saves on board space and assembly time. The 103 series diffused LED gives wide viewing angle. It offers reduced power consumption, outstanding reliability and meets industrial requirements.

Order Code  
**9737308**


**PANEL MOUNT INDICATOR- NEON INDICATOR**


The H0568BYNAA is a Neon Indicator with 9.5mm round 2.3mm deep domed lens and short terminal barrier.

Order Code  
**8264767**


**CIRCUIT BOARD INDICATOR- YELLOW**
**MARL**

The 103-311-01 is a 3mm PCB Mount LED suits semi-custom PCB designs. This nylon 66 (A82) housing material offers UL94V-0 flame retardancy and high impact strength. This material has a melting point of 200 to 220°C and is suitable for use in the majority of automatic soldering processes.

Order Code  
**9738231**


**PCB MOUNTED 2-WAY RIGHT ANGLE LED LIGHT PIPE**


The 515-1061F is a 3mm round Bi-level Optical Light Pipe with standard design intended as a SMT compatible replacement for 553 series circuit board indicators. The light outputs are spaced vertically 0.1-inch from the PCB to the first element and then 0.2-inch between the top and bottom elements.

Order Code  
**1461585**


**AMBER PANEL-MOUNT LED INDICATOR WITH CHROME-PLATED BRASS BEZEL AND WIRE LEADS**


The L024500MAB is an amber panel-mount LED Indicator with chrome-plated brass bezel and wire leads. This mains voltage rated LED indicator is a direct fit replacement for standard neon indicator. It is more robust, less susceptible to damage and vibration and is flicker-free.

Order Code  
**9630740**





# HOW TO OPTIMISE ENERGY EFFICIENCY IN FACTORY PRODUCTION SYSTEMS?

Electric motors are the main power units behind almost all automation devices in production plants. Over 40 percent of generated electricity is consumed by industry and two-thirds of energy is used by electric motors. Losses are an inevitable part of running a motor and they directly affect efficiency. Losses are minimised by using higher cutting edge motor designs, proper motor control selection, and considering the torque of the motor in high-precision automated production systems.



Figure 1 describes the main elements in an automated machine or process found in a modern factory. The efficiency of the motors and the whole production process is determined by multiple control layers. The first control layer adjusts the power inverter switching sequence to manage the motor voltage and current and enhance torque production efficiency.

Next is the position and speed controller that operates the machine efficiently. In process equipment, this could be a sequence of speed or position orders to perform an assembly function, whereas, in automation equipment, this could be a sequence of speed or position commands to execute an assembly function.

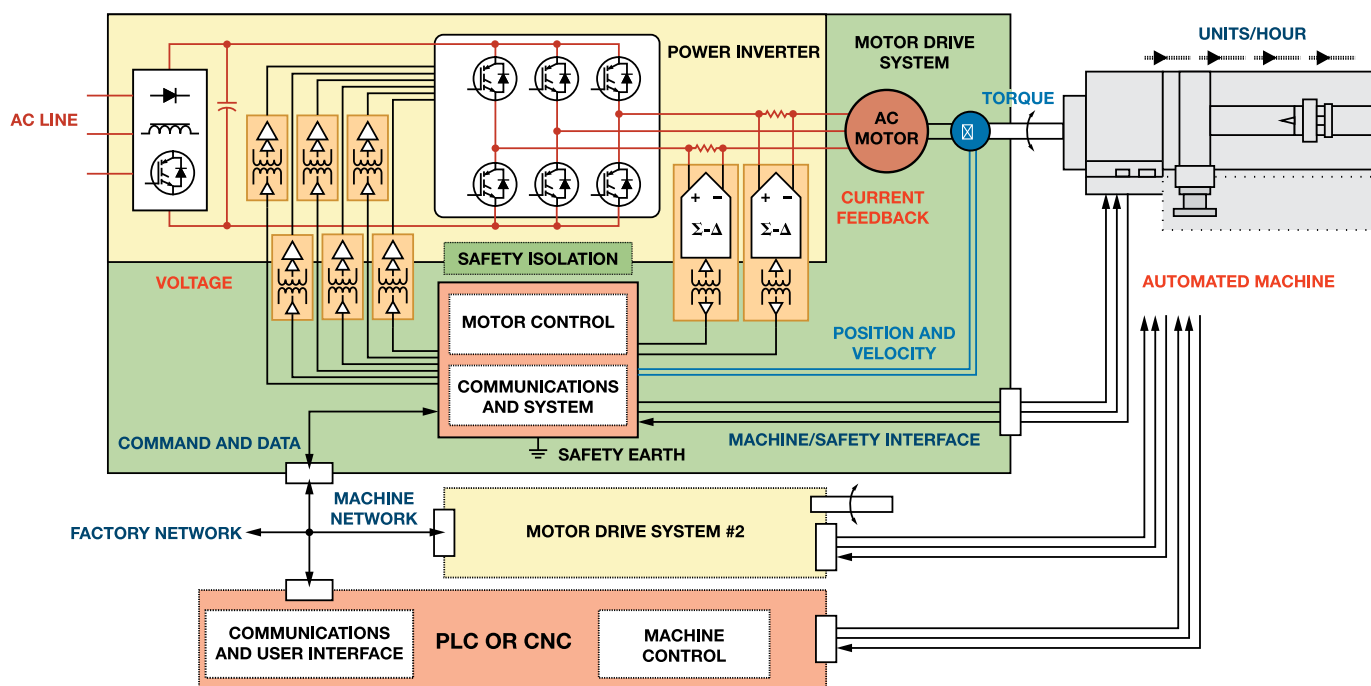


Figure 1: Block diagram of automated machine control system

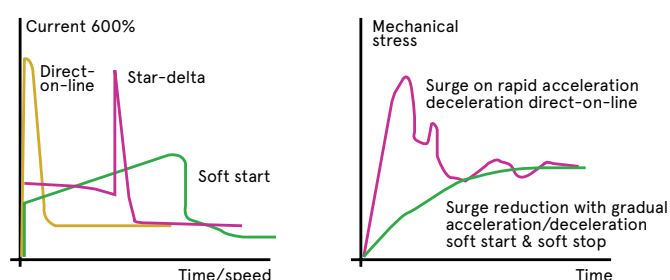
In the latter scenario, the response time of the speed control will be more critical to the machine controller than torque production efficiency. As multiple motors are now synchronised across high-speed data networks that are also connected to the factory network, the communications and systems layer is becoming increasingly important.

The torque produced per amp supplied at any given speed and terminal voltage influences motor efficiency. Torque is generated by **electric motors** by forces that tend to align their internal magnetic fields. When the stator currents are synchronised with the rotor motion to maintain continuous field misalignment, AC motors produce constant torque. The frequency of the motor currents is closely connected to the ac motor speed, therefore speed regulation necessitates the use of a variable frequency voltage source, such as VSDs or **VFDs**.

When the rotor-stator field misalignment is at its maximum, the efficiency is maximum. Motor efficiency also depends upon motor construction and particularly the rotor field structure. Permanent magnet synchronous motors (PMSM) are more efficient, since no current is required to magnetise the rotor field. Because of their prominent magnetic core construction, ultrahigh efficiency interior permanent magnet (IPM) motors generate additional torque.

## Using soft starters in AC induction motors:

When starting, the AC Induction motor develops more torque than is required at full speed. This stress is transferred to the mechanical transmission system, causing excessive wear and premature failure of chains, belts, gears, mechanical seals, and other components. Rapid acceleration also has a significant influence on electricity supply charges, with high inrush currents drawing +600% of the normal run current. The use of Star Delta only provides a partial solution to the problem. If the motor slows down during the transition time, the high peaks will be repeated and may potentially exceed direct on line current. **Soft starters** provide a reliable and economical solution to these issues by delivering a controlled release of power to the motor, resulting in smooth, step-less acceleration and deceleration, as illustrated in Figure 2.



**Figure 2:** Performance curve as compared to direct-on line, Star-delta and Soft Start

As damage to windings and bearings is reduced, motor life will be extended. Soft Start & Soft Stop is incorporated into three-phase systems, allowing for regulated starting and stopping with a selection of ramp times and current limit settings.

## By adopting predictive and condition monitoring:

Condition Monitoring (CM) is the monitoring of several parameters such as equipment vibration and temperature to identify potential concerns such as misalignments or bearing failures. When a vibration analysis reveals a change in the harmonic frequency of rotating equipment components, condition monitoring tools can map equipment degradation.

Frequency analysis can be performed using both vibrometer and microphone data. Continuous Predictive and Condition Monitoring techniques might be used on a range of equipment, including compressors, pumps, spindles, and motors, and they can also be used to detect partial discharge on machines or vacuum leaks. This analysis helps factories to maximise efficiency and equipment availability whilst lowering costs.

## Improving efficient motion control with precision isolation and effective communications:

The combination of precision in motion control and communication timing enables shorter machine production cycles and reduces the amount of energy consumed to manufacture each part. PMSM service motors and drives designed for fast response and high precision in speed and position control are used by drive manufacturers to assist automation applications.

The use of high-speed magnetic isolation technology allows for the safe isolation of analog and digital signal voltages without sacrificing speed or precision. Precision **analog-to-digital converters** integrated into the encoder position offer position feedback with up to a 24-bit resolution, enabling high dynamic velocity control at rates as low as 1 RPM.

This level of performance is appropriate for automation applications such as multiaxis milling of precision machine parts, assembly of fine geometry integrated circuits, and injection molding of cell phone parts. Furthermore, to ensure control precision, the motors' motion timing should be perfectly synchronised, because a timing error directly translates into a trajectory error in multiaxis position control.

Industrial Ethernet protocols, such as **PROFINET** and **EtherCat**, use modified Ethernet network interfaces to support real-time data synchronisation with clock jitter as low as 1µs. These network interfaces support both synchronised motion control and factory network connectivity for production system management.



**DC AXIAL FAN, 24 V,  
SQUARE, 40 MM, 20 MM,  
BALL BEARING, 8.2 CFM**

The 109P0424H602 is a 24VDC 20mm thick Axial Fan with ball bearing and wire leaded power connection. This San Ace 40-series 9P-type fan comes with plastic frame and impeller. UL1007, 24AWG +red and -black lead wire. Clockwise direction of rotation viewed from front of fan blade and continuously run in a free air state.

Order Code  
**1838827**

**SANYO DENKI**



**DC AXIAL FAN, 24 V,  
SQUARE, 40 MM, 20 MM,  
SLEEVE BEARING, 5.89 CFM**

ebm-papst offers a wide range of DC axial fans from 25 mm to 280 mm in size. Many DC fans can be operated on voltages that are up to 50% lower and 25% higher than their nominal voltage (see voltage range in the data sheet).

Order Code  
**9601309**

**ebm-papst**



**AC AXIAL FAN, 230V,  
SQUARE, 119 MM, 38 MM,  
SLEEVE BEARING, 94.17 CFM**

The renowned ebm-papst range of fans are based on experience gained from decades of development know-how, millions of units in series production, and the innovation competence of a world-wide technology pioneer.

Order Code  
**9599711**

**ebm-papst**



**DC AXIAL FAN, 24 V,  
SQUARE, 40 MM, 10 MM,  
SLEEVE BEARING, 4.71 CFM**

ebm-papst offers a wide range of DC axial fans from 25 mm to 280 mm in size. Many DC fans can be operated on voltages that are up to 50% lower and 25% higher than their nominal voltage (see voltage range in the data sheet).

Order Code  
**9601295**

**ebm-papst**



**DC AXIAL FAN, 24 V,  
SQUARE, 119 MM, 38 MM,  
BALL BEARING, 105.9 CFM**

ebm-papst offers a wide range of DC axial fans from 25 mm to 280 mm in size. Many DC fans can be operated on voltages that are up to 50% lower and 25% higher than their nominal voltage (see voltage range in the data sheet).

Order Code  
**1447909**

**ebm-papst**



**DC AXIAL FAN, 12 V,  
SQUARE, 60 MM, 15 MM,  
SINTEC BEARING, 15.9 CFM**

A range of ebm-papst compact fans aimed at the PC Cooling market. This family of especially quiet cooling fans comes complete with connectors for connection to the motherboard and cover sizes from 40mm to 120mm.

Order Code  
**1875283**

**ebm-papst**



**FAN BLOWER, RLF 35  
SERIES, FLATPAK, 24 VDC,  
DC, 51 MM, 15 MM, 5.7 CFM**

The RLF35-8/14N is a 24VDC Centrifugal Compact Fan with ball bearing and wire leaded power connection. Scroll housing of fibreglass-reinforced plastic, fibreglass-reinforced plastic impeller.

Order Code  
**1293483**

**ebm-papst**



**DC AXIAL FAN, 24 V,  
SQUARE, 50 MM, 15 MM,  
SLEEVE BEARING, 11.8 CFM**

ebm-papst offers a wide range of DC axial fans from 25 mm to 280 mm in size. Many DC fans can be operated on voltages that are up to 50% lower and 25% higher than their nominal voltage (see voltage range in the data sheet).

Order Code  
**9600205**

**ebm-papst**



**DC AXIAL FAN, 24 V,  
SQUARE, 60 MM, 25 MM,  
SLEEVE BEARING, 33 CFM**

ebm-papst offers a wide range of DC axial fans from 25 mm to 280 mm in size. Many DC fans can be operated on voltages that are up to 50% lower and 25% higher than their nominal voltage (see voltage range in the data sheet).

Order Code  
**9600655**

**ebm-papst**



**PLASTIC ENCLOSURE,  
HANDHELD, NYLON,  
266 MM, 105 MM, 85 MM,  
IP65**

Pilot 150 type polyamide hand enclosure for automation and control engineering.

Order Code  
**1799773**

**ROSE**  
A Phoenix Mecano Company



**METAL ENCLOSURE,  
1455 SERIES, EXTRUDED WITH  
METAL END PANELS, SMALL,  
EXTRUDED ALUMINIUM**

The 1455 series enclosures from Hammond is extruded aluminium enclosures with metal end plates suitable for electronic instruments and PCB boards. These enclosures are part of electronic equipments used in any industry for hazardous application.

Order Code  
**4272857**

**HAMMOND  
MANUFACTURING**



**PLASTIC ENCLOSURE, IK08,  
HIGH BASE, MULTIPURPOSE,  
POLYCARBONATE, 60 MM,  
130 MM, 180 MM, IP66, IP67**

The PC 150/60 HG is a MNX Enclosure made of polycarbonate (PC) with grey cover. This enclosure utilises world-class injection moulding technology. It is designed to house and protect all kinds of electrical and electronic components in the most demanding applications.

Order Code  
**2473466**

**FIBOX**  
Enclosing innovations



**DC AXIAL FAN, BALL,  
24CFM, 0.09A, 24V**

DC Axial Fan, 24 V, Square, 60 mm, 25 mm, Ball Bearing, 24 CFM.

Order Code  
**3794021**

**NMB**



**DC AXIAL FAN, BALL,  
8.8CFM, 0.05A, 24V**

DC Axial Fan, 24 V, Square, 40 mm, 20 mm, Ball Bearing, 8.8 CFM.

Order Code  
**3794012**

**NMB**



**AXIAL FAN, 119MM, 24V,  
108.4CFM, 42.5DB**

DC Axial Fan, 24 V, Square, 119 mm, 38 mm, Ball Bearing, 108.4 CFM.

Order Code  
**3642832**

**NMB**



**HEAT SINK, ULTRA-FIN™,  
0.04 °C/W, 101.6 MM,  
32 MM, 300 MM**


Latest generation extrusion technology and increased thermal performance from a lower mass. Optimum performance achieved when force air cooled 0.04°C/W.

Order Code  
**4106015**

**HEAT SINK, ULTRA-FIN™,  
0.12 °C/W, 101.6 MM,  
32 MM, 100 MM**


The 890SP-01000-A-100 from H S Marston is a surface-mount high density cooling Ultra-Fin. This Ultra-Fin is developed in extrusion technology allows a much higher fin height to fin spacing ratio.

Order Code  
**4105977**

**HEAT SINK, SQUARE, PCB,  
FOR D PAK, 22.8 °C/W,  
SO-8, SO-10, SO-14, SO-16,  
SOT-223, TO-263, 13 MM**


The FK 244 13 D2 PAK from Fisher Elektronik is a heatsink for D PAK SMD component. Heatsink dimension is 13mm x 26mm x 10mm (L x W x H).

Order Code  
**4302436**

**FAN / FORCE COOLED  
HEAT SINK, HOLLOW FIN  
AGGREGATE, 0.085 °C/W,  
120 MM, 122 MM, 200 MM**


The LA 17/200 24V is a 200mm 230VAC/24VDC fan-cooled Heat Sink with raw degreased aluminium, axial fan, surface mounting, 0.085 to 0.05K/W thermal resistance and without airflow chamber.

Order Code  
**1222532**

**METAL ENCLOSURE, EMI/  
RFI, PCB BOX, STEEL,  
16 MM, 30 MM, 55 MM**


The PFL2T is a RFI/EMI Enclosure with bright acid tin-plated (good commercial grade) mild steel (BSEN10130DC01) construction. Standard and custom PCB mounting enclosure offers individually and functionality, ideally suited to board level screening applications.

Order Code  
**1181374**

**PLASTIC ENCLOSURE, IK08,  
HIGH BASE, MULTIPURPOSE,  
POLYCARBONATE, 60 MM,  
130 MM, 180 MM, IP66, IP67**


The PC 150/60 HG is a MNX Enclosure made of polycarbonate (PC) with grey cover. This enclosure utilises world-class injection moulding technology. It is designed to house and protect all kinds of electrical and electronic components in the most demanding applications.

Order Code  
**2473466**

**METAL ENCLOSURE, EMI/  
RFI, SCREENING CAN,  
STEEL, 16 MM, 55 MM,  
55 MM**


The PFL series enclosures from Perancea are PCB mounting frames which are ideally suited for board-level screening application. These PCB frames are used where excellent RFI/EMI attenuation and accessibility is of major concern.

Order Code  
**1181375**

**PLASTIC ENCLOSURE,  
IK08 / IK09, WALL MOUNT,  
POLYCARBONATE, 130 MM,  
190 MM, 190 MM, IP66, IP67**


The EKHA 130 T is a Non-metallic Enclosure made of polycarbonate with transparent cover. It features one or more flange openings, permitting modular assembly of multiple units and easy management of wiring with a wide assortment of accessory flange plates.

Order Code  
**1004105**

**METAL ENCLOSURE,  
DIECAST, FLANGED LID, IP54,  
SMALL, DIECAST ALUMINIUM,  
51 MM, 51 MM, 31 MM, IP54**


1590 series general purpose, wall-mounting diecast aluminium enclosure with flanged lid and standard version.

Order Code  
**4437305**

**PLASTIC ENCLOSURE,  
FLAME RETARDANT,  
MULTIPURPOSE, ABS,  
25 MM, 56 MM, 85 MM, IP54**


The 1591XXMFLGY is a multipurpose Enclosure made of flame retardant ABS plastic with flanged lid. It is ideally suited for horizontally mounting printed circuit boards are designed for vertical board mounting.

Order Code  
**1877174**

**PLASTIC ENCLOSURE, DIN  
RAIL, PLASTIC, 90 MM,  
22.5 MM, 82 MM, IP20**


Vertical box designed for 5mm pitch plug-in terminal blocks. The plates are to cover unused terminal areas and come in either solid or perforated. Three sides accept 12 way terminal blocks on each side.

Order Code  
**1774441**

**PLASTIC ENCLOSURE,  
WATERTIGHT,  
MULTIPURPOSE, ABS, 61 MM,  
160 MM, 160 MM, IP66**


Multipurpose watertight plastic enclosure ideally suited for mounting printed circuit boards or DIN rail mounted components.

Order Code  
**4081171**

**AXIAL FAN, 172MM,  
230VAC, 212CFM, 56DBA**


AC Axial Fan, Rectangular with Rounded Ends, 172 mm, 38 mm, Ball Bearing, 212 CFM.

Order Code  
**3642846**

**DC AXIAL FAN, 24 V,  
SQUARE, 60 MM, 25 MM,  
SLEEVE BEARING, 27.1 CFM**


ebm-papst offers a wide range of DC axial fans from 25 mm to 280 mm in size. Many DC fans can be operated on voltages that are up to 50% lower and 25% higher than their nominal voltage (see voltage range in the data sheet).

Order Code  
**9600353**

**AC AXIAL FAN, 230V,  
SQUARE, 119 MM, 38 MM,  
BALL BEARING, 94.17 CFM**


The renowned ebm-papst range of fans are based on experience gained from decades of development know-how, millions of units in series production, and the innovation competence of a world-wide technology pioneer.

Order Code  
**9601520**





# Standard Power Solutions

: The premium series   : The best cost-performance series

## Modular Power



NMP Series

## Enclosed Type



LRS/SE/RS/  
RD/RT/RQ Series



HRP-N3 Series



UHP Series



HEP Series



RSP/RST/SHP Series

## DIN Rail Type



MDR Series



HDR Series



SDR/NDR/EDR  
WDR//TDR Series



DRS Series



DRC Series

## PCB Type



EPS/EPP/  
PSC Series



IRM/MPM/  
MFM Series

## Smart Controller



CMU2 Series

## System Power



Dxx-3200 Series

## DC/DC Converter



RSD Series



DDR/DDRH Series



NSD/NID Series



Module Type

## Green Adaptor



GST/GSM/  
GEM/SGA Series

## Charger & Inverter



NPB/NPP Series



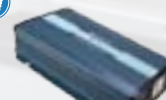
RPB/RCB Series



ENC Series



GC Series



NTS/NTU Series



**LOW PROFILE DIN RAIL MOUNT POWER SUPPLIES**
**TDK-Lambda**

The DSP10-24 from TDK Lambda is a 10.1W low-profile power supply with DIN rail mounting. It complies with UL1310 Class 2(I), UL508 Listed, UL60950-1, EN60950-1, CE safety standards for low profile applications.


 Order Code  
**1456476**
**320W SINGLE OUTPUT WITH PFC FUNCTION POWER SUPPLY**
**MW**  
 MURAM MTELL

RSP-320-5 is a RSP-320 series 320W single output enclosed type AC/DC power supply. This offers the models with the DC output mostly demanded by the industry. It is cooled by the built-in fan with fan speed control, working for the temperature up to 70°C.


 Order Code  
**2816052**
**AC/DC ENCLOSED POWER SUPPLY**
**XP** XP Power

LCW50 series regulated output convection cooled AC to DC power supplies are designed to provide a cost-effective solution for industrial electronics, technology and household applications.


 Order Code  
**3790306**
**12V AC/DC MEDICAL POWER SUPPLY**
**TRACO POWER**

TPP 300-M series is a set of encapsulated AC/DC power supply in an encased package style. It features a reinforced double I/O isolation (3000VAC) system according to the latest medical safety standards.


 Order Code  
**3931233**
**MPIF DIN RAIL POWER SUPPLIES**
**multicomp PRO**

IEC/EN/UL approved, high efficiency, high-reliability DIN Rail Mount power supplies with power ratings ranging from 120W to 480W. 3-year warranty guarantee.


 Order Code  
**3872851**
**480W SINGLE OUTPUT DIN RAIL MOUNT POWER SUPPLIES**
**TDK-Lambda**

The DPP480-24-1 is a 24V/480W 1-output DIN-rail mount Power Supply with wide range AC input, active PFC, parallel function switch, convection cooled, 120 to 140% over-current and 30 to 33V overvoltage protection. This power supply supports global use, easier system configuration and integration.


 Order Code  
**1996013**
**60W AC-DC RELIABLE GREEN INDUSTRIAL ADAPTOR**
**MW**  
 MURAM MTELL

GST60A series is a highly reliable 30-60W desktop style single output green adaptor. This product is a class 1 power unit equipped with a standard IEC320-C14 AC inlet and adopting the input range from 90V AC to 264V AC.


 Order Code  
**2815916**
**160W AC/DC PCB MOUNT POWER SUPPLY**
**XP** XP Power

ASB160PS24 is a 160W ASB160 series low profile, full brick, baseplate cooled AC to DC power supply which requires no external components. The series includes a complete built in EMC filter and AC fuse as well as bulk storage capacitor providing a complete AC-DC power solution ready for installation into end applications.


 Order Code  
**4145370**
**48V AC/DC MEDICAL POWER SUPPLY**
**TRACO POWER**

TPI 180-M is a series of encapsulated AC/DC power supplies coming in an encased package. They feature a reinforced double I/O isolation (3000VAC) system can come with the latest industrial standard IEC/ENUL 62368-1. The excellent efficiency allows a high power-density and compact design (3.6" x 2.44").


 Order Code  
**3890295**
**MPM ENCLOSED AC/DC SWITCHING POWER SUPPLIES**
**multicomp PRO**

IEC/EN/UL approved, cost effective, low no load power consumption, highly efficient, highly reliable enclosed power supplies with excellent EMC performance. Power ratings ranging from 15W to 100W. 3 year warranty guarantee.


 Order Code  
**3974218**
**15W ULTRA SLIM STEP SHAPE DIN RAIL POWER SUPPLY**
**MW**  
 MURAM MTELL

HDR-15 series economical ultra slim 12-15.4W DIN rail power supply to be installed on TS-35/7.5 or TS-35/15 mounting rails. The body is designed 17.5mm in width which allows space saving inside the cabinets.


 Order Code  
**2815635**
**ISOLATED SURFACE MOUNT DC/DC CONVERTER**
**XP** XP Power

IES01 series single output DC-DC power supply ideal solution for isolating voltage rails in a distributed power supply architecture such as analogue, digital, data and relay circuits.


 Order Code  
**3890264**
**AC/DC DIN RAIL POWER SUPPLY**
**XP** XP Power

The DRC range of compact lightweight DIN rail mount power supplies are convenient and cost-effective power conversion solution for many industrial and commercial applications.


 Order Code  
**3534640**
**53V AC/DC INDUSTRIAL POWER SUPPLY**
**TRACO POWER**

TPI 50A-J is a 50W AC/DC open frame power supplies series with a 3000VAC reinforced isolation system. TPI line specifically focuses on providing cost-efficient industrial power supplies in compact designs. This series offers a peak power function which enables the unit to deliver up to 140% of the rated power for up to 5 seconds.


 Order Code  
**3972785**
**DIN RAIL DC-DC CONVERTERS**
**multicomp PRO**

3:1 & 4:1 Input Range options, internal input filter, Remote ON/OFF, 3 year warranty.


 Order Code  
**3556376**

# Power supply choice made easy

XP Power are committed to helping customers find the right power solution for any application. Our diverse range of AC & DC products come with reliability designed-in and unrivalled service to match.

## Open-frame Power Supplies

- 5W to 450W
- World's smallest designs
- ITE & medical (BF) approvals



## Enclosed Power Supplies

- 10W to 5kW
- Full user configurability
- ITE & medical (BF) approvals



## External Power Supplies

- 5W to 300W
- Level VI & EU CoC Tier 2
- ITE & medical approvals



## DC-DC Converters

- 0.25W to 750W
- Through-hole & SMD
- ITE, medical and rail approvals



## High Voltage DC-DC

- Outputs up to 25kVDC
- Regulated & proportional
- Single & dual outputs



**XP** XP Power

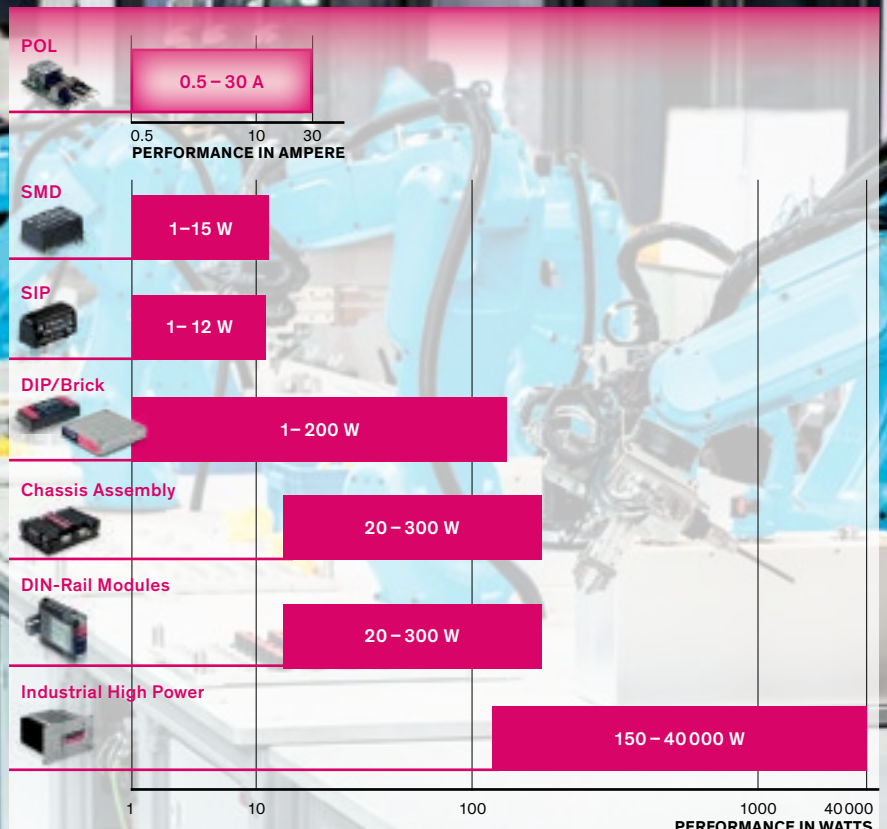
POWERING THE WORLD'S CRITICAL SYSTEMS

**TRACO POWER**  
Reliable. Available. Now.

## Industrial Power Solutions

### DC/DC from 1–300 Watt

- Broad application range covering office, manufacturing, industrial, harsh and hazardous environments
- Industrial EMC immunity acc. to IEC 61000-6-2
- Various mounting types: PCB, Chassis-Mount and DIN-Rail
- Open-frame, encapsulated and encased package styles
- 3-years warranty





**QUINT POWER POWER SUPPLY UNIT – SUPERIOR SYSTEM AVAILABILITY WITH SFB TECHNOLOGY**


The QUINT-PS/1AC/24DC/20 is a 1-phase primary-switched Power Supply with SFB technology. Compact power supply units of the new QUINT POWER generation maximise the availability of your system.



Order Code  
**2068444**

**QUINT POWER POWER SUPPLY UNIT – SUPERIOR SYSTEM AVAILABILITY WITH SFB TECHNOLOGY**


2909577 is a QUINT4-PS/1AC/24DC/3.8/PT primary-switched power supply unit. QUINT POWER provides a superior system availability in the smallest size. Preventative function monitoring and exceptional power reserves are available for applications in the low-power range.



Order Code  
**4071676**

**UNINTERRUPTIBLE POWER SUPPLY WITH IQ TECHNOLOGY**


The QUINT-UPS 24DC/24DC/20 is an Uninterruptible Power Supply with IQ technology for DIN rail mounting, 24VDC input, 24VDC/20A output, with mounted universal DIN rail adapter UTA 107/30.



Order Code  
**2068465**

**8 PIN SIP ISOLATED DC-DC CONVERTER**


PQOC3-D48-S5-OS is a PQOC3-OS series is a compact, regulated DC/DC converter providing 3W of output power and a -40 to +85°C temperature range.



Order Code  
**4128796**

**U-FRAME ISOLATED DC-DC CONVERTER**


PQAE50-D24-S5-U is a PQAE50 series isolated DC-DC converter. It is housed in a compact U-frame package designed for easy installation. It has an operating temperature range of -40 to +105 °C and protection features.



Order Code  
**4093868**

**PROECO POWER SUPPLY, SWITCH-MODE POWER SUPPLY UNIT, 24 V**


The 1469510000 is a single-phase Switch Mode Power Supply with screw terminal connections (input/output). In the series production of machines, in particular, switch mode power supply unit with above-average performance values can deliver genuine competitive advantages.



Order Code  
**2723411**

**2400 WATT FULL BRICK PFC CONVERTER**


AC/DC Enclosed Power Supply (PSU), ITE, 1 Outputs, 2.4 kW, 400 VDC, 6 A.



Order Code  
**3796490**

**ULTIMOD RANGE OF POWER SUPPLIES**


EXCELSYS UltiMod series is unique in flexibility, unrivalled in performance power supply. This is a new paradigm, combining technical excellence with logistics simplicity to exceed the most demanding requirements from any industry.



Order Code  
**3582155**

**ULTIMOD RANGE OF POWER SUPPLIES**


powerMod plug-in module intended for use in Xgen and UltiMod series power supply.



Order Code  
**3582156**

**ARTESYN LCC250 AC-DC POWER SUPPLY, 250 WATTS CONVECTION/ CONDUCTION MOUNTING**


The LCC250-12U-4P is an AC/DC enclosed Power Supply with adjustable output. Wide operating temperature range suited for outdoor application.



Order Code  
**2115755**

**ARTESYN LCM600 SERIES OF 2U HIGH DISTRIBUTED POWER FRONT-END AC-DC POWER SUPPLIES**


The LCM600Q-T is an AC/DC enclosed Power Supply with terminal block input. The LCM600 series of 2U high distributed power front-end AC-DC power supply provides a bulk power solution. This model accepts a universal input of 85 to 264VAC and has a typical full load efficiency of 89%.



Order Code  
**2115741**

**ISOLATED 1W SINGLE OUTPUT SM DC-DC CONVERTERS**


New range of low-cost, lower-profile surface mount DC-DC converters.



Order Code  
**2518533**

**3KVAC ISOLATED 1W SM GAN GATE DRIVE DC-DC CONVERTERS**


MGN1S0512MC-R7 is a MGN1 series 1W SM GaN gate drive DC-DC converter. It is ideal for powering 'high side' and 'low side' gate drive circuits for GaN in bridge circuits. A choice of output voltages allows optimum drive levels for the best system efficiency.



Order Code  
**4163285**

**24V OUTPUT DIN RAIL MOUNT POWER SUPPLY**


Compact size, narrow width high-efficiency power supplies.



Order Code  
**2777430**

**SINGLE OUTPUT FULL FEATURED DIN RAIL MOUNT POWER SUPPLIES**


The DRF480241 is a 24V/480W 1-output DIN-rail mount Power Supply features an ErP compliant design, very compact size, high-efficiency, low standby power draw, remote voltage adjustment and on/off. This power supply output is programmable.



Order Code  
**2474796**

# Unlocking the Secrets of Reliable Relays: OMRON's Unique Production Know-How

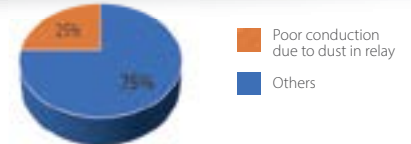
Creating the perfect relays may seem like a straightforward task, but it's a complex process that requires the most advanced manufacturing processes. This ensures that every component inside our relays are precisely assembled and protected from any outside contaminants. Ignoring this crucial step could jeopardize the reliability of the relays and compromise their switching activity.

**At times, machines can experience unplanned downtime**, with the causes remaining elusive, in many cases restarting the machine or replacing the relays resolves the issue.

**OMRON determined that such incidents are primarily caused by inadequate contact conduction, which frequently results from dust caught between the contacts during manufacturing.**

This dust is generated from various sources such as:

- Resin scrap from relay parts
- Textile fibres from operator clothing



OMRON research has revealed that poor conduction of the contacts is the primary cause of relay faults, accounting for approximately 75% of cases.

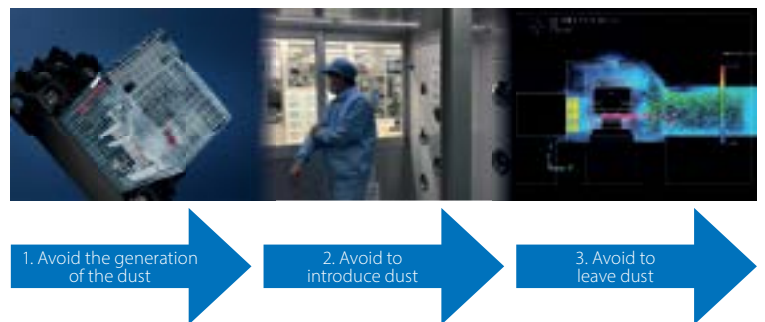


## OMRON'S SOLUTION TO PREVENT POOR CONDUCTION IN RELAYS

**To improve the reliability of our relay production, OMRON has made three key commitments:**

- Provide standardised product design to avoid the generation of dust.
- Produce products in clean rooms with strict entry exit controls to prevent the introduction of dust.
- Utilize OMRON's unique dust removal technology to avoid leaving dust behind during the production process.

With these commitments, OMRON can ensure the highest quality and reliability for your industrial needs.



## OMRON relays offer supreme quality

For more than half a century, OMRON has dedicated itself to the design and production of relays and has now become the largest manufacturer of single-brand relays worldwide. Among our most significant electromechanical relay families are the G2RS, MY, G2RV, and LY families. Now in 2023, OMRON has revamped their relay product line, unveiling the slim G2RV-ST relay and promoting the MY-GS-R as the flagship model for the MY family.



### G2RV-ST:

The relay itself is a well-known standard 6mm relay with industrial pins, but the socket has been redesigned with enhanced features, such as:

- Security lever to avoid accidental relays fall.
- Super bright Brilliant LED.
- Up to 2.5mm<sup>2</sup> cable wiring dimensions.
- Captive screw and push-in plus wiring technology available.

**NEW**



### MY-GS-R:

The MY-GS-R is the newest member of the MY family, distinguished by its exceptional features, making it the flagship model. These features include:

- Supreme reliability due to fully automated production.
- No polarity required for DC coil specification models with LED, available in both 2-pole and 4-pole types, simplifying wiring and maintenance activities.
- Convenient identification of AC and DC types: red test button + red LED for AC coil, blue test button + green LED for DC coil.
- 2.6mm wide pins for enhanced conductivity in MY plug-in terminals.

## SOLID STATE RELAYS

**multicomp** PRO

Single phase SSRs with TRIAC or SCR output. Control voltage 4-32VDC or 90-280VAC, Load voltage 240VAC, 480VAC or 600VAC, Wide load current range from 10-125A.


 Order Code  
**2770603**

## RELAY, 3PST-NO, 250VAC, 16A

**finder**  
 SWITCH TO THE FUTURE

The Finder 62 series are industrial relays. These electromechanical power relays are available in 2 and 3 poles with PCB, plug-in and faston mounting.


 Order Code  
**1329747**

## RELAY, DPDT, 250VAC, 30VDC, 5A

**OMRON**

The Omron G2RS series are industrial plug-in relays. These electromechanical power relays are slimline, space-saving relays with enhanced features mainly used for general purpose applications.


 Order Code  
**4375350**

## RELAY, SPDT, 250VAC, 6A

**finder**  
 SWITCH TO THE FUTURE

The 39.31.0.024.0060 is a Relay Interface Module with AC/DC coil. This 39.31 series module has 1CO (SPDT), MasterBASIC electromechanical relay and 6.2mm wide. Common connection possible with optional jumper links. Accepts output fuse module 093.63 (for 5 x 20mm fuses) for quick and easy load protection.


 Order Code  
**1169339**

## RELAY, SPST-NO, 250VAC, 16A

**TE**  
 AUTHORIZED DISTRIBUTOR

The RTS3T012 is a 1-pole general-purpose Power PCB Relay with DC coil, RT1 inrush series. 1 form-A (1NO) contact configuration. Tungsten (W) pre-make and AgSnO2 contact. Without test tab. 15.7mm high. 165A/20ms inrush peak current. 5kV/10mm coil-contact.


 Order Code  
**9659560**

## RELAY, SIGNAL, DPDT, 30VDC, 1A

**Panasonic** INDUSTRY

The TQ series from Panasonic are through hole signal relays. These mechanical relays are mainly used in signal control applications such as communications, measurement equipment, OA equipment and industrial machines.


 Order Code  
**1175716**

## SSR, DIN MODULE, 60VDC, 3A

**Sensata** • Crydom  
 Technologies

The DRA1-MPDCD3 is a 1-phase Solid-state Relay with DIN rail mount, DRA1 MP series. DC output, DC ratings 60VDC and 3A. Normally closed type output function. Cage style screw terminals for easy connection. Fits standard 35mm DIN rail.


 Order Code  
**1784059**

## RELAY, 4PDT, 250VAC, 30VDC, 5A

**OMRON**

MY(S) series miniature power relay with 4PDT contact form and DC coil.


 Order Code  
**186466**

## RELAY, DPDT, 240VAC, 12A

**TE**  
 AUTHORIZED DISTRIBUTOR

The PT series miniature General Purpose Industrial Relay with 2-pole 12A, 3-pole 10A or 4-pole 6A, 2/3/4-form-C (CO) contacts.


 Order Code  
**1024026**

## RELAY, DPDT, 240VAC, 10A; CONTACT CONFIG

**TE**  
 AUTHORIZED DISTRIBUTOR

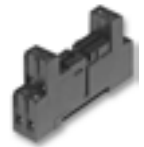
General Purpose Panel/Plug-in Relays.


 Order Code  
**1385009**

## SOCKET, DIN, 5MM PITCH, SCREW TERM

**TE**  
 AUTHORIZED DISTRIBUTOR

The RT78725 is a 8-pin Socket with screw-type terminals. It has pinning 3.5mm for DIN rail mounting and conventional terminal arrangement.


 Order Code  
**1349721**

## RELAY, 4PDT, 250VAC, 7A

**finder**  
 SWITCH TO THE FUTURE

The 58.34.9.024.0050SMA is a 4-pole Relay Interface Module with DC coil, 58.34 series. 4CO (4PDT) contact configuration, AgNi, cadmium-free contact. Ideal interface for PLC and electronic systems. Standard for DC green LED + diode (polarity +A1). 35mm rail (EN 60715) mount, screw terminal socket.


 Order Code  
**1169317**

## POWER RELAY, 24VDC, 6A, SPDT, DIN RAIL

**OMRON**

G2RV-SR is a global standard size, low profile slim (6.2mm width) I/O relay. 25% lower profile than conventional products, contributing to a smaller control panel.


 Order Code  
**2581778**

## SSR, 3A, 1-60VDC, 4-32VDC, ZERO TURN ON

**Sensata** • Crydom  
 Technologies

The DR06D03 is a 1-phase solid-state Relay with DIN rail mount, SeriesOne DR. DC output, AC or DC control. Zero-crossing (resistive loads) or random turn-on (inductive loads) output. Fits standard 35mm DIN-rail. Load voltage ratings of 1 to 60VDC. UL 508 Endurance rating for enhanced reliability.


 Order Code  
**2311046**

## RELAY, PHOTOMOS, 60V, 0.5A

**Panasonic** INDUSTRY

The AQY21XS series from Panasonic are photoMOS relays in miniature 4pin SOP. PhotoMOS relays feature extremely low closed circuit offset voltage to enable control of low level analogue signals without distortion.


 Order Code  
**2095723**



**Technical experts** providing convenient, tailored and **innovative industrial sensing and connectivity solutions.**



## Our Products



Temperature



Pressure



Flow



Force & Strain



Level



Data Acquisition



Test &  
Inspection



Control &  
Monitoring



Calibration  
Systems



Industrial  
Heaters



IIoT &  
Wireless



Custom &  
Configured

For more info:



[newark.com/omega](http://newark.com/omega)



[farnell.com/omega](http://farnell.com/omega)



[element14.com/omega](http://element14.com/omega)

**OPTICAL BUBBLE SENSOR :  
DETECTS LIQUID AND AIR  
BUBBLES WITHOUT FAIL!**
**Panasonic** INDUSTRY

 Optical Bubble Sensor, NPN, 2 mm  
Tube, 5 to 24 VDC, BE-A Series.

 Order Code  
**4077839**
**NEW! SPRING RETURN  
LINEAR POSITION SENSOR,  
RECTANGULAR, 12.7MM  
ELECTRICAL TRAVEL, 3  
PIN, 1.7KOHM, 250MW**



 Position Sensor, Spring Return,  
Linear, Rectangular, 12.7mm  
Electrical Travel, 3 Pin, 1.7kohm,  
250mW.

 Order Code  
**4069509**
**MINIATURE THROUGH  
BEAM PHOTOELECTRIC  
SENSOR, W4F SERIES**
**SICK**  
 Sensor Intelligence.

 Photo Sensor, 10 m, NPN / PNP,  
Push Pull, Through Beam, 10 to  
30 VDC, M8 Connector, W4F  
Series.

 Order Code  
**4070685**
**B5WC BUILT-IN COLOR  
SENSOR FOR RELIABLE  
DETECTION OF CHANGES**
**OMRON**

 Colour sensors from Omron.  
Improves equipment maintenance  
efficiency by monitoring the  
changes in liquid colour.

 Order Code  
**4077838**
**INTELLIGENT PARTICLE  
SENSOR FOR ACCURATE  
AIR QUALITY MONITORING**



 IPS-7100-1 is a photon counting  
readout based, highly sensitive  
optoelectronic particulate  
sensor. It is capable of fast data  
acquisition and readout as well as  
categorising particulates based  
on the size. Adjustable sensitivity  
controls provide superior accuracy  
and versatility.

 Order Code  
**4015788**
**SFC6000D MASS FLOW  
CONTROLLER WITH  
MULTI-GAS CALIBRATION**
**SENSIRION**

 SFC6000D-20SLM is a digital mass  
flow controller. This measures gas  
mass flow by the calorimetric principle  
based on heat transfer. A heater  
element on a thermally insulated  
membrane and two thermopiles  
up-stream and downstream are  
integrated on a single silicon chip.

 Order Code  
**4145353**
**MAGNETIC SENSOR, FOR  
T-SLOT CYLINDERS, 5 TO  
30 VDC, RZT7 SERIES**
**SICK**  
 Sensor Intelligence.

 Magnetic Sensor, T-Slot, 5 to  
30 VDC, RZT7 Series.

 Order Code  
**4058101**
**PANEL MOUNTABLE  
CURRENT TRANSDUCER**
**LEM**

 Bipolar and insulated measurement  
up to 1500V.

 Order Code  
**2664243**
**NEW! DIGITAL PRESSURE  
SENSOR, 16 BAR, I2C  
INTERFACE, 5.5 VDC, 1/4" -  
18 NPT**



 Pressure Sensor, 16 bar, I2C Digital,  
Sealed Gauge, 5.5 VDC, 1/4" - 18  
NPT, 3.7 mA.

 Order Code  
**3886419**
**INDUCTIVE PROXIMITY  
SENSOR, IQG SERIES, WITH  
COMPACT RECTANGULAR  
HOUSINGS FOR USE IN HARSH  
AMBIENT CONDITIONS**
**SICK**  
 Sensor Intelligence.

 Inductive Proximity Sensor, IQG  
Series, Rectangular, 40 mm, PNP,  
10 to 30 VDC.

 Order Code  
**2776967**
**Φ54 WIDE BEAM  
ULTRASONIC SENSOR,  
OBSTACLE DETECTION  
SYSTEM, CONFIGURABLE  
BY SOFTWARE**



 Ultrasonic Sensor, Wide Beam,  
3 m, 50° Beam, 48 kHz, 6 Pin Plug  
Connector, XX Series.

 Order Code  
**4146494**
**INDUCTIVE PROXIMITY  
SENSOR IN XS8 FLAT FORM  
DESIGN**



 High-performance technology.  
Detection of metal objects up to  
60mm.

 Order Code  
**2847778**

- Crydom
- cynergy3
- Airpax
- BEI Sensors
- Sensata

Sensata brand  
products &  
solutions, for  
sensing &  
control

### THERMOMETRICS INLINE FLOW-THROUGH FLUID TEMPERATURE SENSOR

Temperature Sensor, Inline Flow Through, NTC, 10 kohm, 1 1/4" Hose Size.

**Amphenol**  
Advanced Sensors



Order Code  
**3875115**

### COMPACT SAFETY MAGNETIC SENSORS



Safety Interlock Switch, with LED, Right Exit, MC36C Series, SPST-NO, SPST-NC, Cable, 24 V, 250 mA.



Order Code  
**3924668**

### 5000 SERIES INDUSTRIAL PRESSURE SWITCH WITH SCREW ELECTRICAL CONNECTION

**Honeywell**

78303-B00000400-14 is a 5000 series pressure switch with screw electrical connection. 5000 Series pressure switch is specifically designed to stand up to extended duty applications. This switch is factory set but capable of field adjustment.



Order Code  
**2373054**

### 3KG PULL MAGNET THERMOCOUPLE, TYPE K, IEC



The BMS-K-2-C70-MP-25.4 is a Magnet Thermocouple with 2m stainless steel over-braided PFA-PTFE cable fitted with miniature plug.



Order Code  
**2081298**

### HIGH TEMPERATURE LOW DRIFT THERMOCOUPLE INDUSTRIAL HEAD PROBE



Probe, 6", 6 mm, NB-CAXL.



Order Code  
**3805569**

### Q4X RUGGED LASER DISTANCE SENSOR : THE ULTIMATE PROBLEM SOLVER

Sensor, Photo, 610 mm, Laser, Current, M12 Connector, 12 to 30 VDC.



Order Code  
**3765369**

### FLUXGATE TECHNOLOGY BASED 200A CURRENT TRANSDUCER



DC200IF is a highly stabilised and precise fluxgate technology based current transducer, re-engineered for cost-sensitive, non-intrusive, isolated DC and AC current measurement applications up to 300A.



Order Code  
**3884205**

### MINIATURE THERMOCOUPLE CONNECTOR, PLUG, IM-K-M, TYPE K, IEC



The IM-K-M (IEC) from Labfacility is a miniature thermocouple connector with flat pins to suit thermocouple type. Ideal for general purpose use.



Order Code  
**7086362**

### CLAMP MOUNT INDUSTRIAL TEMPERATURE SENSOR FOR USE ON PLASTIC PIPES



Clamp Mount Temperature Sensor, Plastic, 4mA to 20mA, 0°C to 100°C, 1", Industrial, ±1.5°C.



Order Code  
**4145005**

### FLAT CAPACITIVE PROXIMITY SENSOR



The E2K-F10MC1 is a Flat Capacitive Sensor with excellent space efficiency. It is used for detecting ferrous metal. 50 x 50 x 1mm grounded metal plate is used as standard sensing object. The case is made of heat-resistant ABS. It provides reverse polarity and surge suppressor protection.



Order Code  
**1603020**

### K50R RADAR SENSOR : SHORT-RANGE SENSOR FOR ROBUST OBJECT DETECTION

Radar Sensor, 100mm to 2.5 m, Time of Flight, NPN/PNP, 55 mA.



Order Code  
**3996215**

### BAS BATTERY AEROSOL SENSOR

**Honeywell**

The BAS Series Sensors are built to detect the presence and concentration of aerosols such as smoke, liquid and debris in lithium-ion battery packs.



Order Code  
**4144367**

### PT100 HEAVY DUTY SENSOR PROBE, CLASS B FOR INDUSTRIAL APPLICATIONS



The DRG 010632A from Labfacility is a Pt100 heavy duty sensor probe suitable for general purpose and commercial applications.



Order Code  
**8598096**

### TURBINE FLOW METERS FOR INDUSTRIAL AND LABORATORY APPLICATION



FTB-1315 is a FTB-1300 series economical liquid turbine flow meter is designed for industrial and laboratory measurement of water, solvents and other low viscosity fluids. This series turbine flow meters features a 316 stainless steel body and a tungsten carbide bearing.



Order Code  
**3794985**

### BARREL-STYLE INDUCTIVE PROXIMITY SENSOR



The NBB2-12GM40-Z0 is an Inductive Proximity Sensor that is the preferred choice for the majority of applications requiring accurate, non-contact detection of metallic objects in machinery or automation equipment.



Order Code  
**3565312**



**SERIES 19N –  
MICROSWITCH**


The miniature microswitch (the standard V4 size) has been designed in line with similar competitive products, but because of automation, offers consistent high quality levels for volume applications, at no extra cost.



Order Code  
**521840**

**V19 SERIES BASIC SWITCH**


Honeywell Sensing and Internet of Things announced a new addition to their MicroSwitch products today, the V19 basic switch for appliance customers. The V19 is focused on empowering White Goods designs with a balance between configurability and cost while still providing them with a fully certified, reliable solution that is repeatable over the lifetime of the product.



Order Code  
**3643280**

**D2MQ – SUBMINIATURE  
BASIC SWITCH**


Ultra Slim Snap-action. Switch with 2.7 mm in depth. Excellent electrical characteristics and snap action mechanism in spite of its ultra-small size. Ideal for applications where size is extremely limited and high reliability is demanded.



Order Code  
**9901922**

**NAVIMEC MODULE**


Navimec is a five position navigational switch solution ideal for data entry devices where joystick function is needed. It has a select switch in the middle and four navigational switches around it. The solution is available as a module as well as single parts for own PCB mounting. Illuminated version is also available.



Order Code  
**1390523**

**SL SERIES**


"The idea arose from the success story of a sealed safety interlock switch used in a deep fat chicken fryer (KFC) back in 2015 (Pressure fryers); PN SL0001-1 C&K's SL series IP67 sealed door interlock switch features push (momentary)/ pull (maintained) motion as well as SPDT and DPDT in 3 different bracket sizes (small, large and extended), multiple mounting configurations.



Order Code  
**3935040**

**KSC4 TE SERIES – TIRELESS  
ENDURANCE TACT SWITCH**


KSC4 TE tireless endurance tactile switch is a new KSC4 configuration with J leads, a soft actuator and a renewed combination of dome and support, upgrading the lifetime up to 10 million cycles. With a size of 6.2 x 6.3 mm and actuation forces at 1.6N, 2.8N and 4N, KSC4 TE is perfect for demanding applications such as applications in the industrial segment.



Order Code  
**4105498**

**YW SERIES CONTROL UNITS**


Complete with finger-safe contact blocks. Ensure safety and save wiring time. Safety Lock Mechanism. When the emergency stop signal has been generated during actuation of the emergency stop device, the emergency stop function shall be maintained until the emergency stop device is reset (disengaged) (IEC 60947-5-5, 6.2).



Order Code  
**2833849**

**SERIES B3F**


B3F Tactile Switch. Through-hole-mounting Switches in a Wide Range of Models: 6 x 6 mm, 12 x 12 mm, Side-operated Models, Gold-plated Contacts, and Radial Tape. Extended mechanical/electrical durability: 10 x 10<sup>6</sup> operations for 12 x 12 mm type and 1 x 10<sup>6</sup> operations for the 6 x 6 mm type.



Order Code  
**176435**

**V19 SERIES MINIATURE  
BASIC SWITCH**


The V19, Honeywell's unsealed MICRO SWITCH family provides a cost-conscious switch solution to assist in hitting overall system-level cost and design goals in high volume applications. The V19 switch provides a fully certified, reliable, and repeatable solution over the lifetime of the product.



Order Code  
**3643264**

**SERIES 82 IP67 ON/OFF  
SWITCHES**


EAO's Series 82 anti-vandal stainless steel On/Off and Standby switches are suitable for 16, 19 or 22 mm mounting and have built-in resistors for easy direct connection to a 12V or 24V supply. These attractive switches offer excellent tactile feedback, in either non-illuminated versions, with ring illumination or with symbol illumination.



Order Code  
**3975967**

**PTS645 SERIES – 6 MM  
TACT SWITCHES**


Designers for power tooling, set top and access boxes, instrumentation and general consumer products turn to C&K's PTS645V series of 6mm SMT side actuated tact switches to give their products the reliability and long life demanded by regular use.



Order Code  
**2320089**

**XB4BD21**


Harmony, 22mm Push Button, 2 position selector switch, black, maintained, 1 NO, 600 V.



Order Code  
**2518114**

**C3SS**


SELECTOR SWITCH#C3SS. Compact Selector Switch.



Order Code  
**2911783**

**SERIES 59**


The Series 59 is a range of miniature, momentary action, rugged panel sealed pushbutton switches. The Series is available with square or round bezel versions, with or without LED status illumination and in a variety of button types.



Order Code  
**4434444**

**PVK4 ANTI-VANDAL  
SELECTOR SWITCH**


Selector Switch Anti-vandal DPDT On-On 2A 24VDC, 2 Position return On-(On), Red Led illumination, Base voltage. Keylock Switch DPDT On-On-On 2A 24VDC, 3 Position maintains On-On-On.



Order Code  
**4067363**

### IP67 16MM ANTI-VANDAL SWITCHES

multicomp PRO

LED for easier sensor setup and troubleshooting, IP67 rated.



Order Code  
**3104419**

### IP65 22MM & 30MM ANTI-VANDAL SWITCHES

multicomp PRO

Stainless steel momentary & maintained flush top type switches with either a 22 or 30mm panel cut out diameter. Available with 1NO, 1NC, 2NO, 2NC, or 1NO 1NC and in three different colours; green, red and blue.



Order Code  
**3104506**

### SERIES MP0037 - VANDAL RESISTANT SWITCH



Manufactured from Stainless Steel, Bulgin's extensive range of vandal resistant security switches are designed with a high resistance to wear and tear, corrosion and harsh use in potentially hostile environments such as access control applications.



Order Code  
**560431**

### PBES16L SERIES - EMERGENCY STOP SWITCH



Illuminated (with or without lamp) Solder to wire or quick connect disconnect terminals Compact size (space saving) and Simple easy mounting. The PBES16 Series has a 20N actuation force for ruggedized applications to avoid accidental actuations and is also IP65 rated to withstand harsh environments.



Order Code  
**1706784**

### ST4 SERIES - SEALED TOGGLE SWITCH



The ST4 Series sealed toggle switches are rated IP68 for dust and moisture protection and offer single pole or double pole circuit functions with 2 or 3 actuator positions. Select from 10 different function options, three electrical rating options, 17mm metal or 22mm plastic bat actuator.



Order Code  
**3779928**

### IP67 19MM ANTI-VANDAL SWITCHES

multicomp PRO

Stainless steel momentary & maintained switches with a 19mm panel cut out diameter. Available as either 1NO 1NC or 2NO 2NC, with two different top types; flush or domed and in three different colours; green, red and blue.



Order Code  
**3104463**

### ILLUMINATED EMERGENCY STOP SWITCHES

multicomp PRO

IP65 E-Stop switches with Push-Pull operation and various contact configuration options including DPST-NC, DPST-NO, SPST-NC, SPST-NO, SPST-NO, SPST-NC.



Order Code  
**2748237**

### SERIES MPZ022 - PIEZO ANTI VANDAL SWITCHES



Unlike traditional switches Piezo switches have no moving mechanical parts making them extremely durable, withstanding millions of actuations and requiring little to no maintenance.



Order Code  
**2448383**

### PBES16N SERIES - EMERGENCY STOP SWITCH



Non-Illuminated. Solder to wire or quick connect disconnect terminals. Compact size (space saving) and Simple easy mounting. The PBES16 Series has a 20N actuation force for ruggedized applications to avoid accidental actuations and is also IP65 rated to withstand harsh environments.



Order Code  
**2833850**

### ST5 SERIES - HIGH TEMPERATURE TOGGLE SWITCH



The ST5 series toggle switch series can handle temperatures ranging from -10°C to 125°C. The ST5 offers a single pole or double pole circuit function with two or three positions and offers three electrical rating options.



Order Code  
**3861216**

### IP65 19MM ANTI-VANDAL SWITCHES

multicomp PRO

Stainless steel momentary & maintained prominent top type switches with a 19mm panel cut out diameter. Available as either 1NO 1NC or 2NO 2NC, and in three different colours; green, red and blue.



Order Code  
**3104469**

### SERIES MPI002 - VANDAL RESISTANT SWITCH



Manufactured from Stainless Steel, Bulgin's extensive range of vandal resistant security switches are designed with a high resistance to wear and tear, corrosion and harsh use in potentially hostile environments such as access control applications.



Order Code  
**1454959**

### MRSS SERIES - MINIATURE ROTARY SWITCH



The MRSS addresses manual programming applications. These high-quality rotary DIP switches are available in size 7.7mm square (horizontal) and 7.2mm square (vertical) for a wide range of possible applications like an elevator and security system.



Order Code  
**4077894**

### SERIES 45 - EMERGENCY STOP SWITCHES



Series 45 emergency stop switches offer reliable protection for both man and machine in the event of application malfunctions - on a factory conveyor belt, for instance. Thanks to intuitive operation and IP69K rated features, these switches perform safely and securely as often required in harsh, industrial environments.



Order Code  
**3648372**

### KJD17 SERIES HEAVY DUTY, INDUSTRIAL POWER PUSHBUTTON SWITCH



The KJD17 Series is a heavy-duty industrial pushbutton switch. Its electromagnet provides automatic safety protection against power outages and restarts. A PVC cap is available for dust and water protection. This heavy-duty industrial pushbutton switch has 2HP electrical ratings and is UL listed.



Order Code  
**4051016**

**LOOP CALIBRATOR****multicomp PRO**

Hand-held loop calibrator with stable performance and up to 0.02% high accuracy. Measures DC voltage/current and loop current, source/simulate DC current. Designed with auto stepping and ramping, the 25% stepping function can be used for fast linearity detection.


 Order Code  
**3014337**
**HUMIDITY METER, 0-100%RH (SPLIT-TYPE PROBE)****multicomp PRO**

The MP780117 from Multicomp Pro is a handheld temperature humidity meter, featuring split-type probe and probe holder.


 Order Code  
**3267129**
**MINI AC LEAKAGE CURRENT TESTER, 200A****multicomp PRO**

Miniature AC leakage current test meter with LCD display, 30mm shielded transformer jaw and a data hold function that allows for easy reading in dimly lit locations.


 Order Code  
**3126627**
**TORQUE, WRENCH, HANDLE, 105MM LENGTH****GEDORE**

Unique breaking mechanism, which gives the operator more time to react once the target torque is reached. Maximises productivity in restricted space applications through their compact slim line design. 20N-cm to 2Nm Torque range.


 Order Code  
**7090705**
**THERMOMETER, DUAL INPUT, J, K, T, E, S, R & N THERMOCOUPLES****multicomp PRO**

MP780832 is a dual input thermometer offering compatibility with type J, K, T, E, S, R & N thermocouples.


 Order Code  
**3777598**
**IMPEDANCE METER, 30VAC TO 600VAC, RCD****multicomp PRO**

The MP780430 from Multicomp Pro is a digital RCD (ELCB) tester, featuring LCD backlit screen, 30 to 600VAC AC voltage measuring range and 45 to 65hz frequency measuring range.


 Order Code  
**3394757**
**CARBON MONOXIDE METER****multicomp PRO**

This is a portable meter for detecting carbon monoxide gas. It can measure a wide range of CO concentrations with a short response time. Users can set up both audio and visual alarms.


 Order Code  
**3977121**
**FIBRE OPTIC TESTER, -50DBM-26DBM****multicomp PRO**

The MP700122 from Multicomp Pro is a handheld optical power meter, used to measure absolute optical power or relative loss of optical power through the length of fibre optic wires.


 Order Code  
**3267134**
**SOCKET BIT SET, 1/4"DRIVE, 37 PIECES****multicomp PRO**

This Rework Station has a wide range of adjustments of the airflow rate and temperature permitting soldering and disordering of SMDs; closed-loop control of temperature; automatic cooling mode - protects the heating element and handle when the power switch is turned off.


 Order Code  
**4077823**
**MICROBOX DRILL BIT SET****multicomp PRO**

20-piece drill set (0.3 - 1.6mm). This 20-piece set contains high quality HSS ground drills. Features a handy slide-top box which releases only the chosen drill.


 Order Code  
**3350693**
**EARTH GROUND CLAMP METER, 0.01OHM-1.2KOHM****multicomp PRO**

MP760838 is a clamp earth ground resistance tester, used for testing grounding resistance. This device can quickly and safely measure the grounding system without disconnecting circuit ground lines or the needs of auxiliary electrodes.


 Order Code  
**3779342**
**HANDHELD DIGITAL MULTIMETERS****multicomp PRO**

The MP730651 is a 1000V true RMS digital multimeter which offers high levels of reliability and security, with a 6000 count display. With a large screen, high resolution analogue pointer display, full scale overload protection and unique appearance design, the device is an extremely practical electrical measuring meter.


 Order Code  
**3677286**
**COMPACT WEIGHING SCALE, 100G****multicomp PRO**

Compact balance, suitable for weighing, parts counting, percentage weighing and accumulation of weight.


 Order Code  
**3583599**
**IR / INFRARED THERMOMETER, -20°C-400°C****multicomp PRO**

The MP780003 from Multicomp Pro is a miniature infrared thermometer, capable of temperature measurements between -20°C and +400°C (-4°F to 752°F) with an accuracy of ±2%.


 Order Code  
**3014335**
**JSS JOBBER DRILL SETS****multicomp PRO**

HSS 0.3mm drill bit set. HSS bits are hard, and much more resistant to heat than high carbon steel. They can be used to drill metal, hardwood, and most other materials at greater cutting speeds than carbon steel bits, and have largely replaced carbon steels.


 Order Code  
**3350695**



**SOUND LEVEL METER,  
30 DB, 130 DB, 1 DB,  
0.1 DB, 0 °C, 40 °C**

**Sefram**  
Data Acquisition Solution

Sound Level Meter, 30 dB, 130 dB, 1 dB, 0.1 dB, 0 °C, 40 °C.



Order Code  
**3527960**

**VIBRATION METER, 10HZ  
TO 1KHZ, 180 MM, 72 MM,  
32 MM**

**EXTECH**  
INSTRUMENTS

Dual Input Datalogging Thermometer w/ Alarm-Built-in PC interface with internal memory stores up to 16 data sets, 1024 maximum capacity With Programmable Hi/Lo audible alarm.



Order Code  
**2836699**

**VIBRATION METER,  
100MV/G, 10HZ TO  
1KHZ, 80KHZ, 0.241 MM,  
0.071 MM, 0.058 MM**

**FLUKE**

The Fluke 805 is not a vibration pen; it's a meter. A Fluke meter that eliminates the confusion of vibration screening and provides reliable measurements you can trust to make critical go or no-go maintenance decisions.



Order Code  
**2114858**

**BALL END HEX KEYS**

**multicomp PRO**

Ball end hex keys, sizes ranging from 1.5mm to 10mm and 0.05" to 5/16".



Order Code  
**3404769**

**VDE HEX KEY SETS**

**multicomp PRO**

This Multicomp Pro Key Sets is VDE Certified for live working up to 1000V AC / 1500V DC. All Keys are stored in the blow mold protection case. The range of keys is in within Metric Sizes : 2.5mm, 3mm, 4mm, 5mm, 6mm & 8mm.



Order Code  
**3404793**

**ESD PLIERS**

**multicomp PRO**

Range of 4 ESD pliers, with varying noses including round, snipe and chain.



Order Code  
**3577614**

**PLIERS - VARIOUS**

**DURATOOL**

Range of 4 pliers in varying spec, including 6" nipper, 6" diagonal and miniature versions of each 4.5".



Order Code  
**2444462**

**4-IN-1 SCREWDRIVER**

**Wera**  
So a Tool. Proper.

4-in-1 screwdriver with cross and slotted screwdriver bit and comfortable grip.



Order Code  
**2213713**

**3-PIECE TAP SETS**

**multicomp PRO**

This Multicomp Pro Tap Sets includes 3 piece set in a plastic box. Taps are made from premium quality HSS material. For cutting threads in steel & similar materials.



Order Code  
**3703249**

**RASPBERRY PI 4 DIN RAIL  
MOUNT ENCLOSURES**

**multicomp PRO**

No screws, no glue – just add your Raspberry Pi filling! Great way to industrialise your Pi 4 with room for a Pi HAT.



Order Code  
**3243146**

**PI-BOX PRO 4**

**multicomp PRO**

1U 19" Rack Fronts with rugged industrial enclosure kits for the Raspberry Pi4. Available in 1, 2 or 3 case units.



Order Code  
**3772120**

**MP-BED CABINETS**

**multicomp PRO**

UL approved ABS-HB lockable cabinets supplied complete with galvanised steel cak plate and mounting brackets. IP65 & IK08 protection makes them suitable for wide range of harsh, dry, dusty or high-humidity environments. Solid and Transparent door options.



Order Code  
**3263865**

**BENCH DIGITAL  
MULTIMETER, 3.75, 10 A,  
1 KV, 60 MOHM**

**metrix**

MX 5006 multimeter is equipped with classic functions voltage, current, resistance, continuity, diode test, this multimeter can also measure the capacitance, frequency, period and relative values expressed in value terms and as percentages.



Order Code  
**2945495**

**TECHNICIANS DIGITAL  
MULTIMETER, 110 SERIES,  
6000 COUNT, TRUE RMS,  
AUTO, MANUAL RANGE**

**FLUKE**

For general purpose electrical and electronic test requirements, the Fluke 115 True-RMS digital multimeter provides the perfect answer. Its simple operation, compact design and ease of use makes it perfect for quick verifications and field service use.



Order Code  
**1274599**

**DIGITAL MULTIMETER,  
FLUKE 170 SERIES, 6000  
COUNT, TRUE RMS, AUTO,  
MANUAL RANGE, 3.75 DIGIT**

**FLUKE**

The Fluke 175 digital multimeter has the features needed to find most electrical, electro-mechanical and heating and ventilation problems. They are simple to use and have significant improvements over Fluke's original 70 Series like, True-RMS, more measurement functions, conformance to the latest safety standards.



Order Code  
**3558678**

### TREND NETWORKS R180002 TONE GENERATOR FOR DATA CABLE TRACING



R180002 is a tone generator compatible with LanTEK IV, III & II, LanXPLORER Pro, SignalTEK, NaviTEK, PoE PRO & VDV II network testers. Tone Generator for Data Cable Tracing is equipped with comprehensive line testing features for troubleshooting and service verification.

Order Code  
**4132278**



### AIR QUALITY METER, -5 °C, 50 °C, 0.1% TO 90%, OPPM TO 9999PPM



A desktop air quality monitor for use in schools, office buildings, greenhouses, factories, hotels, hospitals, transportation lines or anywhere that where high levels of carbon dioxide may be generated.



Order Code  
**2836701**

### HUMIDITY METER, 10% TO 99% RELATIVE HUMIDITY, 5 %, 38 MM, 51 MM, 16 MM



Mini hygro-thermometer monitor ideal for monitoring temperature and humidity conditions in enclosed or open space environments. It helps gauge proper heat and moisture levels and it also records high and low extremes during the day.



Order Code  
**3018732**

### CLAMP METER, TRUE RMS, 600 A AC, 1 KV DC, 34 MM JAW OPENING MAX.



The Fluke 374 FC offers advanced troubleshooting performance and is part of the Fluke Connect family of wireless test tools.



Order Code  
**2507341**

### LIGHT / LUX METER, 400000 LX, 0.01 LX, 5 %, 150 MM, 75 MM, 40 MM



Light Meter-Measures light intensity up to 20,000 Foot-candles or 200,000 Lux with high resolution to 0.01 Fc/Lux.



Order Code  
**2836717**

### IP67 DIGITAL MULTIMETER, U1240C SERIES, 10000 COUNT, TRUE RMS, AUTO, MANUAL RANGE, 4 DIGIT



The U1242C is a 4-digit Handheld Digital Multimeter with an IP67 protection. It is designed for handheld users working in various environments. It can be capable to withstand up to 3m (10-feet) drop to suit harsh working environments.



Order Code  
**2499698**

### AIR QUALITY METER, -20 °C, 60 °C, 0% TO 95%, OPPM TO 40000PPM



EL-WEM+ is a Wi-Fi CO2 and Indoor Air Quality (IAQ) monitor from EasyLog is the ideal device for ensuring adequate levels of air quality at work and home.



Order Code  
**4059626**

### PEL104 POWER & ENERGY DATA LOGGER, 6 INPUT CHANNEL(S), MAINS- POWERED



PEL104 PLUS is a power logger, measures and records all the useful data for energy consumption diagnostics. The PEL104 can be used without cutting off the mains power supply. Voltage up to 1,000VAC/VDC and current up to 10 AAC / 5kADC.



Order Code  
**4051347**

### CLAMP METER, AC / DC, BUILT IN NON-CONTACT VOLTAGE (NCV) DETECTOR, TRUE RMS, 400 A



Compact clamp meter with non-contact voltage detector and type K is suitable for use in a range of applications akin to conventional handheld multimeters but with an integrated NCV detector.



Order Code  
**2836720**

### LIGHT / LUX METER, 200000 LX, 0.01 LX, 3 %, 130 MM, 63 MM, 38 MM



The Amprobe LM-120 light meter measures the visible light from fluorescent, metal halide, high-pressure sodium or incandescent sources. It is a portable, easy-to-use digital light meter designed for simple one-hand operation reading in Lumen (lux) or foot candle (fc) units.



Order Code  
**1671223**

### ANEMOMETER, 0.4M/S TO 20M/S, -10 °C, 50 °C, 0% TO 100%, 133 MM



Testo 410-1 measures air speed and temperature. It is ideal for quick spot checks at air outlets on account of its integrated measurement with the 40mm vane. Timed mean calculation is possible. In addition to air speed and temperature, testo 410-2 also measures air moisture.



Order Code  
**1471402**

### HUMIDITY METER, 5% TO 95% RELATIVE HUMIDITY, 0.1 °C, 194 MM, 60 MM, 34 MM



Temperature and humidity are two important factors in maintaining optimal comfort levels and good indoor air quality. Quickly and conveniently take accurate humidity and temperature readings with the Fluke 971.



Order Code  
**1147977**

### CLAMP METER, TRUE RMS, 400 A AC, 600 V DC, 30 MM JAW OPENING MAX.



FLUKE 325 is a true RMS clamp meter. True-rms measurements and optimised ergonomics make the 320 series clamp meter the best general troubleshooting tools for commercial and residential electricians.



Order Code  
**2215022**

### HUMIDITY METER, 10% TO 95% RELATIVE HUMIDITY, 3 %, 0.1 °C, 111 MM, 90 MM, 40 MM



The affordable standard testo 608-H1 hygrometer continuously measures humidity, temperature and dewpoint.



Order Code  
**3695797**

### SOUND LEVEL METER, 2000 COUNT, LCD, 40 DB, 130 DB, 2 DB, 0.1 DB



Dual Input Datalogging Thermometer w/ Alarm-Built-in PC interface with internal memory stores up to 16 data sets, 1024 maximum capacity with Programmable Hi/Lo audible alarm.



Order Code  
**2836698**

### KRAFTFORM KOMPAKT 62 SCREWDRIVER BIT SET



Pouch with 89-mm long bits. Includes 816 R Kraftform holder with Rapidaptor quick-release chuck and multi-component Kraftform handle for low-fatigue working. Suitable for manual and power tool operations; 33-piece.



Order Code  
**7621221**

### 90 22 10 BK BIX PIPE AND TUBE CUTTER



Cuts pipes quickly, cleanly and without shavings. Cuts unreinforced plastic pipes from Ø 20mm to 50mm with a wall thickness of up to 2.4 mm or soft plastic pipes and those with foamed cores from Ø 20mm to 50mm with a wall thickness of up to 3.5mm.



Order Code  
**3779550**

### SB 369 SZ 13B BALL END HEX KEY SET



The SB 369 SZ 13B is a 13-piece ballpoint hexagonal L-Key Set in ProStar. The set with manganese-phosphated chrome-vanadium steel, through hardened blade, space saving ProStar allows the easy removal of each key without moving any others.



Order Code  
**3584598**

### 440007 VOLTAGE MAINS TESTER



VDE approved mainstester for assured safety. Neon light for high visibility. Blade: 3 x 65 mm.



Order Code  
**1098821**

### SOLUS 1000 PROTECTIVE GLASSES



Solus™ 1000 Series Eyewear with Scotchgard™ Anti-Fog Coating. Scotchgard™ Anti-Fog coating is designed for working in challenging situations such as hot & humid conditions, indoor & outdoor work, physically demanding tasks and climate-controlled areas.



Order Code  
**2675851**

### ZYCLOP SPEED RATCHET SET



Incredibly compact set arrangement with many tools in a minimum space. The Wera Zyklop Speed ratchet combines the advantages of five different types of ratchet in one. "Take it easy" Tool Finder with colour coding according to sizes.



Order Code  
**2426004**

### 16 95 01 SB ERGOSTRIP® DISMANTLING TOOL



For fast and precise stripping of all common round and damp-proof installation cables, data cables and coax cables.



Order Code  
**2545679**

### T3442M 5 SOFTECH 5M METRIC TAPE MEASURE WITH LOCK AND PAUSE BUTTON



Tough ABS plastic body for damage protection. Full lock & pause buttons for control. Belt clip for convenience. True zero hook for accurate external & internal measurements.



Order Code  
**1521873**

### 8710E FFP1 RESPIRATOR. PACK OF 20.



For use against dusts found in a wide variety of industrial and other work situations, requiring FFP1 level protection. Features two self-adjusting straps and a cushioned nose area.



Order Code  
**1569357**

### PELTOR X EAR DEFENDERS



Offering 27, 39 or 40.3dB attenuation, the Peltor X series offers Moderate attenuation ideal for low-to-moderate noise exposure. Noise exposure.



Order Code  
**2675823**

### 12 42 195 SELF ADAPTING WIRE STRIPPER



Fully automatic adjustment to all single-, multi- and fine-stranded conductors with standard insulation throughout the entire capacity range from 0.03 to 10.0 mm².



Order Code  
**8156921**

### 7000SK65ESD MICRO BIT SET, 65 PIECES



The 7000SK65ESD is a 65-piece Microbit Set with ESD precision handle. Contents - 45 x Micro bits, 16 x Micro sockets, 4mm Driver, ESD turning handle, Bit holder, Adapter, Ratchet.



Order Code  
**2469986**

### T3064B DRILL BIT SET - METAL, WOOD & MASONRY



The T3064B is a Combined Drill Bit Set for fast and efficient drilling of wood, metal and brick. Contents: For Brick: 4, 5.5, 6.5, 7, 8 mm. For Metal: 2, 3, 4, 5, 6, 8 mm. For Wood: 4, 5, 6, 8, 10 mm.



Order Code  
**2494928**

### ES-01-001 EARPLUGS, PACK OF 250 PAIRS



The ES-01-001 is a regular size yellow uncorded Neon Earplug made of soft, slow-recovery foam (polyurethane) for excellent noise reduction and comfort. A plug that gives evenly distributed pressure allowing flexibility and a good seal with optimum comfort. Brightly coloured earplug is easy to spot in compliance checks.



Order Code  
**1373100**

### PU COATED NYLON GLOVES



PU Coat Nylon Gloves offer fantastic fit making them perfect when you need great sensitivity and dexterity. With a PU coating for extra grip, these gloves are ideal for general and precision tasks.



Order Code  
**3498238**



## 2.35MM SHANK DRILLS

**multicomp** PRO

HSS 2.35mm shank drill bit set, 0.5mm 3-piece. HSS drill bits for precision drilling work in wood, metals and plastics.



Order Code  
**3350707**

## INDUSTRIAL HIGH POWER HEADLIGHT

**UNILITE**

The PS-HDL9R is a 750 lumen LED ultra bright head torch and is operated via an easy twist side dimmer switch. Its rear battery pack is powered by either 1 or 2 lithium-ion rechargeable 18650 batteries and contains a rear red warning light.



Order Code  
**2853447**

## 60 DRAWER STORAGE CABINET

**raaco**

Cabinet with drawers of type 150-00. Each drawer can be divided into 4 compartments using dividers (extra accessory).



Order Code  
**137386**

## A2 STAINLESS STEEL WASHERS

**Fastenings**

Stainless steel product does not rust or tarnish and gives a more aesthetically pleasing finish. It has a long-life cycle and is also more environmentally friendly as it is 100% recyclable.



Order Code  
**4157329**

## TORQUE DRIVER SET

**Wera**  
SA + 7000 P3862

Wera torque screwdriver set. Two high precision torque screwdrivers with variable torque settings, one torque screwdriver with Kraftform pistol handle for the transfer of especially high torque. Includes a bit assortment in high quality and stable plastic case.



Order Code  
**1337766**

## HEAT GUN, 1.8KW, EU/UK PLUG

**multicomp** PRO

MP003076 from Multicomp Pro is a 1800W heat gun with UK plug. Includes nozzle set and sturdy carry case. CE/GS/EMC approved.



Order Code  
**3972165**

## 200 W LED FLOODLIGHT

**LEDVANCE**  
LEDVANCE

Floodlight with a wide beam, asymmetric light distribution for various application areas.



Order Code  
**3758935**

## VELCRO® ONE-WRAP REUSABLE TIES ROLL

**VELCRO®**

Get organised with VELCRO® Brand ONE-WRAP® Reusable Ties! Perfect for indoor and outdoor use, this pack contains a black 5m roll that can be cut to the size you need. Perfect for use at home, on site or in the workplace, use these wide VELCRO® Brand ties to keep larger wires and cables tidy.



Order Code  
**3499709**

## A2 STAINLESS STEEL NUTS

**Fastenings**

Stainless steel product does not rust or tarnish and gives a more aesthetically pleasing finish. It has a long-life cycle and is also more environmentally friendly as it is 100% recyclable.



Order Code  
**4156221**

## JOKER WRENCH SET

**Wera**  
SA + 7000 P3862

High-quality combination ratchet wrench set by Wera: everything that a wrench has to be able to do. And a whole lot more. The new generation of combination ratchet wrenches. 11-piece set in a robust pouch. Suitable for hexagon bolt heads or nuts.



Order Code  
**2362592**

## T-HANDLE HEX KEYS

**multicomp** PRO

T-handle hex keys, ranging in sizes from 2mm to 6mm.



Order Code  
**3404756**

## PRECISION BALANCE PCB

**KERN**

PCB 350-3 is a compact laboratory balance. It features PRE-TARE function for manual subtraction of a known container weight, useful for checking fill-levels. With the recipe function you can weigh the different ingredients of a mixture.



Order Code  
**3811484**

## A2 STAINLESS STEEL SCREWS

**Fastenings**

Stainless steel product does not rust or tarnish and gives a more aesthetically pleasing finish. It has a long-life cycle and is also more environmentally friendly as it is 100% recyclable.



Order Code  
**4156260**

## KRAFTFORM KOMPAKT W1 MAINTENANCE KIT

**Wera**  
SA + 7000 P3862

Wera Kraftform Kompakt W1 maintenance Kit includes the most important screwdriving tools for maintenance jobs both indoors as well as outdoors. It is supplied in a surface-protecting, highly robust textile box. It has a compact and light weight design for simplified mobility.



Order Code  
**2493787**

## TOOL-CHECK PLUS SOCKET & BIT SET

**Wera**  
SA + 7000 P3862

Combination tool consisting of a ratchet, bits, sockets and holder in a minimum of space. Ideal as a universal companion for a whole host of screwdriving applications.



Order Code  
**2425994**

### DOWSIL 3140 RTV COATING



One-part, translucent adhesive or coating with good flowability, high elongation value for vibration/mechanical shock dampening and low stress, good flame resistance, UL, IPC and Mil Spec tested, contains UV indicator.

Order Code  
**536738**

### DOWSIL 732 MULTI-PURPOSE SEALANT



General-purpose acetoxy RTV sealant for industrial sealing and bonding applications.

Order Code  
**2289628**

### AS1803 1 PART NON-CORROSIVE NEUTRAL CURE ADHESIVE SEALANT



This is a non-corrosive, neutral cure, 1-part, RTV (Room Temperature Vulcanising) silicone adhesive sealant. It is one in a range of Acetone cure products which are solvent free.

Order Code  
**8497400**

### 3M COPPER FOIL TAPE 1181



3M Copper Foil Tape 1181 consists of a 1-ounce rolled copper foil backing and an electrically conductive, pressure-sensitive acrylic adhesive. This tape is supplied on a removable liner for easy handling and die-cutting. It has excellent solder ability.

Order Code  
**1208991**

### 3M POLYIMIDE FILM TAPE 5413



3M Polyimide Film Tape 5413 with DuPont™ Kapton® polyimide film and silicone adhesive used for PCB solder masking and other high temperature applications. This product is amber colored and 2.7 mil (69 microns) thick.

Order Code  
**3227416**

### 3M SCOTCH SUPER 33+ VINYL ELECTRICAL TAPE



Electrical Insulation Tape, PVC (Polyvinyl Chloride), Black, 19.05 mm x 20.12 m, premium grade, super 33+ 7mil thick, all-weather vinyl insulating tape.

Order Code  
**143078**

### TESA 51408 FLAME RETARDANT KAPTON® HIGH-GRADE MASKING TAPE



tesa® 51408 (Kapton® backing with silicone adhesive) is a highly temperature-resistant and high grade adhesive tape.

Order Code  
**1775817**

### MOLYKOTE 4 ELECTRICAL INSULATING COMPOUND



A moisture-proof seal for transportation and industrial applications, including ignition systems, sealed electrical connectors, disconnect junctions and terminals where a semi-flowable consistency material is appropriate.

Order Code  
**537019**

### MOLYKOTE 33 MEDIUM EXTREME LOW TEMPERATURE GREASE



Molykote 33 is a lubricating grease for metal/metal, metal/plastic combinations involving slow to medium-fast movements and light load, especially over a wide range of temperatures.

Order Code  
**3605776**

### MOLYKOTE 55 O-RING GREASE



Silicone-based material that helps ensure positive lubrication and sealing by slightly swelling rubber O-rings and seals. This product is heat-stable and oxidation-resistant.

Order Code  
**3605778**

### 847 CARBON CONDUCTIVE ASSEMBLY PASTE



847 is a carbon-filled electrically conductive paste. It improves electrical connections between non-moving parts in the same way a thermal paste improves thermal connections. It will not separate, bleed or migrate.

Order Code  
**2811926**

### LOCTITE 222 THREADLOCKING ADHESIVE



Threadlocking Adhesive - low strength. Easy disassembly. Suitable for all metal threaded assemblies.

Order Code  
**537056**

### LOCTITE 406 INSTANT ADHESIVE



LOCTITE 406 is a low viscosity, fast-curing instant adhesive that is ideal for bonding plastics and elastomeric materials where very fast fixturing is required.

Order Code  
**1676331**

### LOCTITE 5145 ADHESIVE SEALANT



Loctite 5145 is a translucent, non-slumping, room temperature-vulcanising liquid alkoxy silicone adhesive and sealant specifically formulated for bonding, sealing and coating electronic devices in military, automotive and industrial electronics.

Order Code  
**3072393**

### DOWSIL 3145 RTV MIL-A-46146 ADHESIVE / SEALANT



One-part, moisture RTV, non-flow, high strength, UL and Mil Spec.

Order Code  
**8793492**

# INDUSTRIAL EMBEDDED COMPUTERS

Enabling Next Generation of Industrial Applications

We offer the latest cutting-edge industrial embedded computers designed for use in today's most demanding industrial IoT and edge computing environments.

To give you peace of mind, our industrial computers help reduce downtime and prevent failures. Embedded computers from industry-leading suppliers are available in a variety of form factors that are ideal for space-constrained implementations and are engineered for performance and reliability.

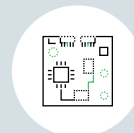
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Rugged for harsh environments



Multiple connectivity



Compact form factors



Compliance and support



Long time availability



Extended I/Os



Industrial Shields

intel.

KUNBUS  
Industrial communication

NXP



Raspberry Pi®

XILINX.



## RASPBERRY PI COMPUTE MODULE 4 IO BOARD



The Raspberry Pi Compute Module 4 IO Board (CM4IO) is designed to assist in the development of products that make use of the Raspberry Pi Compute Module 4.



Order Code  
**3563491**

## RASPBERRY PI COMPUTE MODULE 4, 8GB RAM, 32GB EMMC, WITH WIFI AND BLUETOOTH



Raspberry Pi Compute Module 4 harnesses the compute power of the popular Raspberry Pi 4 Model B, bringing it to a smaller form factor suitable for integration into products.



Order Code  
**3585683**

## ARDUINO PORTENTA H7



Program it with high-level languages and AI while performing low-latency operations on its customisable hardware.



Order Code  
**3404698**

## ARDUINO PORTENTA X8



The groundbreaking Portenta X8 is a powerful, industrial-grade System On Module (SOM) with Linux OS preloaded onboard, making it a plug-and-play solution capable of running device-independent software.



Order Code  
**3994324**

## PORTENTA MACHINE CONTROL BOARD



The Portenta Machine Control is a fully-centralised, low-power, industrial control unit able to drive equipment and machinery.



Order Code  
**3775892**

## BEAGLEBONE BLACK



BeagleBone Black is a development platform for developer. Boot Linux in under 10 seconds and get started on development in less than 5 minutes with just a single USB cable.



Order Code  
**3520081**

## BEAGLEBONE BLACK INDUSTRIAL



BeagleBone Black Industrial answers the need for an industrial rated single board computer with extended temperature range.



Order Code  
**3520083**

## LATTEPANDA V1, 4GB/64GB, WIN10 ENTERPRISE



4GB RAM LattePanda Windows 10 mini PC with 64GB eMMC memory. This model of LattePanda V1 - 4GB/64GB includes an activated edition of Windows 10 Enterprise LTSC.



Order Code  
**3517829**

## LATTEPANDA 2 ALPHA 864S, 8GB/64GB, WIN10 PRO



LattePanda 2 Alpha 864s (Win10 Pro activated) is a high-performance, pocket-sized SBC (single board computer) with low power consumption that runs full Windows 10 or Linux operation system.



Order Code  
**3517855**

## LATTEPANDA 3 DELTA BOARD, 8GB/64GB, WIN 10



LattePanda 3 Delta 864 - The Fastest Pocket-sized Windows/Linux Single Board Computer with Win10 Enterprise License (8GB/64GB).



Order Code  
**3954474**

## NVIDIA JETSON NANO MODULE, 4GB/16GB



The NVIDIA® Jetson Nano™ module is opening amazing new possibilities for edge computing. It delivers up to 472 GFLOPS of accelerated computing, can run many modern neural networks in parallel. The system-on-module is powered by the NVIDIA Maxwell™ GPU with 4 GB of memory, which allows real-time processing of high-resolution inputs.



Order Code  
**4126467**

## NVIDIA JETSON XAVIER NX MODULE, 8GB/16GB



With 8GB RAM and 16GB EMMC the NVIDIA® Jetson Xavier™ NX brings supercomputer performance to the edge in a compact system-on-module (SoM) that's smaller than a credit card. It delivers up to 21 TOPS for modern AI workloads with NVIDIA's unified software architecture.



Order Code  
**4126468**

## NVIDIA JETSON XAVIER NX MODULE, 16GB/16GB



With 16GB RAM and 16GB EMMC the NVIDIA® Jetson Xavier™ NX brings supercomputer performance to the edge in a compact system-on-module (SoM) that's smaller than a credit card. It delivers up to 21 TOPS for modern AI workloads with NVIDIA's unified software architecture.



Order Code  
**4126469**

## NVIDIA JETSON XAVIER DEVELOPER KIT, 8GB/16GB



With 8GB RAM and 16GB EMMC the reComputer J20-series are compact edge computers built with NVIDIA advanced AI embedded systems: Jetson Xavier NX and Seeed reference carrier board (J202).



Order Code  
**4122509**

## EDGEBOX-RPI-200 - INDUSTRIAL EDGE CONTROLLER 4GB RAM, 16GB EMMC, WIFI



EdgeBox-RPI-200 series are all-in-one Raspberry Pi-based industrial edge computing controllers, combining multiple industrial purposes.



Order Code  
**4126474**

## TRI-RATED CABLE

**multicomp** PRO

The PP001188 from Pro Power is a single core, black colour tri-rated flexible PVC equipment wire supplied in continuous length in 1 metre multiples. This high temperature, flame retardant wire is designed to use in switch control, relay and instrumentation panels of power switchgear.


 Order Code  
**2528084**

## UL HOOK-UP WIRE

**multicomp** PRO

A comprehensive range of UL approved Hook-Up wire available in multiple colours and wire sizes. Choose between UL 1007, 1015, 1061, 1569 and 1571.


 Order Code  
**2986723**

## INDUSTRIAL AUTOMATION AND PROCESS CONTROL CABLES

**multicomp** PRO

Industrial range of SY, CY & YY control cables, and PUR, SERVO, DeviceNet and BUS networking cables. Meets VDE, IEC, DIN EN, BS EN standards.


 Order Code  
**2827538**

## OLFLEX 110 MULTICORE CONTROL CABLE

Multicore Cable, Ölflex® YY, Unscreened, 3 Core, 19 AWG, 0.75 mm², 164 ft, 50 m.


 Order Code  
**1179042**

## ETHERLINE CAT5E NETWORKING CABLE

Networking Cable, Etherline, Screened, Cat5e, 26 AWG, 0.14 mm², 328 ft, 100 m.


 Order Code  
**1285779**

## PRO-MET CY CONTROL CABLE

Multicore Cable, Pro-Met®, CY Control, Screened, 3 Core, 15 AWG, 1.5 mm², 328 ft, 100 m.


 Order Code  
**2947503**

## ECOFLEX PUR MULTICORE CABLE

Multicore Cable, EcoFlex® PUR, Unscreened, 3 Core, 10 AWG, 5.21 mm², 100 ft, 30.5 m.


 Order Code  
**2945868**

## RS-485 CABLE

Multipair Cable, Computer, Screened, 2 Pair, 24 AWG, 0.2 mm², 498.69 ft, 152.4 m.


 Order Code  
**961735**

## MACHFLEX 350 SY CABLE

Multicore Cable, Screened, 7 Core, 1.5 mm², 164 ft, 50 m.


 Order Code  
**2912062**

## HARNESS BOARD ELASTIC RETAINER

Harness Board Elastic Retainer, Screw Mount, Black Nylon 6.6, For 31.75mm Max. Bundle Dia.


 Order Code  
**2764500**

## SINGLE WALL HEAT SHRINK TUBING

Heat Shrink Tubing, Flame Retardant, 2:1, 0.188", 4.8 mm, Black, 29.5 ft, 9 m.


 Order Code  
**1210566**

## HEAT SHRINK EDGING

Grommet, Strip, 1.2 M Long, Self-Adhering, Heat Shrink Edging, PO (Polyolefin), 3.25 mm.


 Order Code  
**769198**

## ENVIROFLEX RG58 COAXIAL CABLE

Enviroflex\_B58 basic cable enables users to quickly switch from fluorine/PVC-containing cables to halogen-free alternatives. The materials used in the cable design both for the dielectric and for the jacket does not include any halogens.


 Order Code  
**2817364**

## METAL CONTENT CABLE TIE (MCT)

Cable Tie, Nylon 6.6 (Polyamide 6.6), Blue, 150 mm, 3.5 mm, 35 mm, 30 lb.


 Order Code  
**1503047**

## HA67 HEAT SHRINK TUBING

Adhesive Lined Heat Shrink Tubing, Heavy Wall, 6:1, 0.748", 19 mm, Black, 4 ft, 1.22 m.


 Order Code  
**1729401**

## TRIM TRIO® WATERPROOF CONNECTORS



The UTG61412PN from Souriau is a plastic circular cable plug connector housing with 12 pin contacts. This connector has shell size of 14. UTG series connectors are economical lightweight and have robust metal locking system.



Order Code  
**105320**

## M12 SENSOR CONNECTORS



Connector System for machine industrial automation and control applications provide a solution for the increasing need for sensor connections that safely and reliably ensures the communication in industrial environments.



Order Code  
**2627771**

## M12 PUSH-PULL CONNECTORS



The SACC-M12MS-8CON-PG9-M is a 8-position straight M12 Plug-in Connector with Au plated CuZn contact, PA carrier contact and grip body, zinc die-cast/nickel-plated knurls and NBR sealing. Flexible connectors for on-site assembly.



Order Code  
**2308659**

## DT SERIES AUTOMOTIVE



DT series receptacle connector designed for cable to cable and cable to board applications. The DT connector is used in harsh environment applications where even a small degradation in connection may be critical.



Order Code  
**2564102**

## MINITEK PWR 5.7



10146997-10000LF is a Minitek®Pwr 5.70mm, right angle through hole header. It is a flexible and comprehensive solution for power application with high current rating up to 23A per contact and wire gauge range from 16 to 12AWG for wire-to-board application.



Order Code  
**3497405**

## 900 SERIES BUCCANEER



The PXA911/07/P from Bulgin is a Buccaneer 7 Pole flex cable connector plug.



Order Code  
**3844596**

## APD SERIES CONNECTORS



The APD-1BS-K2 is a 4-way high-power Plug with silver-plated copper-alloy contacts. This APD series plug has a PBT housing and a PA 66 coupling nut.



Order Code  
**2059907**

## NANO-CHANGE SERIES CONNECTORS



The N03MA03124 is a 3-pole straight male Field Attachable Connector with gold-plated brass contacts. The Nano-Change® (M8) industry-standard connector is rugged, space-saving and sealed connector for miniature sensors and actuators in industrial control applications.



Order Code  
**1606734**

## MINIFIT CRIMP



39-00-0078 is a Mini-Fit female crimp terminal with tin (Sn) over copper (Cu) plated brass. It mates with Mini-Fit Jr. receptacle housing 5557, Mini-Fit BMI slide and lock panel mount 44516, Mini-Fit BMI panel mount receptacle housing 42474, 43760. Suitable for power, wire-to-board, wire-to-wire applications.



Order Code  
**2725176**

## HAN-MODULAR E SERIES



Han-Modular series of Heavy Duty connector is rated up to 16A and 400V and up to 500 mating cycles with silver plating contacts.



Order Code  
**2382688**

## CPC SERIES 1



Rugged, cost-effective connectors that can be used to provide power input and output to and from virtually any device. The use of CPC cable assemblies enable customers to reduce installation time, meet harsh and space-saving requirements.



Order Code  
**592882**

## CAPLOCK & PLUGLOCK LOCKING ACCESSORIES FOR 38999, RJFTV, USBTV CONNECTORS AND CAPS



CapLock is a locking ring that allows a Cap to lock onto a receptacle to secure the port access. PlugLock is a locking ring that allows a plug to lock onto a receptacle to secure the plug to receptacle connection.



Order Code  
**3994191**

## MATE N LOK SOCKET CRIMP



926895-1 is a universal MATE-N-LOK series socket contact. This contact base material is brass with tin plating and suitable for crimp termination.



Order Code  
**285407**

## MICROFIT HEADER



43045-1000 is a 43045 series Micro-Fit 3.0mm connector system. Typical applications are consumer, washers and dryers, freezers, gaming machines, printers, refrigerators, scanners, security systems, vending machines, white goods, telecommunications/networking-routers and switches.



Order Code  
**1012255**

## METRI-PACK 650



Aptiv Metri-Pack series of automotive connectors feature sealed contacts with current ratings up to 46A ideal for many automotive and industrial end use applications.



Order Code  
**2888010**



## HAN MODULAR COMPACT



Han Modular series of heavy duty connector hood features a side cable entry mounting, die-cast zinc with nickel-plated finish and is for use in -40°C to +125°C temperature range.



Order Code  
**2475594**

## MAGNETIC 5A CONNECTORS



The MP magnetic connectors are a fantastic solution if you require a 2-contact connector, Nd-Fe-B magnetic connectors able to withstand at least 5000 mating cycles. Cable connector available as in-line or right angle and comes with 2m 2 core cable.



Order Code  
**3369709**

## MINI I/O CONNECTORS



Rectangular connectors that transfer data between devices in industrial applications. Supporting Power over Ethernet (PoE), PoE+ and PoE++ (IEEE802.3at and IEEE802.3bt) and Data rates from 10Mbps up to 10Gbps.



Order Code  
**3398060**

## IP67 RJ45 / USB CONNECTORS



For data communication in harsh environments. CONEC has developed USB and RJ45 connectors in plastic, metalized plastic or full metal shells with IP67 protection IP67 for use where dust and spray water occurs.



Order Code  
**4070147**

## ERBIC FIELD BUS INTERFACE



Connectors for CAN bus and Profibus systems. High Interference resistance. Compact size. 9-pin 2.54mm pitch D-Sub.



Order Code  
**4050002**

## INDUSTRIAL ELECTRICAL CONNECTORS

A comprehensive range of CEE Connectors available in IP44 & IP67 variants. Ruggedised Male & female options in 3, 4, & 5 poles. Complies to CEE/IEC 60309-1/60309-2. Suited to many applications including, Industrial, Factory & Warehousing, Machinery, Workshops plus many more.



Order Code  
**4145221**

## IP67 MP-Y13 / MP-Y21 BAYONET POWER CONNECTORS



A robust range of connectors incorporating bayonet couplings for quick and easy connection/disconnection. Panel mount, cable mount and in-line cable mount options allow versatility. The MP-Y13 series offers up to 13A / 250V and MP-Y21 series up to 30A / 500V.



Order Code  
**3369849**

## BRAD INDUSTRIAL ETHERNET CONNECTORS



Bayonet Style and threaded RJ-45 connectors designed to Ethernet specifications. Provides reliable connectivity in harsh industrial automation environments.



Order Code  
**2612381**

## MACHINED MICRO-D SPACE SAVING CONNECTOR TECHNOLOGY



Machined Micro-Miniature Interconnect for Cables, Boards and Panels Hand Held & Portable Devices, Wireless Base Stations, Military Telematics, DC/DC Power Supplies, Test & Measurement, Industrial Robotics.



Order Code  
**3651974**

## WATERPROOF IP67 USB TYPE C CONNECTOR



6 contact USB charging connector. For IP67 performance sealing gasket can be ordered separately or in a bundle with connector (USB4715-GF-A-KIT).



Order Code  
**4046871**

## HEAVY DUTY CONNECTORS



A full range of heavy-duty inserts, housings, crimps and accessories. These connectors have been created for applications that are subjected to harsh environments or where high vibration can cause standard connectors to fail. Ideal for food & beverage manufacturing, packaging machines, conveyor belt systems, railway, oil & gas.



Order Code  
**3957705**

## IP67 M12 PUSH-PULL CONNECTORS



The MP M12 push-pull connectors are a range of chrome-plated brass connectors that are both solid enough to be used within tough environments whilst also being aesthetically pleasing. 12mm panel cutout size, push-pull coupling, 2-9 poles, rated up to 13A / 250V, minimum of 500 mating cycles.



Order Code  
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## IX INDUSTRIAL® ETHERNET INTERFACE



Miniaturised alternative to the RJ45 for IIoT and industry 4.0. Smaller and more robust IP20 plug-in connection which can still produce Cat 6A performance for 1/10Gbit/s Ethernet.



Order Code  
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## SINGLE PAIR ETHERNET IP20 CONNECTORS



Single Pair Ethernet (SPE) connectors for Industrial applications bring direct Ethernet connectivity to peripheral devices like sensors, actuators, and vision system cameras that operate at speeds up to 1Gb/s.



Order Code  
**3794462**

## IP68 SEALED RJ45 BUCCANEER CONNECTORS



Dust and waterproof sealing when mated. Screw coupling. Data rate up to 100MHz. Good chemical resistance, flame retardant. High noise immunity and EMI protection.



Order Code  
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