MRO Solutions

May 2020

Keeping your business on track

RS is your partner you can rely on in these uncertain times.

my.rs-online.com

Supporting you everyday, we're by your side

We carry more than 600,000 industrial and electronics products from over 2,500 leading suppliers. From the niche specialists to the big global brands, we stock every brand you're likely to have heard of, and many more besides. This includes our own-brand RS PRO, which offers more than 50,000 products.

With fast and easy access to a broad range of products, reliable delivery, expert technical advice and solutions to streamline your processes, we'll help you keep things running smoothly.

Customer Service

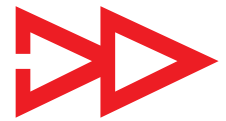Take advantage of our customer support, technical advice & dedicated account managers.

Competitive Quotes

Local team dedicated to quoting you the best price possible for all your orders.

Flexible Delivery

Free next-working-day, scheduled deliveries, or plan ahead with advance orders.

Easy Ordering

Order online, by phone, by fax, or on your mobile phone via our easy-to-use website.

From same day delivery to procurement solutions, visit RS Online to connect to a wide range of helpful services to increase productivity, save you time and money.

How can we help you today?

Order Your Way!

- **Online** at my.rs-online.com
- **On the go** with the RS Online mobile site
- **On the phone** at +603 5021 5888
- **Email** orders.my@rs-components.com

Customer Services & Technical Support

Mon - Fri
T: **+603 5021 5888**
Email **tech.my@rs-components.com**

Welcome

We know things are changing rapidly across the globe and we are committed to helping support you. We are putting the safety of our people first whilst ensuring as little disruption as possible to our customers.

Our priority is to maintain continuity of service and supply of products to our customers and we've invested in extra stock so you can keep things running smoothly. With fast and easy access to a broad range of products, reliable delivery, expert technical advice and solutions to streamline your processes, we're by your side.

As a distributor we know the importance of logistics and having an efficient and effective warehousing operation. We understand the products that are needed day-to-day to keep warehouses running smoothly and safely.

We have invested in additional stock in our Singapore warehouse of our top selling products, including our own brand RS PRO on , ensuring we continue to be able to provide the products you need.

In this edition we also highlighted the commentary from our APAC, VP Strategy & Commercial on Singapore Business Review talking about the impact from COVID-19 on Supply Chain, .

Plus don't forget to grab a bargain with 10% off Phoenix Contact on all products on

Regards,

Eileen Yap

General Manager
RS Components Malaysia

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Terms & Conditions

Keeping MRO on Track

Improving MRO practice in the rail industry could significantly help companies meet their efficiency goals

The Australian Rail industry employs more than 142,000 people directly and indirectly and is the sixth-largest network in the world. Rail in Australia contributes over $26 billion to the national economy and is at the forefront of innovation, productivity and world's best practice.

Australian rail continues to push the limits of efficiencies for business across the world. To continue to be a competitive player within the global market place, the rail industry must take advantage of any opportunities to achieve efficiencies, and one avenue is around the Indirect Procurement category of Industrial supplies for Maintenance, Repair & Operations (MRO).

Research by RS Components shows that the price of MRO products only reflects a third of the total cost. When you take into account the time taken to place an order, holding stock, depreciation and other factors, the cost is three times that of the visible product price.

Reducing inefficiency

As such, it's important to look at how rail firms can reduce inefficiency in the MRO process as they look to hit their targets. The vital link is the alignment of your procurement strategy with proven suppliers, according to Scott Philbrook, Head of Corporate Accounts ANZ, RS Components. "Best practice is to look at all of your options for effective cost management and reducing your supplier base for Indirect MRO needs," he explains. "To prepare for this, companies need to conduct a thorough analysis of the different categories and value of their Indirect MRO spend, and then align across their organisation to determine the critical needs and processes within those areas".

"A consistent theme across the commercial meetings that I attend with leading organisations operating in the Australian Rail Industry is the challenge to get the balance right between a competitive price position to meet the needs of the procurement teams and ensuring the supply of compliant materials with the required urgency to help in the elimination of downtime". Both areas are just as important in the development of your MRO strategy, Philbrook points out. Price is clearly not the only factor that should be considered, but by reducing the number of suppliers to a select trusted group, it's possible to achieve competitive prices while also ensuring the overall quality of the parts being bought and essential risk mitigation to enable continuation of services.

"One of the massive risks in MRO is 'maverick' spend," says Helen Alder, Head of Knowledge at the Chartered Institute of Procurement and Supply (CIPS). "There's the chance that buying parts from a non-approved supplier will cost more, and possibly take longer to source, but the biggest issue is the quality of the parts. It's not unknown for engineers or other employees to search the internet and buy parts that turn out to be counterfeit, or that don't meet the required quality levels.

"Similar to consumers, there are people who will look up items online, see a 'too good to be true' price and not consider the possibility that it's counterfeit. The only way to avoid this is to work with trusted, pre-qualified suppliers that can prove the quality of everything they sell."

Communicate risks

The challenge for procurement departments is to help communicate the risks of maverick spending and the benefits of using trusted suppliers. Alder believes that the answer is for rail firms to make use of technology through eProcurement to make the process as simple as possible.

"There's no excuse in this day and age to not have a centralised list for regular MRO parts so that employees have one approved source for this sort of regular purchase," she explains. "This should cut down on the time it takes to order the parts, you know that there is no quality risk and the business as a whole can monitor spending more closely.

"Procurement and Engineering need to work together to determine the material listing that will form the central part of the supply contracts. Once these are finalised, it is imperative that a simplified and efficient way to capture site demand is implemented."

Suppliers have an important role in this process too. As Philbrook points out, companies such as RS Components have up to date information about what their customers order regularly, and they have industry sector knowledge that can help advise on the correct products, and in some cases, provide a technical equivalent substitute product that will save money for the rail company.

"As a company, we provide industry specific solutions using our global network of manufacturers to best service the needs of the rail industry," he says. "By understanding those needs, it allows the engineers to focus on more important activities in their operations and demonstrates our capabilities as a trusted partner for MRO requirements."

Another area that suppliers can help rail companies with is stockholding. Many companies are still in the habit of hoarding MRO parts in their warehouses, which costs money in terms of tying up working capital, space, and then distribution of these parts to engineers. "Understanding what stock is critical to your business needs which therefore should be stocked at correct levels and what stock is held for convenience. It is possible that next-day delivery, from someone like RS, could help cover the stock held for convenience and allow for significant savings in working capital and costs associated in the management of inventory

"Understanding what stock is critical to your business needs which therefore should be stocked at correct levels and what stock is held for convenience. It is possible that next-day delivery, from someone like RS, could help cover the stock held for convenience and allow for significant savings in working capital and costs associated in the management of inventory."

Welcome to our
Product Launchpad

NEW

Whatever your mission, we're constantly launching new products and brands. Keep coming back to see what we've added.

Visit my.rs-online.com/new

RS PRO Preassembled 50mm LED Signal tower

- The RS PRO 50mm LED Signal tower is designed to provide signalling solutions improving the safety and productivity of your Control & Automation equipment
- Preassembled and prewired, the Signal Tower are supplied with red & green light modules

RS PRO

| 1902832 | 50mm steady/flashing light tower RED + G | SCL-MTWS-RG-110 |

DC Voltmeter Analogue Panel meter

- Comprise Moving Iron & Permanent Magnet Moving Coil movements
- All meters incorporate interchangeable scales & terminal covers as standard
- A range of customized options is also available on request provided it is possible by design

RS PRO

| 1862506 | 96x96mm | PQ94-V0FL2N1CAW6RS |

Magnetostrictive linear position sensor

- Linear position sensors with a profile design are contact-free and absolute measurement systems for the precise detection of one or more positions
- They deliver convincing performance in harsh environments, for example in presses, injection moulding machines or gantry robots, because they are made of a hermetically sealed IP67 aluminium housing

BALLUFF

| 1947630 | 300mm stroke 4..20m | BTL7-E501-M0300-P-S32 |

IEC Appliance Inlet C14 with Filter

- Panel mount: Screw-on or snap-in mounting from front side
- 3 Functions: Appliance Inlet protection, Circuit breaker type TA35 2-pole, Line filter in standard and medical version
- Quick connect terminals 6.3 x 0.8 mm

SCHURTER ELECTRONIC COMPONENTS

| 1889495 | TA35 Filter IP67 Screw (Pack of 10) | 3-118-974 |

Omron Q2V Series Inverter Drives

- Easy installation & setup
- Reduce cabinet size with side by side mounting without derating
- Screwless terminals safe wiring installation time
- Hardware simplification thanks to built-in EMC filter, safety STO and braking transistor

OMRON

| 1943164 | 400 V, ND: 5,4 A / 2,2 kW | Q2V-A4005-AAA |
| 1943173 | 1x200V, ND: 0,75 kW | Q2V-AB004-AAA |

RS PRO Black Anodised Aluminium Enclosures With Extruded Dovetail Slots

- Available in a range of sizes - please refer to RS Online
- Manufactured from aluminium offering a lightweight yet durable enclosure
- Black anodised finish to enhance corrosion resistance
- Suitable for a range of applications

RS PRO

| 1951537 | 120mm Black + 2 x End Plates + | EAB120PA-KIT |

Photoelectric sensor PNP IO-Link

- Wide sensing distance of 50 to 1,500 mm, enabling use on any conveyor line width
- TOF-type sensors for used with any type of conveyed workpiece
- Compact-sized body can be mounted anywhere

OMRON

| 1938356 | M8 4-pi | E3AS-F1000IPT M3 |

Petzl Tactikka+ RGB Head Torch

- Lightweight, compact and bright:
- 350 lumens at 85 g
- Three white brightness levels for comfortable proximity lighting and rapid movement
- Red, green or blue lighting (continuous or strobe) combines visual comfort and stealth

1919528	350 Lumens		E089FA00

3M™ VHB™ Tape 4910 F Blister IPC Clear

- Fast and easy-to-use permanent bonding method provides high strength and long-term durability
- Pressure sensitive adhesive bonds on contact to provide immediate handling strength
- Creates a permanent seal against water, moisture and more

3M

1634730	1mm Thick , 19mm x 11000mm	3M 4910F 19mm x 11m

RS PRO Curved Jaw Locking Pliers

- These high-quality and robust RS PRO locking pliers allow you to maintain constant gripping force with the help of the locking mechanism making it easier and more efficient to work with
- The hardened teeth and curved jaw make it easy to grip from any angle, making them ideal for a secure grip when pulling or twisting an object in difficult spaces

1923656	240 mm	E50-240-2

Post-it® Extreme Notes

- Sticks to textured surfaces and in tough conditions, Water-resistant, durable and writable
- Use indoor / outdoor & hot and cold environments (Apply to dry surface to hold in wet conditions)
- Made with ultra-strong Dura-Hold™ Paper and Adhesive & removes cleanly

1938256	2 pads	EXT57M-2-UKSP
1938255	Box of 24	EXT33M-24-EU1

RS PRO Adjustable Spanner

- This wrench features an adjustable jaw set at 15° and offers a concealed jaw shank allowing for greater accessibility with ergonomic design for operator comfort
- Made from high alloy tool steel that offers excellent precision and professional performance, regardless of application
- Contoured PVC handle for ultimate user comfort and ergonomics, especially when being used for long periods of time

1923723	30mm Jaw capacity	B21-250B

Chamfer deburr tool

- E-Z Chamfer efficiently removes burrs and ridges from bolts, pipe, threaded rod, bar and dowels
- It is suitable for use on metals including mild and hardened steels, stainless steel, copper and brass, as well as timber, fibreglass and plastics
- E-Z Chamfer prevents sparks and burns

1955212	8-22mm	CHAM BURR

13L Spill Kit in Clip Top Carrier

- A total 'one stop' package for a quick and effective response to spillages - these kits come equipped with a range of absorbent formats including disposal bags and ties

1890064	1 x 1.2m Sock, 1 x Haz, 10 x Pads	RSOSK13

RS PRO Hexagon Nutdriver Screwdriver

- For live working up to 1000V AC or 1500V DC
- Chrome Vanadium Molybdenum steel blade
- Softgrip handle

1829772	VDE/1000V Approved	G07-B05

4 Piece Hook and Pick Set

- Includes an awl as well as 3 different hooks with 45° and 90° tips
- Supplied in a pocket sized case with a click lock to keep the tools secure

1981747	4 piece	TM149

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RS

TPR5 Test Probes 2x Red 2x Black

- Test probe rated 1KV CAT III for connection to standard unshrouded 4mm plugs

RS PRO

| **1917879** | 1kV | | FCR19505RB |

TG267 Thermal Camera

- Ideal for commercial electrical, facility maintenance, and HVAC applications, this advanced thermal camera with a brilliant 2.4 inch screen reduces diagnostic time while simplifying repair and maintenance reporting
- Patented FLIR MSX® (Multi-Spectral Dynamic Imaging) enhancement improves image clarity by embossing visual scene details on full thermal images, providing added context to help you accurately target potential faults and troubleshoot repairs

◆FLIR

| **1932383** | 25°C to +716°C | | TG267 |

TG297 Industrial High Temp Thermal Camera

- One-of-a-kind industrial diagnostic tool that combines accurate temperature measurement with the ability to image up to 1030°C (1886°F)
- Patented FLIR MSX® (Multi-Spectral Dynamic Imaging) enhancement improves image clarity by embossing visual scene details on full thermal images

◆FLIR

| **1932384** | -25°C to +1886°C | | TG297 |

TG275 Automotive Diagnostic Thermal Came

- Designed specifically for automotive maintenance and repair technicians who want to accelerate diagnostic procedures and avoid undetected problems
- Featuring IGM™ (Infrared Guided Measurement), this diagnostic tool combines non-contact temperature measurement and thermal imaging to help you troubleshoot repairs, spot potential faults, and record images that will reassure your customer that the problem has been fixed

◆FLIR

| **1896809** | -25°C to + 550°C | | 87503-0303 |

Croc Clip CRC-01 Black / Red

- Rated 600V CAT III (1000V CAT II)
- EN61010 compliant

RS PRO

| **1873805** | Current rating 10A | | FCR7940BR |

3 core 1.5mm SWA cable

- Steel wired armoured cables predominantly used for industrial wiring and mains distribution
- These cables are designed in such a way that they are to be used in industrial areas, in and around buildings and other similar environments

RS PRO

| **1964720** | 50m Reel | | H6943XL1.5050RS |

RS PRO 316 Stainless Steel Zig Zag Cable Tie

- The cable ties are self locking with a roller ball head, making them fast and easy to secure
- The zig zag design maintains installed tension on surfaces, helping to reduce movement and slips
- Uncoated version for high temperature applications

RS PRO

| **1834168** | Bag of 100 | | CT-SS-ZZ-520/4.6UC |

Fluke ii900 Sonic Industrial Imager

- The handheld Fluke ii900 Sonic Industrial Imager enables maintenance teams to quickly and accurately locate air, gas and vacuum leaks in compressed air systems; even in noisy environments
- Specifically designed for noisy production facilities the new SoundSight™ technology is simple to learn and easy to implement
- The 7" LCD touchscreen overlays a SoundMap on a visual image for quick leak location identification

FLUKE

| **1876163** | 65° Field View | | ii900 |

Fluke PTi120 Pocket Infrared Camera

- Automatically organize and file thermal images with Fluke Connect Asset Tagging
- Fully radiometric thermal imager gives you measurement data to the pixel with 120 x 90 infrared resolution (10,800 pixels)
- 3.5" LCD touchscreen display for easy troubleshooting
- -20 °C to +150 °C temperature measurement range

FLUKE

| **1864695** | 120x90 | | PTi120 |

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600 Series Flex Fibre Connector

- Flex, Flex In-Line and Rear Panel
- Secure, proven locking system
- 30o twist locking. Tamperproof lock prevents accidental un-mating

bulgin

1917983 for OM3 c (Bag of 5) PXF6050A

HPM 5m Heavy Duty Extension Lead

- Fully moulded and clear plug and socket for easy safety inspection
- Heavy duty cable offers protection against wheelbarrows and falling building materials
- Complies with Workcover, OH&S, Electrical safety requirements and AS/NZS standards for construction and demolition sites

HPM

1968591 10Amp R2805

Low Clamp Varistor

- Low Clamping to Working Voltage Ratio
- EMI/RFI filtering in the off-state

AVX

1877630 0603 16Vdc 0.1J 50A (Pack of 50) VLAS060316A350DP

Sealed Vandal Switch

- Stainless Steel Illuminated Double Pole Changeover Switches
- 18mm diameter

arcolectric

1873301 Red LED, 220V DC (Tray of 40) MP0045/1E1RD220S
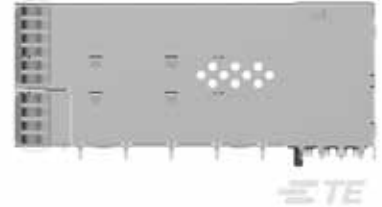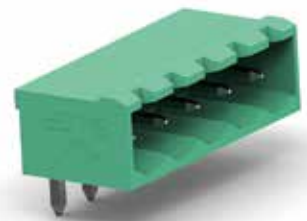
Thick Film Surface Mount Fixed Resistor

- Small size and light weight
- Highly reliable multilayer electrode construction
- Compatible with all soldering process
- Long side terminations

RS PRO

1840033 ±5% (Reel of 1000) CR-12JL4---10K

SFP56 Stacked 2X1 Receptacle Assembly

- Data rates: Up to 28 Gbps NRZ and 56 Gbps PAM-4, 10 Gbps Ethernet and 16 Gbps Fibre Channel
- Surface-mount connector design for single high 1xN cages
- Press-fit 1xN cages and stacked assemblies (connector and cage) for one-step, easy PCB placement

TE

1888333 20 Contacts, Female (Tray of 18) 2349202-5

8 Way PCB Terminal Block

- Connector Style : Header
- Connector System : Wire-to-Board
- Number of Positions : 8
- Centerline (Pitch) : 5 mm

TE

1952037 300 Vac (Pack of 5) 2350513-8

To see this month's full range of New Products, visit;

my.rs-online.com/new

EFM8™ Busy Bee Low Cost 8-bit MCU Starter Kit

- The EFM8BB1 Low Cost Kit is an easier to use yet powerful development starting point
- It contains an integrated debugger and a simple USB micro connection to allow rapid prototyping

1935481	EFM8BB1LCK

Arduino CTC 101 PROGRAM - FULL Education Kit

- Arduino CTC101 is an ideal Education Toolbox for the Classroom. Suitable for teachers or instructors to teach school students aged from 13 to 17 and require no prior experience with electronics or programming. Creative Technologies in the Classroom 101 or CTC 101 is Arduino's one-of-a-kind STEAM (Science, Technology, Engineering, Arts, and Mathematics) program for upper secondary education.

1271382	AKX00002

XinaBox LoRaWAN IoT Starter Kit

- XinaBox produces a range of 80+ modular "xChips", which includes cores/CPUs, sensors, power, communication, output, and storage. xChips can be clipped together in seconds using a connectivity standard without wires, soldering, breadboards or any consumables: no hardware knowledge is required to build digital instruments with XinaBox.

1906042	XK70

dsPIC33CK Curiosity Development Board (DM330030)

- The is a cost-effective development and demonstration platform for the dsPIC33CK family of single-core high performance digital signal controllers.
- Designed to take full advantage of Microchip's MPLAB® X IDE, the board includes an integrated programmer/debugger and requires no additional hardware, making it a perfect starting point to explore the dsPIC33CK family

1936257	DM330030

BeagleBone Black MCU Development Board

- The BeagleBone Black from beagleboard.org is a development board based on the AM335x Arm Cortex-A8 processor. This BeagleBone board is a single board computer (SBC) which can be used as a stand-alone computer or it can be embedded into a system.

1252411	BeagleBone Black

Ci40 IoT SBC Development Kit

- The Creator Ci40 board from Imagination Technologies is a high-performance, low-power microcomputer optimised for IoT applications. The Creator Ci40 is compatible with a wide range of GNU/Linux OS distributions, including OpenWrt, Debian and Brillo – the IoT-optimised operating system from Google. This board is also compatible with many existing Raspberry Pi HATs and MikroBUS Click expansion modules.

1253307	VL-62899

Arduino Tinkerkit Braccio Robot

- The TinkerKit Braccio is a fully operational robotic arm, controlled using an Arduino Board. Designed for desktop use and is supplied in kit form so you can assemble it to your own requirements. It can be used in several ways and is easily adapted. Pickup and move objects, mount a camera and track your movements in a video call or attach a solar panel and track the movement of the sun.

1113738	T050000

XinaBox IoT Starter Kit

- The XinaBox IoT Starter XK19 Kit gives you everything needed to build an IoT smart (edge) device, that collects environmental data, and to which an actuator can be attached for automation projects. Control an electric gate, garage door, or fan, and connect to IoT dashboards to create alerts and control algorithms. View sensor data, IoT messages and diagnostics locally on the mini-OLED display.

1906041	XK19

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Raspberry Pi 4 Model B

- The Raspberry Pi 4 Model B is the latest computer board from Raspberry Pi.
- This latest version offers more processing power, more memory and more connectivity while being backward compatible with the projects created on previous models

1822096	Raspberry Pi 4 Model B (4G)	Raspberry Pi 4 4G Model B
1888310	Raspberry Pi 4 Model B (4G) (Bulk 150)	Pi4 4GB Bulk

Raspberry Pi 4 Cases

- These Official Raspberry Pi case is designed to house and protect your Raspberry Pi 4 board, whilst also making it look great. It fits the Raspberry Pi 4 Model B 1GB, 2GB and 4GB. This no-fuss case simply snaps together around your board. There is no need for additional tools or screws to secure it. Once the case is closed, you will still have access to all the ports on the board through cut-outs. It is mainly designed to protect your Pi board from knocks and bumps, but it has also been designed to be lightweight and sleek.

1876752	Raspberry Pi 4 Case Black/Grey (Bulk 256)	RPI4 Case Black/Grey Bulk
1876751	Raspberry Pi 4 Case Red/White (Bulk 256)	RPI4 Case Red/White Bulk
1876749	Official Raspberry Pi 4 Case in Red/White colours	RPI4 Case Red/White
1876750	Official Raspberry Pi 4 Case in Black/Grey colours	RPI4 Case Black/Grey

OKdo Standard Clear Cases

- A range of Okdo Cases specifically designed for use with the Raspberry Pi 4 Model B

1873434	OKdo White 2-piece slide Case for Pi 4 Model B	ASM-1900138-11
1873432	OKdo White 3-piece standard Case for Pi 4 Model B	ASM-1900133-11
1873435	OKdo Clear 2-piece slide Case for Pi 4 Model B	ASM-1900138-01
1873433	OKdo Clear 3-piece standard Case for Pi 4 Model B	ASM-1900133-01
1873798	OKdo Black 3-piece standard Case for Pi 4 Model B	ASM-1900133-21
1873799	OKdo Black 2-piece slide Case for Pi 4 Model B	ASM-1900138-21
1873800	OKdo Black power-HAT Case for Pi 4 Model B	ASM-1900141-21

Okdo Power Supplies

- An OKdo high quality and reliable plug-in AC-DC adapter for converting AC mains current into a 3A, 5.1V power using a USB-C type connector. With a power rating of 15.3W, this power supply comes with four regional interchangeable heads.

1871380	5.1V/15.3W, Multihead (Bulk 60)	T7715DV_Bulk
1871381	TTE Power Supply 5.1V/15.3W, Multihead	T7715DV

Official Raspberry Pi 4 Power Supply

- This Official Raspberry Pi power supply is the perfect choice for powering your new Raspberry Pi 4 Model B board. This PSU works with all variants of the Raspberry Pi 4 board, the 1GB, 2GB and 4GB. It is a 5.1V, 3A power supply featuring a USB-C connector at one end, and a plug socket at the other. Simply plug the USB-C into your Pi 4 and plug the socket into the mains and you're ready to go!

1873423	5.1V/3A, USB-C, White (Bulk 100)	RPI4 PSU AU WHITE BULK
1873427	5.1V/3A, USB-C, Black (Bulk 100)	RPI4 PSU AU BLACK BULK
1873415	Official Raspberry Pi 4 Power Supply, 5.1V/3A with USB-C in White for AU	RPI4 PSU AU WHITE
1873419	Official Raspberry Pi 4 Power Supply, 5.1V/3A with USB-C in Black for AU	RPI4 PSU AU BLACK

Rasp Pi Adaptors

- This Official Raspberry Pi USB-B to USB-C adapter enables you to connect USB-B devices to the USB-C port on your Raspberry Pi 4 board. So you can continue to use your standard micro-USB power supply cable. Please note, the Pi 4 board requires a 5.1V/3A PSU

1882074	RPI uUSB-B to USB-C adapter, White	USB-Micro B to USB-C Adapter White
1875394	RPI uUSB-B to USB-C adapter, Black	USB-Micro B to USB-C Adapter Black

Rasp Pi Cables

- The Official Raspberry Pi HDMI cable is the perfect accessory to compliment your new Raspberry Pi 4 Model B board. This is a micro HDMI to standard HDMI cable which is 1m long and available in black or white.

1871375	RPI uHDMI - std-M Cable, 1m / White	T7689AX
1871377	RPI uHDMI - std-M Cable, 1m / Black	T7732AX

NOOBS / SD Cards

- The latest version of NOOBS has been upgraded to enhance performance and user experience, using the Debian Jessie version of the Raspbian operating system.

1213897	16SD Card with NOOBS for Pi4	NOOBS_16GB_Retail

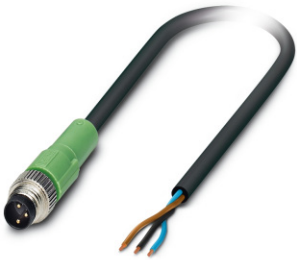# Sensor/actuator cabling

Reliable in the field

M8 and M12

Circular connectors for data, signals, and power

M8 and M12 connectors have become established as the standard for industry. Phoenix Contact offers all numbers of positions and codings in one standard pin connector pattern. In addition to connectors for assembly and assembled cables, the product range also includes device connectors and distributors. Take advantage of the compact circular connectors for your interfaces and media: for signals, data and power.

Reliable Connectors in the Field

SAC-3P-M 8MS/3,0-PUR

648-5160   168-1677

SAC-3P-M 8MR/3,0-PUR

648-5132   168-1703

SACC-M12FR-4PL M

154-8110   142-4656

SACC-M12FS-4PL M

154-8109   142-4655

SACB- 4/3-L- 5,0PUR-M8

801-8917   151-6014

SACB-4/ 4-L- 5,0PUR SCO

652-7674   151-7165

Exclusive 10% OFF

ALL PHOENIX CONTACT PRODUCTS

Promo code: PCFLASH (Until June 30, 2020)

M12 cabling for power applications

A great deal of power in a small amount of space

#ReadilyAvailable

South East Asia become experts at non-stock sourcing

A Sourcing non-core product offer is one of the value-added services that RS offer customers, and this has really been put to the test in South East Asia. When the COVID-19 pandemic first struck there in February, it also coincided with the Taal volcano eruption in the Philippines, meaning that demand for masks, thermal scanners and PPE went sky high.

Dianne Mascardo, Product Range and Supplier Manager, South East Asia, leapt in action trying to source the products globally, working relentlessly around the clock, working across the time zones, from Australia, to Asia, to Europe and the Americas.

Supported by a whole cross-function team including Abigail Mallari, Dominique Cornejo, Brent Suriaga, Sean Mak, Suroor Anwar, they worked closely working and sourcing suppliers, while liaising with Government health-related ministries, FDA offices, checking country of origin and that the products are compliant. Finding all available resources and arranging shipping.

The team's efforts have certainly paid off. Not only has their knowledge on sourcing non-stock products soared within the team, they have increased their supplier network and as a result, sales growth has rocketed.

A great achievement in difficult times, all down to collaboration, perseverance and excellent team work!

RS Product Plus has been designed to help you:

- Consolidate your suppliers
- Leverage your spend
- Speed up sourcing
- Tighten purchasing controls
- Get all the products you need - not just the ones on our website
- Reduce total cost of ownership

Contact RS Account Manager for more information

**SUPPORTING OUR CUSTOMERS THROUGH COVID-19
WE'RE BY YOUR SIDE**

COVID-19 is a wake-up call for our fragile supply chains

The coronavirus pandemic has proved a bitter pill for the world's business leaders to swallow and one unlikely to digest any time soon.

From delays to the new iPhone to shortages in medical equipment, the COVID-19 virus has exposed the fragility of our globalised economy and the tangled complexity of our global supply chains.

As an imports-driven economy, Singapore is particularly vulnerable to these unprecedented disruptions to international networks. As Minister for Trade and Industry Chan Chun Sing highlighted, the virus has proved "a good lesson for everyone to really look at the supply chain resilience".

For Singapore's modern consumers, online shopping and next-day delivery are as ubiquitous as eating in the local hawker stand. Yet behind every click lies a vast, tight and highly efficient web of supply channels built over decades of globalisation.

Ever since COVID-19 took hold of Wuhan back in January, the world has witnessed the true scale of businesses' heavy reliance on China for manufacturing.

As a wave of industrial closures and worker quarantines swept through the world's factory, businesses have grappled to secure their raw materials and components as their suppliers' production ground to a halt. The domino effect of this has resulted in suppliers and logistics channels struggling to deliver their goods.

Multinational giants from Apple to Hyundai, alongside Singaporean firms like Straits Construction, have faced lengthy product shipment delays from China in the wake of the pandemic.

Even now as China shows signs of recovery, supplies remain disrupted as South Korea, Japan and Europe attempt to mitigate their own COVID-19 outbreaks, creating bottlenecks across logistics networks.

For the end-customers, delayed shipments carry issues both in terms of an inventory shortage and for their cash flow.

Not only do these bottlenecks harm businesses on the import side, they also hit those who are trying to export goods to coronavirus-affected markets. Countries like Australia, which exports huge quantities of coal, iron ore and seafood to China, are already facing economic declines due in large part to the fall in shipping.

Nevertheless, whilst the coronavirus is unique in its level of societal devastation, it is not rare for supply channels to face such disruptions on a global scale. Fortunately in Singapore's case, the Indonesian sand crisis of 2007 proved to be enough of an incentive to diversify its supply sources.

However, it is not always possible to source certain parts from different places, either due to geography or intellectual property requirements. In light of this, there is a strong argument for better oversight further up the supply funnel.

Source: https://sbr.com.sg/retail/commentary/covid-19-wake-call-our-fragile-supply-chains:

From reactivate to proactive

Thanks to digital transformation and the availability of supply chain management tools and big data, specialist trade organisations are in a better position to anticipate these unforeseen circumstances. With the right data and channel visibility, companies can monitor their flows of inventory, map potential disruptions and use the global network create strategies to mitigate these and minimise the impact to end customers .

Effective supply chain management gives the companies a competitive advantage over their rivals and helps them eliminate waste and reduce inherent risks. However, few seem to be using these management tools enough. According to Harvard Business Review, the majority of companies around the world have responded to the pandemic in a "reactive and uncoordinated way," due to a lack of clear information and visibility of their channels.

Chief executive officers should see the current crisis as an opportunity to re-evaluate their procurement management, switching from a reactive to a proactive mindset. This can include, where possible, planning and activating alternate sources of supply, utilisation of digital and supply chain specialists, using the most up-to-date technology to keep track of goods, from factory to freight.

In addition to this, CEOs and managers need to be communicating all the possible supply chain risks with their employees, alongside risk-prevention measures.

Whilst the Red Dot has been held up as a model on the world stage for detecting and containing the virus, business leaders themselves should set a standard for protecting their employees, either through hygiene education or screening protocols.

For companies that supply, produce or distribute from an impacted country, it is important to focus on workforce and labour planning, so staff are both protected and resources are managed effectively.

The global picture of the world's eventual recovery from the pandemic looks bleak: as of 2 April, the number of cases stands at almost one million and only a few nations are showing signs of flattening the curve. For most organisations, it will still take at least six months before they can claim to be "business as usual" again. But if organisations choose to adopt the right risk assessments, supply chain management strategies and communication with employees and stakeholders, they will emerge from this stronger. As it is often said, prevention is better than cure.

BY SYED SUROOR ANWAR
VP APAC, STRATEGY & COMMERCIAL

Source: https://sbr.com.sg/retail/commentary/covid-19-wake-call-our-fragile-supply-chains:

Ansell HyFlex Nitrile-Coated General Purpose Gloves

- Ansell's First-to-market foam coating provides more breathability that extends workers' comfort
- The foam nitrile coating promotes better grip allowing the worker to perform tactile tasks with ease
- Tailored fit at the base of the pinky finger better matches natural hand contours

Ansell

1775844	Size 6, Grey, White	11-800 06

Ansell Alphatec Nylon Nitrile-Coated Chemical Resistant Gloves

- For light to medium chemical applications
- Industry leading grip, enhanced dexterity and comfort
- Thin double wall nitrile shell 15 gauge seamless nylon liner
- Retains minimal heat, reducing perspiration

Ansell

7497060	Size 9, Black, Green	58-270/09
7497066	Size 8, Black, Green	58-270/08
7497079	Size 10, Black, Green	58-270/10

Ansell HyFlex Nylon Nitrile-Coated Special Purpose Gloves

- Outstanding fingertip sensitivity for greater ease and flexibility in handling small and sensitive component
- Excellent grip, dry wet or on lightly oiled surface
- Palm coated allowing the back of the hand to breathe

Ansell

7698572	Size 9, Grey (Pack of 12)	11-800/09
7698575	Size 7, Grey (Pack of 12)	11-800/07
7698581	Size 10, Grey (Pack of 12)	11-800/10

Ansell HyFlex Nylon Nitrile-Coated General Purpose Gloves

- Extreme durability and superior fit
- The ultra-thin FORTIX™ nitrile foam coating (patent pending) lasts up to three times longer than comparable coatings
- Provides enhanced dry grip and is 20% more breathable than earlier formulations

Ansell

7917514	Size 8, Black	11-840/08
7917523	Size 9, Black	11-840/09
7917526	Size 10, Black	11-840/10

Orange POM Glove Grabber For Use With Tool Belt

- Clips to belts, tool belts, trousers and other clothing
- Detachable, usable with 'beeners, D-rings, etc.
- Breakaway feature
- Dielectric / non-conductive material

POLYCO

7495698	Glove Grabber	E3405-OR

JSP Canvas HDPE Navy Short Peaked Safety Cap

- Baseball cap style
- Unique angled adjuster combined with the castellated protective liner
- Removable liner, machine-washable
- Terry-towelling sweatband for added comfort
- Subtle reflective piping for added visibility safety

JSP

7362289	Hardcap A1+, Short 5cm Peak, Navy	ABS000-002-100

Uvex 9972-101 Lens Cleaning Fluid

- Replacement cleaning fluid for 9990.000 uvex lens cleaning station
- Use on anti-fogging and scratch resistant lenses

uvex

1302351	500ml Bottle	9972-101

Uvex 9963-000 Lens Cleaning Wipes

- Silicon free Individually wrapped Lens cleaning towelette
- Moist when opened
- Suitable for all lenses
- Use on the go or keep in your pocket

uvex

1302352	Box of 100	9963-000

Uvex 9192 Anti-Mist Safety Glasses

- Excellent peripheral vision with optical class 1
- Lightweight design with ergonomic features
- Arms with advanced ventilation system
- No metal parts
- Fully recyclable
- Anti Scratch Anti Fog

uvex

7689057	black/grey grey lens	9192-300
7689079	Clear Lens	9192-310

emb-papst 4000 N Series Compact AC Axial Fans

- Performance from 80m3/h to a maximum of 180m³/h, depending on variant
- Fan motor integrated into the impeller hub to form a compact fan unit
- Air intake via struts
- External rotor shaded pole motor

ebmpapst

1018052	46dB, 160m³/h, 19W, 230 V ac	4650N
2720396	47dB, 160m³/h, 19W, 230 V ac	4656N

RS PRO AC Dual Bearing Axial Fans

- Robust die-cast aluminium frame, ideal for industrial applications
- PBT UL94V-0 thermoplastic impeller
- Dual ball double sealed bearing system, supporting excellent performance and life expectancy

RS PRO

6196961	44dB, 186.9m³/h, 24W, 230 V ac	OA4715-23TB

Sunon DP Series Sleeve Bearing AC Axial Fans

- Low power consumption
- High temperature resistance
- Impedance protected
- Service life of approximately 50000 hours

SUNON

5440706	49dB, 161.4m³/h, 21W, 220 240 V ac	DP200A/2123XST.GN

Stego Compact DIN Rail Thermostat

- Large setting range
- Small size 60 x 33 x 43 mm
- Plastic casing according to UL94 V-0, light grey
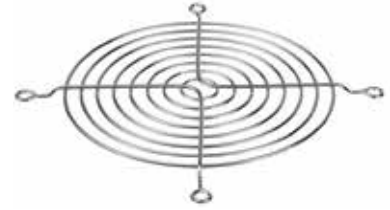- Variable fitting position and simple to mount (clip for 35mm DIN rail)

STEGO

6974446	NO, 120 250 V ac	01141.0-00

Thermostats with SPCO contacts

- Surface mounting suitable for industrial and commercial applications
- Snap action switch with change over contacts
- Shunt accelerator minimises overshoot
- Dial can be set for max/min settings

RS PRO

3750168	Thermostat with C/O contact,+10/+60degC	RTRE6705

Grey Steel Vent Grille

- For ventilation by convection
- Easy 4-screw assembly

RITTAL

5170025	110 x 330mm (Box of 4)	2543235

Axial fan finger guard

- Industrial standard size zinc plated steel finger guards for axial fans 4 standard fixing points except 172 x 172 which has 2 points

SUNON

5440548	120H x 120W mm	FG-12

Humidity Indicating Desiccators

- Controls humidity levels within small containers
- Conforms to BS2540 and CPU/CON/250-1
- Each box contains 50 sachets of gel, each packed in a permeable membrane
- Ease of use in sachet form and range of sizes - refer to RS Online

RS PRO

601041	10g sachet (Pack of 50)	

ebm-papst Filter Pad

- The ebm-papst fan filter replacement pad achieves a 75% dust particle retention down
- It has a size of 5-10 microns and can withstand temperatures of up to 100ºC
- The pad is flame resistant and reduces the airflow about 20% to 30% with a clean filter assembly
- This pad is used with PMFA120 filter assembly suitable for 119mm and 119mm fan size

ebmpapst

1186133	Filter Pack For PMFA120 (Pack of 5)	FP120

my.rs-online.com

Economy Spitfire LED recessed non-maintained

- 1 year warranty
- D40 photometric classification
- LED technology 75,000 hours lamp life

ABB

1794051	3.6W		ESFLED
1794052	Battery 4 cell NiCad 4.8V 1.8Ah		03-01222

Signature Spitfire LED recessed non-maintained

- 3 year warranty
- Superior photometric classification
- LED technology 100,000 hours lamp life

ABB

1794053	Single, 5.5W		SF1LED

Platinum Spitfire LED weatherproof non-maintained

- 5 year warranty
- Superior photometric classification
- LED technology 100,000 hours plus lamp life

ABB

1794072	Single, 1.0W		SFBWP1LEDP
1794055	Battery 5 cell NiCad 6.0V 1.8Ah		03-01220

BA15d Base Clear Incandescent Car Lamp

- Areas of application;
- Position and parking light
- Indicator, brake, fog and reversing lights
- Number plate and side position lights

OSRAM

170878	5W 24V (Pack of 10)

BA9s Miniature Bayonet Base LED Lamp

- Colour temperature: 6000K
- Viewing angle: 30°
- Maximum current rating: 20mA
- Diameter: 9.6mm
- Overall length: 24mm

JKL COMPONENTS CORPORATION

7693003	LED T3 ¼		LE-BA9S-24W

20 W Halogen Capsule Bulb G9

- Mains voltage compact G9 halogen lamps, no transformer required.
- Up to 20% energy saving with UV filter (UV stop)
- 1:1 direct replacement for standard Osram Halopin® lamps
- Approved for use in open luminaires to IEC 60598-1

OSRAM

7916523	230 V, 235 lm, 2000h	4008321945273.00

RS Pro 8 mm LED Indicators Pin Terminal

- 5 mm tinted diffused epoxy lens
- Various voltages
- Recessed or prominent bezel style
- Longevity and low power consumption
- Solder pin terminals

RS PRO

212121	IP67 8mm green LED

10mm Mount Neon Indicator

- 14mm coloured diffused polycarbonate
- Prominent or low profile style lens
- White nylon 6.6 body
- Chrome bezel

arcolectric

589705	Green neon panel indicator, 230Vac

my.rs-online.com

20

Stanley General Purpose Snap-Off Knife Blade

- Durable - ensures a sharp cutting edge is always to hand
- Safety design- plastic blade dispenser included with built in blade snapper for safe removal and storage
- Quantity of blades included: 10

STANLEY

841378	9mm L (Pack of 10)	0-11-300
841788	18mm L (Pack of 10)	0-11-301

Facom Precision Slotted Phillips Screwdriver Set

- Handles have revolving ends and colour coded
- Blades are chromed with burnished tips
- Individually colour coded
- Case dimensions: L.205 x W.130 x H.31 mm

FACOM

1622207	8 Piece	AEF.J3

Facom Height Safe Carabiner

- Stainless steel construction with excellent corrosion resistance
- Quick and easy to attach or detach tools and other equipment
- Perfect for working at height to reduce injury and damage or loss of tools
- Available in a range of sizes - refer to RS Online

FACOM

9103350	300kg Support Weight	MOUSQ6X60SLS

RS PRO Individual Hex Keys

- The key is precision formed to give an exact dimensional tolerance, to give a precise fit
- Metric size
- The L shape and long arm makes it easy to reach deeply in-set bolts
- High corrosion protection

RS PRO

734911	4mm (Pack of 5)	
734882	2mm (Pack of 5)	

Bahco 55mm Single Ended Open Spanner

- Heavy-duty single open ended spanners for industrial applications such as shipyards and the rail industry
- Standard alloy steel
- Gunmetal finish
- Angle 15°

BAHCO

7179021	55 mm	894M-55

Xcelite by Weller Precision Cutting Precision Knife Blade

- Scalpels for delicate work
- Knurled end for more secure handling and a firm grip

Weller Xcelite

6756709	Pack of 5	XNB103

Electronic-Super-Knips

- Electronic side cutter, stainless steel or bronzed special tool steel, length 125 mm
- Precision-ground cutting tips
- Zero-play joints with stainless steel rivet
- With opening spring and limiter

KNIPEX

288910	Lead Catch 125mm	78 91 125 RS

Wera 35 Piece VDE/1000 V Electricians Tool Kit

- Laser tip with micro rough surface for increased grip and bite requiring less contact pressure
- Non-roll hexagon shoulder to prevent lost drivers
- Screwdriver size and tip type markings

Wera

1231889	35 Piece	135926

Hakko FX-888D Soldering Station

- ESD safe
- Small footprint
- Simple and easy operation
- Ceramic heating element Ironholder with full of functions
- Digital display

HAKKO

7804852	230V	FX-888D

Transportation—Light and Commuter Rail Solutions

Fluke solutions for transportation professionals.

Professionals involved in transportation infrastructure or vehicle operations are under extreme pressure to keep their systems moving smoothly and safely.

Fluke makes rugged, reliable, quality tools you can count on to meet the demanding needs of our transportation systems. Depend on Fluke, the industry standard against which all other tools are measured.

Vehicle Maintenance

Issues faced:
- Troubleshooting for immediate response and repair
- Quick turnaround time
- Predictive and preventive maintenance

Fluke solutions:
- Fluke Connect
- Indoor Air Quality
- Digital Multimeters
- Clamp Meters
- Insulation Multimeters
- Electrical Testers
- Portable Oscilloscopes
- Infrared Thermometers
- Vibration Tester

Fluke Light/Commuter Rail Solutions

Electrical Test Tools

Power Quality Analysers	Portable Oscilloscopes	Power Loggers	Clamp Meters	Insulation Multimeters	Earth Ground Testers	Battery Testers
430 Series II	190 Series II	1748	376 FC	1587 FC	1625-2 Kit	BT521

Supervisors/ Superintendents

Issues faced:
- Ensuring uptime is continuous and predictable
- Limiting downtime
- Safety of personnel and the environment
- Budget control
- On-time scheduling

Fluke solutions:
- Fluke Connect®
- Power Quality Analysers
- Infrared Cameras

Wayside Maintenance

Issues faced:
- Maintaining consistent quality power loads
- Controlling downtime

Fluke solutions:
- Fluke Connect
- Insulation Multimeters
- Digital Multimeters
- Electrical Testers
- Earth Ground Testers
- Clamp Meters
- Power Loggers
- Infrared Thermometers
- Infrared Cameras

Diagram is not intended to be an exact representation.
Diagram components are not to scale and are for illustration purposes only.

**Fluke offers a full line of transportation solutions to fit all needs.
Go to www.fluke.com.au for detailed information on these products.**

Digital Multimeters		Infrared and Vibration Tools				Air Quality	Wireless
		Expert Infrared Cameras	Professional Infrared Cameras	Infrared Thermometers	Vibration Tester	Indoor Air Quality	Fluke Connect®
a3001	289	TiX580	Ti480PRO	568	805 FC	971	

RS

AVO®830 Series Digital TRMS Multimeters

- IP54 environmental protection
- Phase rotation
- High / Low sensitivity live circuit detection
- 10 MΩ / 10 kΩ input impedance
- MIN / MAX / AVG / Smoothing

Megger.

1367898	10A ac 600V ac 10A dc 600V dc	1007-494
1367899	10A ac 1000V ac 10A dc 1000V dc	1008-221

MIT230 Insulation & Continuity Tester

- Insulation testing to 1000 MΩ
- Dual & triple test voltages models
- Digital display with electronic analogue arc display helps to confirm insulation condition & to monitor fluctuating readings not apparent on the digital display

Megger.

5353191	999MΩ CAT III 300 V	MIT230-EN

DM62 True RMS Digital Multimeters

- All the Features You Need in One Tool
- Rich feature set ideal for various electrical applications.
- Safely check voltage with non-contact voltage detection
- Measure both AC-DC voltage and current (A, mA, μA)

FLIR

1681345	10A ac 600V ac 10A dc 600V dc	DM62

C3 Thermal Imaging Camera with WiFi

- R Resolution 80 x 60
- Digital camera 640 x 480 pixel
- 3" colour display 320 x 240 pixels
- Image mode: Thermal, visual, MSX®, Picture-in-Picture

FLIR

1353287	-10 → +150 °C 80 x 60pixel	72003-0303

Kyoritsu KEW Snap Digital Clampmeter 2009R

- CAT IV clampmeter measures voltage and current in both very low and high power circuits
- Accurate True RMS reading of AC current or voltage with distorted waveform
- Measures AC and DC currents up to 2000 A
- Provides frequency reading in AC current or voltage measurement

KYORITSU

9163374	2kA ac, 2kA dc CAT III 1000 V, CAT IV 600 V	2009R

Druck DPI 705 Manometer

- 0.1% accuracy
- Large 13mm 5 digit LCD display
- 16 selectable pressure units
- Suitable for use with liquids compatible with the stainless steel diaphragm

Druck

3120523	IP54, 20bar	I705-13G-2388

FLIR ONE Pro iOS Thermal Imaging Camera

- Pixel size 12um (con), 8-14um spectal range
- Higher Resolution Thermal Sensor
- Advanced Diagnostics
- One-Touch Reporting
- Enhanced FLIR ONE App
- Video, Photo, Time-Lapse

FLIR

1368284	-20 → +400 °C, 160 x 120pixel	435-0006-03

TG167 Spot Thermal Camera

- -25°C to +380°C temperature range
- 24:1 spot ratio
- 80 x 60 pixels
- 9 Hz image frequency

FLIR

9228761	2.02 TFT LCD display	TG167

The Smart Energy Management Journey

The first step to smarter energy management is knowing what you are consuming and where. Combining PowerLogic™ energy metering with wireless solutions like PowerTag allows you to collect this vital usage data. This information can then feed the EcoStruxure™ software suite or PowerSCADA Expert software tool empowering greater energy efficiency and optimum performance.

PowerLogic™ PM5000

- The PowerLogic™ PM5000 power meter is the ideal fit for cost management applications, with enhanced measurement capabilities
- It allow the user to pin-point energy savings and perform a high level power quality assessment of the local electrical network
- The 96x96mm unit has a graphical display that enables data for all phases, neutral & ground to be monitored simultaneously

8417765	PM5100 Power Meter, Pulse Out
8417768	PM5100 Power Meter, Pulse/Serial Out,MID
8417762	PM5300 Power Meter, Serial, 2DI-2DO Out
8417774	PM5300 Power Meter, ETH, 2DI-2DO Out
8417778	PM5300 Power Meter, ETH, 2DI-2DO Out,MID
8417787	PM5500 Power Meter, ETH, 4DI-2DO Out,MID
9139769	PM8240 panel mount meter
9139649	PM82401 MID panel mount meter
9139766	PM8244 DIN rail module with remote panel display

iEM2000 DIN Rail Energy Meters

- Cost-attractive single phase DIN Rail mountable energy meters - ideal for local energy monitoring
- 40A direct measure (iEM2000 models) & 63A direct measure (iEM2100 models)
- Electromechanical display (iEM2000 models) and LCD display (iEM2100 models)
- On-board Modbus or M-Bus communication options
- MID-compliant (selected models only) providing certified accuracy and data security

9139661	iEM2000 230V 40A - A9MEM2000 - MID
9139665	iEM2010 230V 40A + Pulse - A9MEM2010 - MID
9139637	iEM2100 230V 63A - A9MEM2100
9139671	iEM2150 230V 63A Modbus - A9MEM2150
9139677	iEM2135 230V 63A Modbus - A9MEM2135 - MID

PowerTag Wireless Energy Sensor

- Acti 9 PowerTag® not only measures energy and power in real time, it also monitors your assets and immediately alerts your smartphone in the event of failure
- Simply 'tag' your circuit breakers, link these PowerTags to the Smartlink concentrator and data can then flow seamlessly into your BMS or accessible via the Smartlink embedded web pages
- Easy to install and setup using Acti 9 Smart Test free software
- PowerTag is installed with no additional wires - cutting installation time to just a few minutes, even for existing panel installations
- Can be used with Acti 9 series breakers or most other MCBs on the market

1348658	Powertag Sensor 1PW MAX 63A
1348659	Powertag Sensor 1PN UP MAX 63A
1348660	Powertag Sensor 1PN DOWN MAX 63A
1348661	Powertag Sensor 3P MAX 63A
1348662	Powertag Sensor 3PN UP MAX 63A
1348663	Powertag Sensor 3PN DOWN MAX 63A
1348667	Smartlink Modbus TCP/IP/Wireless Module
1348666	Acti9 PowerTag Top/btm Extn Kit

Link150 Ethernet Gateway

- A Modbus Serial to Modbus TCP/Ethernet IP protocol gateway with built in web-server allowing access to device data via simple browser - no software needed
- Supports both RS-485 & RS-232 serial and capable of supporting up to 32 Modbus protocol enabled meters or other devices
- Can be powered by 24Vdc or via PoE

9139646	EGX150 Gateway

ComX EBX Gateways

- ComX 200 acts as data logger collecting data from locally connected devices such as Powerlogic meters, intelligent circuit protection and Modbus enabled sensors, then makes this data accessible via the local LAN or forwards to a remote server and publishes it to the Schneider Electric cloud or another hosted platform
- The ComX 510 is similar to the 200 but as well as collecting and storing data it has embedded energy management software which provides immediate visibility of site wide energy consumption, in real-time, as well simple analysis of historical
- data in bar graph or trending formats.
- Both gateways can support up to 64 field devices (32 Modbus devices), feature 2 Ethernet ports, RS-485 Modbus serial, 2 analogue and 6 digital inputs
- 256 MB flash, 128 MB RAM memory capacity

9139722	EBX510 Gateway

Vandal Resistant Switches

- High corrosion resistance
- Domed, low & prominent profiles
- IP66 & IP68 sealing versions
- Illuminated & non-illuminated
- Front & rear panel mount versions

Photoelectric Sensors

- Sealed to IP67
- Stainless Steel 316 shell
- Detection distance 1 - 40mm
- Light point diameter 5.0mm at 30mm
- Ambient humidity 35 - 85%

4000 Series Circular Data Connectors

- Ratings up to 13A, 600V ac/dc
- 3, 8 &12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, bayonet locking
- UL, CSA & VDE approvals

9124874	3 Pole Female	PXP4010/03S/5055
9124893	8 Pole Female	PXP4010/08S/5560
9124938	3 Pole Male	PXP4011/03P/5055

6000 Series Circular Power Connectors

- 2 - 22 Contacts
- Plastic or Metal Housing
- IP66, IP67, IP68 & IP69K protection
- Secure, quick mating / release
- cULus, UL, VDE Approvals

7659652	Flex connector,2 way pin contacts	PXP6010/02P/ST/0507
7659757	Chassis connector,2w,socket contacts	PXP6012/02S/ST
7659775	Chassis connector,16w,pin contacts	PXP6012/16P/CR

7295407	Red, 24V, IP66	MPI002/TE/RD/24
7083009	Switch,PB,vandal res,dot red/green,IP66	MPI001/TERM/D1
7083093	Switch,PB,vandal res,32mm,flush,SPCO	MP0050

Indicators

- LED, Neon & Filament options
- Panel sealed IP66 & IP67 versions
- Wide choice of bezel sizes & styles
- Multiple termination types
- Rugged stainless steel variants

1874865	Light on, NPN, Cable	SLLP3002CL
1874866	Dark on, NPN, Cable	SLDP3002CL
1874861	Light on, NPN, M5	SLLP3002M5

400 Series Circular Power Connectors

- Ratings up to 8A, 250V ac/dc
- 2, 3, 4, 6, 8, 10 & 12 contacts
- IP66, IP67, IP68 & IP69K protection
- Pin or socket, screw thread locking
- CE, UL, CSA & VDE approvals

900 Series Circular Power Connectors

- 32A, 600V ac/dc max rating
- 2, 3, 4, 5, 7 & 10 contacts
- IP66, IP67, IP68 & IP69K protection
- Single or 3 phase applications
- CCC, UL, CSA & VDE approvals

585438	6.1mm red LED	DX1116/RD
585444	6.1mm green LED	DX1116/GN

4260896	2 way cable plug,8A	PX0410/02P/5560
4261114	2 way cable coupler plug,8A	PX0411/02P/5560
4260997	12 way cable socket,1A	PX0410/12S/6065

3443999	3 way	PX0911/03/P
8418932	10 way	PX0911/10/P
3444021	5 way	PX0911/05/P

EPIC® H-BE Series Rectangular Connector Kits

- Flexible & robust 16A industrial connectors. IP65 rated. Numerous additional connector kit options available online

LAPP GROUP

4180548	6 way M Plug	10190000+19012000+71200200
4180560	10 way M Plug	10192000+19042000+71200200
4180598	16 way M Plug	10194000+19082000+71200300
482705	24 way M Plug	10113000+10196000+12954500
448446	32 way M Plug	10136000+10194000+10202000

EPIC® H-A Series Rectangular Connector Kits

- Robust 10A industrial connectors. IP65 rated. Numerous additional connector kit options available online

LAPP GROUP

448418	4 way M	10426500+10431000
4180447	4 way M P/Socket	10431000+19426000+53111420
3961683	3 way M/F	10420000+10421000+19424500
452186	3 way M	10420000+10427000+12957100

EPIC® MH Series Module Inserts

- High power modular connection system. 2 way - 36 way male & female options. Railway fire protection approved according to EN 45545-2

LAPP GROUP

1809522	2 way 100A M	44423212
1809533	12 way 10A F	44423223
1809534	17 way 10A M	44423224
1809536	20 way 16A M	44423226

EPIC® MH Series Contacts

- Crimp connection for permanent vibration proof contact. 500 cycles of mechinical operation. 18mm stripping length

LAPP GROUP

1809562	F 10mm²	44423246
1809561	M 10mm²	44423242
1809563	M 16mm²	44423243
1809564	F 16mm²	44423247
1809565	M 25mm²	44423244
1809566	F 25mm²	44423248

SKINTOP® ST-HF-M Nylon Cable Glands

- Completely halogen-free (including sealing material). Extremely flame retardant according to UL94 V0 & self extinguishing, no dripping. DIN EN 45545-2: 2013 approval

LAPP GROUP

199670	M12	53111407 + 53119200
199642	M16	53111417 + 53119210
199658	M20	53111427 + 53119220
199541	M25	53111437 + 53119230
199557	M32	53111447 + 53119240

SKINTOP® MS-HF-M Metal Cable Glands

- Halogen free & flame retardant. Optimum strain relief. DIN EN 45545-2, EN 45545-3, EN 1361-1 & EN 13501-2 approvals

LAPP GROUP

1368511	M16	53112571
1368512	M20	53112572
1368513	M25	53112573
1368514	M32	53112574

SKINTOP® MS-HF-M SC EMC Cable Glands

- Halogen free & flame retardant. Low resistance screen contact, optimum EMC protection. DIN EN 45545-2, EN 45545-3, EN 1361-1 & EN 13501-2 approvals

LAPP GROUP

1368516	M16	53112531
1368517	M20	53112532
1368518	M25	53112533
1368519	M32	53112534

SKINTOP® MS-HF-M BRUSH EMC Cable Glands

- Halogen free & flame retardant. Optimum, low resistance 350 screen contact. DIN EN 45545-2, EN 45545-3, EN 1361-1 & EN 13501-2 approvals

LAPP GROUP

1368520	M25	53112543
1368521	M32	53112544
1368522	M40	53112545
1368523	M50	53112546

SKINDICHT® SM-PE-M Metal Locknuts

- For lacquered, anodised or powder-coated housings. Suitable for all metric glands in earthing & EMC applications. -60°C to +200°C temperature range.

LAPP GROUP

8395387	M16	52103310
8395381	M20	52103320
8395390	M25	52103330
8395393	M32	52103340
8395397	M40	52103350
8395407	M50	52103360

my.rs-online.com

Expertise that puts you on the right track. LAPP.

Solutions for railway technology

Based on decades of experience as a complete supplier of electrical connection solutions, LAPP has systematically expanded and enhanced its portfolio and knowledge in the railway technology sector. With its ÖLFLEX® TRAIN, UNITRONIC® TRAIN, ETHERLINE® TRAIN, CABLE GLANDS, CONNECTORS and CONDUIT product lines, LAPP offers its customers throughout the world reliable solutions that do not compromise on safety, quality or functionality and comply with the highest national and international norms and standards.

The benefits to you:

- IRIS certification
- Safe production processes thanks to in-house electron beam cross-linking plant
- Cable, gland, connector and conduit ranges comply with EN and other standards
- LAPP test centre
- Ranges include more than 500 Train cable types and 850 matching accessories
- Extensive experience in the rolling stock market
- High warehouse availability from manufacturer
- One-stop shop for cables, connectors, cable glands, cable protection, marking systems and accessories

PRODUCT INFO

The special material properties combined with the use of electron beam cross-linking make ÖLFLEX® TRAIN cables exceptionally resistant to mechanical influences in a broad temperature range from -45 to +120 °C, and also resistant to oils, alkalis and UV. In addition to use in rail vehicles, they are therefore suitable for use in many other industries for outdoor applications and in harsh ambient conditions.

LAPP

Take the trouble out of troubleshooting.

MPQ1000

Power Quality Analyzer

The Megger MQP1000 Power Quality Analyzer is Class A compliant and rated CAT IV at 600V. It can be used for a wide variety of applications including substation monitoring, equipment and breaker tripping, load studies and balancing as well as for switchgear and component failure.

Some of its features include:

- ■ Automatic CT recognition
- ■ Automatic connection verification ■
- On-board data analysis
- ■ SD card and USB stick support

- ■ 1000 V ac and dc range
- ■ Scope and DMM modes
- ■ CATIV @ 600 V
- ■ IEC61000-4-30 Class A compliant

Megger.

Megger®

MIT230 Insulation & Continuity Tester

- Insulation testing to 1000 MΩ
- Dual & triple test voltages models
- Digital display with electronic analogue arc display helps to confirm insulation condition & to monitor fluctuating readings not apparent on the digital display

Megger®

5353191 999MΩ CAT III 300 V   MIT230-EN

MPQ1000 Power Quality Analyser

- Megger MPQ1000 Power Analyser
- Unfused Voltage Lead Kit
- 32GB SD Card
- USB Memory Stick

Megger®

1462899

TDR1000/3 TDR Cable Fault Locator

- Dual cursors providing instant indication of distance between two points
- AUTO set up for instant use
- Ultra fast pulse for near end fault identification
- Trace HOLD feature to allow comparison between cables

Megger®

7642825   5000m

DET4TC2 Earth & Ground Resistance Tester

- Resistance range 0.01 to 20000 ohms auto ranging
- Choice of 2, 3 or 4 terminal measurements
- Simple one button operation

Megger®

489664   200kΩ CAT IV 100 V

MIT1025, Insulation Tester

- Dielectric Discharge (DD), Step Voltage (SV) and ramp test functions
- Advanced memory with time/date stamp, on screen recall

Megger®

7639264   20TΩ CAT IV

DET14C Earth & Ground Resistance Tester

- 256 test results storage and recall
- 37mm dia conductor and 50mm earth strap capacity
- 4 digit plus 6 digit backlit LCD display
- Accuracy guaranteed for 50Hz and 60Hz.

Megger®

7059422   1.5kΩ CAT IV 600 V

FASTER DELIVERY

Delivery within 2-3 days.
Stock locally in Singapore Warehouse.
Advance stock booking is available.

RS PRO is helping you keep your operation moving during these uncertain time.

RS PRO offers all the latest technologies at affordable prices and we're are continuing to to widen our product categories to offer you even more choice of premium products. We have over 50,000 products across 5 categories; electrical, test & measurement, tools & safety, automation & control and electronics.

With over 20 million RS PRO products used by our customers each year, backed up with the RS PRO Seal of Approval, 4 out of 5 customers tell us that they'd recommend RS PRO to a friend, so it's no surprise that our products are trusted by engineers across the world.

AUDITED
In compliance with industry standards

▶

INSPECTED
By leading engineers

▶

TESTED
For guaranteed quality and performance

RS PRO APPROVED

WARRANTY 3 YEARS

RS PRO IDM8341 Bench Digital Multimeter

- Offer typical multimeter capabilities plus capacitance measurement.
- 50 000 counts
- Vacuum Fluorescent Display (VFD) with 2 colours
- Dual measurement
- Fast measurement rate

1233535   10A ac 750V ac 10A

RS PRO 150mm Digital Caliper

- Clear LCD display
- Stainless Steel construction
- Origin setting
- Switchable On/Off
- Thumbwheel for fine adjustment
- Knurled locking screw
- Supplied with battery

8412518   0.0005 in, 0.01 mm

RS PRO LED Magnifying Lamp

- Long reach LED magnifier lamp
- 56 white LED light bulbs, only 9 W in total
- Energy efficient
- Bulbs never need replacing

8087042   3 dioptre, 5 dioptre, 8W

RS PRO Magnetic Field Detector

- Easy to use
- Powerful red light indicator
- Lightweight

3755422   0.3mT 1000V ac

RS PRO RS14 Handheld Digital Multimeter

- Compact and handheld
- Digital 2000 count LCD display
- 3-year warranty
- 104 x 70 x 48mm dimension
- Continuity tester
- Functions measured: AC and DC Current, AC and DC Voltage, Resistance, Temperature Measurement

1231938   50mm dia. EPDM +100°C

RS PRO Infrared Thermometer

- 12:1 distance-to-spot ratio
- Easy-to-use
- User selectable °C or °F
- Rapid detection 150ms
- Automatic Data Hold

1367890

RS PRO Magnifying Lamp

- Long reach fluorescent magnifier lamp
- Energy efficient
- Bulbs never need replacing
- Shadow free, cool light
- Quality 125 mm (5") removable lens
- 3 dioptres (1.75 x magnification)

8087055   3dioptre, 22W

RS PRO Network Cable Tester Network Tester

- Super easy to read LED system that will show you what is functional and non-functional.
- Test's for faults such as: mis-wiring, short, reversed wires or broken connections.
- Use with RJ45 connectors
- Adapters are included for RJ11

557414   RJ11, RJ45

RS PRO RS380 Clamp Meter

- 400 A AC Current Measurement
- 2000 Counts LCD display
- Auto power off
- Low battery indicator
- Non-contact voltage detection
- Resistance measurement, test measurement, Continuity and diode check
- Overvoltage Category III 600 V

1231935   Max Current 400A ac CAT III 600 V

EVERY PART MATTERS

RS PRO C14 Cable Mount IEC Plug Male

- Plug made of high-quality Nylon-6 material that guarantees durability and safe operation • Tin plated alloy mating contacts
- High insulation resistance at 500 V dc 1000 MΩ min
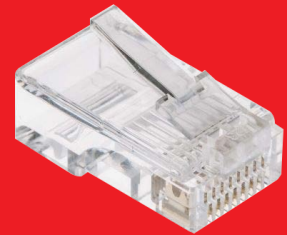
RS PRO Insulated Crimp Bootlace Ferrule

- Excellent electrical connection
- Reduces short circuits
- German colour coded collar for easy ferrule size identification
- Nylon insulated collar for reduced leakage, creepage and gas intrusion

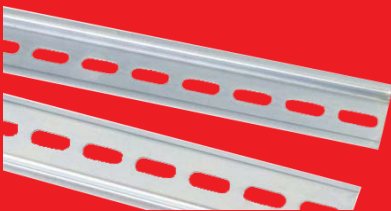## RS PRO 8P8C-Way Male RJ45 Connector Straight Cable Mount Unshielded

- Gold plated phosphor bronze contacts
- 1.5 A Maximum current capacity
- 30 Vac – 42 V dc rated voltage
- Polycarbonate body construction
- IDC contact termination

7769113   10A, 250 V ac

458702   8mm Pin Length, 1.7mm Pin Diameter,

3316386

RS Pro Din Rail Top Hat, Slotted

- Provides a convenient and fast method of assembling any combination of electrical and electronic devices into application-specific systems
- They are quite compact, but fully functional at the same time

RS PRO Ratchet Crimping Tool for Terminal

- Versatile and easy to use for right hand or left hand users
- Non-slip main handle and low friction moving handle ensue a comfortable hand grip
- Provides two-hand grip in the final phase of crimping, increasing comfort and productivity

RS PRO Straight 50Ω Panel Mount Bulkhead Fitting BNC Connector

- BNC plug
- Nickel plated body provides a heavy-duty build quality
- Gold contacts ensure maximum efficiency
- Solder tab termination method

467416   1m x 35mm x 7.5mm

533279   6.0 mm² to 0.75 mm²/AWG 22 to AWG10

5464910   50 Ω impedance

RS PRO 94 Piece Mechanics Tool Kit

- Insulated VDE screwdrivers suitable for safe working on live equipment at up to 1000Vac
- Ergonomically handled screwdrivers to VDE 0680//2
- Shafts are hardened & blackened chrome-vanadium steel

7348889

RS PRO Polyester Tool Bag with Shoulder Strap

- Tough Waterproof Polyester
- Top Opening with Zipper
- Padded Shoulder Strap Included
- Removable Base Board
- Multiple Separate Pockets

7887205   485 x 350 x 180mm

RS PRO 15 pieces Hex Key Set

- 15 piece ballpoint L wrench set with an excellent variety of key sizes.
- Lengths of keys are fully hardened
- Ball-Plus™ hex keys permit an entry angle up to 25° to work in hard-to-reach areas

5423509   1.27 mm - 8 mm

RS PRO Cabinet Key Diecast Zinc

- Four position arm tool, offering five differing drive possibilities
- This universal cross key is made of alloy with excellent workmanship and durability
- Key holes with square, triangle and circle shapes suitable for many especially radiators and electric control cabinet
- Compact size, easy to carry and store, an essential tool for maintenance applications

4393019   Chrome finish

RS PRO Precision Slotted; Phillips Screwdriver Set 11 Piece

- Three year warranty
- Supplied with a professional, hardwearing and water-resistant case to keep the tools dry and safe when not in use
- Revolving heads for precision and accuracy
- Long lasting, durable material

537883   Gas powered blowtorch

RS PRO 170 Piece HSS-TiN Coated Drill Set

- RS Pro 170 piece high-speed steel titanium coated drill set that comes in a RS Pro red metal case with a handle and two locks
- This drill set has a wide range of drill bit sizes ranging from 1.0 mm to 10 mm making it perfect for many workshop applications

5071732   1mm to 10mm

RS PRO 88 Piece VDE Electricians Tool Kit

- Ergonomic multi-component handles
- Optimum balance of torque and control
- High quality and professional tools
- VDE approved for electrical safety

7348885   ½in. Socket & VDE Tool Kit

RS PRO HSS 3 Piece Step Drill Set

- Provides clear holes in applications requiring small hole size increments
- No pilot hole required easily enlarges existing holes
- Capable of cutting holes from 4 mm to 30 mm diameters
- Ideal for use with most power drills

232614   3 pce set 4-12,4-20,4-30

RS PRO 8 piece Hex Key Set

- Comprised of a chemically blackened , chrome vanadium steel
- The high quality materials offer a long life and service
- The set features a compartmental plastic wallet
- The keys have been heat treated, which improves their strength and resistance to rotational distortion

4501002   Metric miniature hexagon key set

Lockout Starter Kit

- Portable kit
- Basic lockout for valves and electrical panels
- 24 products

8625247

100 Per Package. Oil Spill Absorbent Pad

- Hydrophobic - float on water
- Designed for hydraulic engineers
- Open back for quick wicking
- Absorbency 0.9 litres per sheet
- Size 48 x 38 cm

7716377   90 L Capacity

Electrician Lockout Kit

- Portable kit
- Lock out for electricians
- 27 products

8625244

Earth Label, Black/Green Self-Adhesive Vinyl

- The RS Pro 776-0939 is a pack of 100 self-adhesive protective earth/grounding labels.
- These vinyl stickers measure 12.5 x 12.5 mm and is green with a symbol printed in black.

7760939

RS PRO Polyurethane-Coated Cut Resistant Gloves

- Plated to resist chemicals and rust
- Manufactured from high tensile steel
- Thick vinyl covered padlock section to resist wear
- Each lockout accepts up to 6 padlocks with up to 9.5mm shackle diameter

489141

RS PRO Hi-Vis Bomber Jacket

- From RS PRO Hi-Vis bomber jacket is not only comfortable but weatherproof and designed to enhance your visual presence
- This waterproof jacket has a wealth of benefits including an attached hood, 2-way front zip, storm flap and a fleece-lined collar
- For high visibility solutions in outdoor and challenging conditions, this bomber jacket style high visibility wear is ideal

9185958   Hi-Vis Yellow Bomber, XL

Black Bench ESD-Safe Mat

- ESD bench mat
- Manufactured from rubber
- Supplied with 10 mm stud
- Solder Iron resistant
- Easy to clean
- Low reflecting

7873114   1.2m x 600mm x 2mm

RS PRO Gel Adjustable Strap Rubber Knee Pad

- One size, gel filled
- Comfortable, extra thick support round the knee
- Single neoprene strap prevents chafing
- Pneumatic gel injection held in 7 layers, keeps knee dry and protected

4659369   Black

Conventional Miniature Circuit Breaker Lockout

- Use on single & multiple breakers
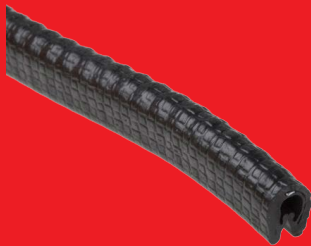- Weighs 11 grams
- Push button installation (no tools needed)

8625231   1 Lock PVC/Stainless Steel

EVERY PART MATTERS

RS PRO PVC Flexible Edge Protectors

- Made from flexible and durable PVC
- East to fit, simply press into place by hand
- No extra tools adhesives required
- Grooved profile to hold edge into place
- Embedded metal insert for extra retention
- Resistant to weathering
- Wide operating temperature range of -40 to +90 °C

RS PRO Hydraulic Platform Truck

- 300 kg load
- Length 820 x Width 520 x Height 770 mm
- Flatbed trolley style
- 1 platform
- Non-foldable

RS PRO IStandard Colour Semi-Open Fronted Storage Bins

- Strong and heavy-duty design with reinforced base, sides and stacking rim
- Made from injection moulded robust polypropylene which is both durable and resistant to most in dustrial solvents
- Polypropylene can withstand a temperature range from -15 °C to +50 °C. However, this is dependant upon use or application and may not apply when the storage bin is under load or stress

6191506	20m x 9.5mm x 6.5mm

8517537	820 mm x 520 mm x 770 mm

4844157	181 mm x 205 mm x 350 mm

RS Pro IP66 Sheet Steel Wall Boxes

- Steel structure, coated with an epoxy polyester powder
- IP66 rating
- Enclosure and the door is made from sheet steel
- Fully wall mountable
- Pebble grey finish

RS PRO Fibreglass Step Ladders

- The ideal step ladder for electricians Non-conductive fibreglass reinforced plastic
- IHandy tool tray with plenty of space for tools
- Rigid and sturdy connection on both sides
- Double riveted aluminium treads
- Non-slip plastic feet

RS PRO Equipment case

- Hard wearing
- High resistance to damage
- Integral carrying handle, hinged lids and fastening catches
- Supplied with two nylon-covered foam inserts
- Ideal for Product Promotion and Protection

7755785	150mm x 200 mm x 200 mm

553826	Fibreglass Step Ladder

556777	160 mm x 220 mm x 40 mm

RS PRO 2m Power Cable

- Flexible and durable cable with PVC insulation and sheath
- Terminated with IEC C14 and C13 connector
- Rated at 250 V ac, 10 A maximum
- Fully moulded connector design for strength and durability
- Reliable integrated strain relief for connection support and protection

Male USB A to Male USB C USB Cable

- Easy connection of latest USB type C devices to a USB A port in a host device
- Compact design
- Reversible type C plug can be used either way up without the need to check for orientation
- Super fast data transfer and charging, higher than previous USB types
- Plug and Play - no additional software required
- Meets standard USB 3.1 (SuperSpeed Plus transfer rate up to 10Gbps Mbps)

Yellow PVC Cat5e Cable F/UTP

- A range of Cat5e cables, perfect for network connections within the home, office spaces or any area requiring a reliable and high performing internet connection.
- Various lengths available
- F/UTP & U/UTP shield types
- Gold plated connector (RJ45)
- Runs up to 100 MHz applications

487277   2 m

1169372   USB 3.1, 1 m

556247   1 m

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