MRO Solutions

ISSUE #5

Design & Automate

Helping designers & machine builders shape the future

Limited Time Fluke Offer

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nz.rs-online.com

Supporting you every day, 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.

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

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

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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.

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WELCOME

Machine building is a competitive sector, one which is becoming increasingly globalised as the world embraces the concept of automation. Over the last couple of decades, the machine and equipment build industry has changed beyond recognition.

This change has been driven by both new technology and increasingly complex end customer demands, however the challenges the sector faces remain similar. The need to design and innovate, find new products and stay ahead of your competition. The need to have a responsive supply chain and to spend less time purchasing components and more time designing & building. And of course, identifying opportunities to manage costs without compromising performance or reliability of the end product.

RS have been supplying the equipment build market for over half a century. In that time, we've seen the creation and mass adoption of the PLC, Ethernet move from the IT world into the industrial control panel and the gradual replacement of the pushbutton by the multi-function HMI. We want to be the first choice for automation designers, machine builders and equipment makers and in this guide, we've highlighted examples of brands, tools and services which we believe can help you design & automate the future.

Regards,

Scott Philbrook
Managing Director
RS Components ANZ

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Our Solutions

Our solutions support you across the product lifecycle through design, build and maintain.

We can also give you advice on flexible delivery options, cost-saving ways to help you manage your inventory and procurement, through to preventative maintenance and eCommerce solutions.

Product Support

- We offer easy access to product support resources online or by phone.
- Our Customer Services team can help understand your needs offering product support or directing your enquiry to a qualified engineer.
- Speak to a live chat member on our website for help in finding products or other technical information.
- Or take a look at our technical data sheets which are available at product level. This can help save time, allowing you access to technical information 24/7.

Delivery and Invoice Options

With a range of flexible delivery and invoicing options all designed to suit you

- From same day to next working day to call off and consolidated delivery, we've a range of flexible delivery options to suit you.
- Stay in control of your spend and reduce your purchase to pay costs with our invoicing and payment services.

Calibration

The RS calibration service maintains compliance across a wide range of assets to international standards.

- From thermometry to test meters and measuring devices, you can be confident your equipment is compliant.
- Buy new, calibrated, ready-to-use equipment or, request recalibration of your own products with a fast turnaround and delivery.
- ISO9001:2015 Standard or NATA-accredited laboratory
- Have full traceability of your equipment's conformity for audit purposes.

Procurement Solutions

We have different solutions to help you manage your RS orders. From simple web tools to integrated eProcurement solutions.

Our procurement solutions support customers with complex needs to drive vendor consolidation, reduce costs, improve productivity and deliver innovation.

Product Plus

RS Product Plus is an exclusive service for customers looking to consolidate their spend. Our specialist team can support your requirements and help you source products not published on our website.

Using our expertise and relationships with over 2,500 key manufacturers, we provide access to over a million products. We will also let you know if we find an alternative product offering extract functionailty or value for money benefits.

- **Consolidate your vendors:** saving time managing multiple suppliers and reducing purchase-to-pay costs
- **Leverage your spend:** by placing your orders with fewer suppliers
- **Save time and speed up sourcing:** as there's no need for your teams to search and negotiate with multiple suppliers

eCommerce Solutions

For a more efficient process for your industrial and electronics product procurement, we have a service to fit your business requirements. From web-based and mobile ordering through to integrated procurement solutions.

PurchasingManager™

A free web order management solution that helps you manage your spend, whilst providing visibility of orders placed through the RS website.

PunchOut

Integrated into your own eProcurement system, providing fast and easy access to our full product range and purchase information.

eOrdering

Fast and secure ordering direct from your system to ours. Improves accuracy by eliminating order and invoicing errors.

eInvoicing

Fast and secure invoicing direct from our system to yours. Eliminates paper, whilst saving you time and money in administration processes.

Learn more at nz.rs-online.com/services or contact our team

A Future Facing Pact

The costs associated with procurement can grow as a company grows.

A circular economy is a systemic approach to economic development designed to benefit businesses, society, and the environment. It is regenerative and aims to gradually decouple growth from the consumption of finite resources.

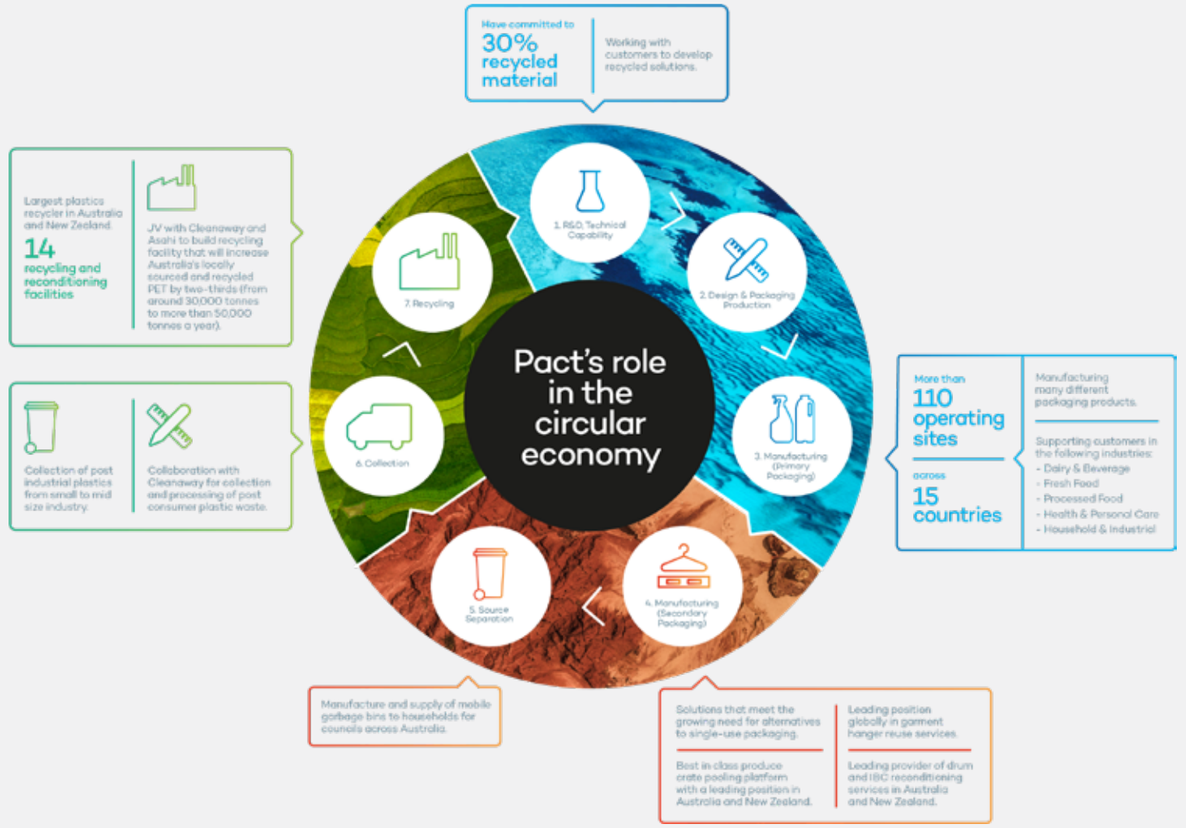
Since 2002, the Pact Group has been a driver of the circular economy through reuse, recycling and packaging solutions. The Pact Group employs over 6000 people and has over 8000 customers. They are an ASX listed company that is the largest provider of returnable produce crates in Australia and New Zealand. Their annual product output is approximately 11 billion units. It is a future facing company that is constantly evolving to find ways to grow business whilst lowering the footprint businesses place on the environment.

Their contribution to the circular economy involves three divisions within the company. Pact Packaging works with companies of all sizes to create recycled packaging solutions. Industries include dairy, FMCG, health and personal care, and industrial. With 110 operating sites globally, and a commitment to the inclusion of 30% of recycled material in their packaging, they lead the field in sustainability in their category.

Pact Reuse has created a solution to single use packaging, and works with major food producers and supermarkets to help them reach their sustainability goals. They have replaced 150 million single use boxes with 5 million plastic crates. They also recycle many millions of clothing hangers and manufacture waste bins for councils.

Pact Recycling is at the cutting edge of plastics recycling and partners with governments to maximise the reuse of waste. The output of this feeds the other two divisions.

> **We appreciate our partnerships with leading organisations such as PACT Group who share similar values around Innovation and the Environment.**
>
> Scott Philbrook, Managing Director
> RS Components ANZ



Procurement Impact

Pact has grown through acquisition. This presents challenges for the business as each site it acquired had its own legacy suppliers and procurement systems, with little data around spending patterns. This created inefficiencies across the business and ultimately cost the company time and money. These circumstances certainly applied to Pacts MRO procurement where they were purchasing a multitude of products across numerous suppliers. This made standardisation and site level compliance problematic, and economies of scale difficult to achieve, as managing pricing across a vast number of SKUs was challenging and pre-negotiated pricing benefits were non-evident.

By onboarding RS Components, Pact has moved away from manual procurement processes with its associated inefficiencies to a centralised automated replacement. RS Components eProcurement system allows for detailed analysis around MRO spending, which creates value for Pact. This approach means that spending across each site is visible, it eliminates leakage on a sitewide basis which means that Pact now enjoys standardised pricing and discount levels on SKU's across all sites nationally allowing for continuity around pricing.

Responses to procurement inquiry are now down to 1 day, and as RS Components eProcurement system is predictive, it can ensure that stock is available in localised warehouses as opposed to being housed in its UK headquarters. This means that Pact enjoys faster access to stock with delivery times cut from an average of 7 days down to 1. All this has led to significant savings for Pact, with further benefits as the system is further refined.

The Pact Group and RS Components have formed a partnership that will streamline Pact's MRO procurement, delivering efficiencies around purchasing, fulfillment, and sales analysis. This will further Pact's objective of driving the circular economy.

ELECTROCOMPONENTS PARTNERS WITH THE WASHING MACHINE PROJECT

Electrocomponents has chosen The Washing Machine Project Foundation as its first global charity partner, pledging to support the project for three years. Support will extend to encouraging the Group's employees, customers and suppliers to contribute through fundraising and volunteering activities.

The Washing Machine Project was set up in 2018 by British engineer Nav Sawhney following a sabbatical in South India, where he witnessed women and children enduring many backbreaking hours washing clothes by hand. He discovered that 70% of the world's population do not have access to an electric washing machine and for many washing clothes in rivers, lakes and buckets is the only solution. Handwashing clothes is recognised as being a major barrier to education for low-income and displaced people around the world. This repetitive, demanding task, which can take upwards of 20 hours per week, often also leads to chronic back and joint pain.

> ***At Electrocomponents we are committed to inspiring a more sustainable world through education and innovative solutions that improve lives, that's why we've chosen the Washing Machine Project Foundation as our first global charity partner and will mobilise our people, customers and suppliers in support of this fantastic cause.***
>
> **Lindsley Ruth, Electrocomponents CEO.**

This experience led Nav to develop a prototype for an affordable off-grid manual crank washing machine, the Divya. It is the only machine of its kind to be developed for humanitarian purposes and requires no electricity to operate. It uses a flywheel mechanism with drum-in-drum technology and combines washing and spin-dry functionality. Designed to be made from reusable off-the-shelf components and easily maintainable, it can be operated and fixed anywhere, by anyone.

Using the Divya reduces the time spent handwashing clothes by 75% and requires 50% less water. It can handle loads up to 5 kg, despite weighing just 12 kg.

Nav and his team at The Washing Machine Project are working to further improve the design and to broaden its humanitarian, sustainable and educational impact. With multiple modes of activation, such as push, pull and foot, the Divya Two will be easier to use by people with disabilities. It has also been modified to be used while seated, to reduce muscle and joint strain and promote better posture.

Following trials last year, 50 Divyas are now in use in the Jeddah 5 refugee camp in Mosul, Federal Iraq. By 2023, the plan is to have at least 7,500 machines available to disadvantaged families and communities in 10 countries, providing relief to around 100,000 people.

To continue its work the project requires essential funding. The three-year partnership with Electrocomponents will enable the charity to alleviate the burden of washing clothes for thousands of hard-hit families and communities. With an innovative engineering solution at its heart, the mission of The Washing Machine Project resonated with Electrocomponents' own, as both organisations share the ambition of creating a more sustainable world.

Over the next three years our support will help The Washing Machine Project to:

- Improve the lives of **100,000** people
- Develop their innovative engineering solution: an affordable, manual crank, off-grid washing machine
- Distribute the washing machine to people in hard-hit communities in **10 countries**
- Raise awareness of the global issue of handwashing: **70%** of the world's population do not have access to a washing machine
- Remove the chronic pain that inflicts women who spend up to **20 hours** per week handwashing clothes
- Enable children to benefit from an education instead of spending hours every day handwashing clothes

"Electrocomponents' support will provide critical funding and components to develop our future machine and build the capacity of our organisation so that we can reach many more people in need," commented Nav Sawhney, Founder, The Washing Machine Project.

DONATE TODAY

SUPPORT THE WASHING MACHINE PROJECT BY MAKING A DONATION AT:

https://electrocomponents.blackbaud-sites.com.

Building high-performance machines and panels has never been easier.
Find all the push buttons, switches and pilot lights you need.

Explore the solution without compromise on RS Online, today!

Life Is On Schneider Electric

Harmony XVU Modular Tower Lights

- The innovative Harmony XVU range of Ø 60 mm tower lights and sounders offers multiple lighting patterns, mounting flexibility, modern aesthetics, and unrivalled brightness.
- IP65 and IP54 protection ratings for sounders
- Ultra-bright LED with 360° visibility
- 6 colors with 4 light patterns: steady, flashing, blinking, and rotating

881-2797	LED Beacon Green, Steady Light Effect -	XVUC23
881-2791	LED Beacon Red, Steady Light Effect -	XVUC24
881-2832	Beacon Tower Terminal Unit -	XVUC21B
881-2823	Buzzer -	XVUC9S

Harmony Estop with Illuminated Ring

- The modular Harmony XB5 range of 22 mm plastic control and signaling units combines simplicity of installation, efficiency, flexibility, modern design and robustness to meet most industrial applications
- Complete illuminated e.stop ttr 24V 2 white/red fixed colors 1NO+2NC

195-8730	Round Head	XB5AS84W3B41
195-8732	Mushroom Head	XALK84W3BG
195-8735	Legend Plate	ZBY8L330

Harmony Wireless and batteryless package

- Wireless and batteryless package, containing a push-button, set of caps and receiver.
- Reduction of wiring allows for a quick and easy installation
- Flexible due to its mobility, giving greater control to operators. Can be used to remotely control machines up to 25 m away.

739-8060	Plastic, Ø22 -	XB5RFA02
739-8064	Metal, Ø22 -	XB4RFA02

3-Phase Monitoring Relay with NFC

- A 3 phase monitoring relay with configuration via FREE Zelio NFC Android App
- Monitors phase asymmetry, phase failure, undervoltage, overvoltage, over & under frequency
- 2 C/O outputs with adjustable on/off delay & voltages thresholds

179-0019	120-480Vac	RMNF22TB30

Harmony Complete pendant control stations

- Pendant control stations for auxiliary circuits
- Designed for mechanical handling, these highly robust pendant control stations comply with the safety requirements of IEC standards
- IP65
- Double insulated polypropylene casing
- Screw clamp connection

746-8989	2 push buttons, 1 emergency stop	XACA2053
746-8986	2 push buttons	XACA205
220-5173	4 push buttons, 1 emergency stop	XACA4913

DESIGNING SMART MACHINE OPERATOR INTERFACES IN A DISRUPTIVE TECHNOLOGY WORLD

According to the ARC Advisory Group, multiple global digitization trends - the Industrial Internet of Things, the connection of more mobile devices, multi-touch technology, cloud computing, and Big Data analytics - are propelling market growth. However, if machine builders hope to share in this growth opportunity, an evolution in operator interface design will be required to provide a window for achieving the productivity benefits of smart machines.

Schneider Electric

Design changes will include the incorporation of dashboards that reflect inputs from multiple external data streams and that present data analysis outputs. OEM machine interface design focus will require a shift from a machine-centric to a more operator-centric point of view.

Machine function no longer consists only of component control but should also encompass the monitoring and analysis of production and performance data. In this way, when operators and machines are interacting, adjustments to machine operations can be made more precise and efficient.

Breakthroughs in **cobots** and **mobile cobots, 5G networks, indoor geo-localization, cloud and edge computing, augmented reality, artificial intelligence** and **machine learning** are forcing a re-evaluation of the best methods for designing the new generation of machine interfaces. These new technologies will impact the entire range of digitized interfaces.

> Changing end user business requirements are driving operator interface innovation

Moving forward, manufacturing sites will require that machine operators embrace a broader scope of responsibilities. Fulfilling those tasks will depend on visibility to multiple machines that influence a particular function or process. As older employees retire and are replaced by less experienced millennials, operator interface simplification will be required to increase operator efficiency while reducing the time needed to execute specific tasks. The increased efficiency will be made possible through enhanced device flexibility. The best way to attain that flexibility is to design operator interfaces that are highly customizable.

As interface devices become more connected and more mobile (consider the new wave of wearable, interactive devices on the consumer front), security and safety will also become a greater concern. New levels of protection from both physical and cyber threats need to be accounted for in the design of more modern operator interfaces.

Schneider Electric helps OEM Marketing Directors and Technical Design Leaders to successfully navigate these new challenges in several ways. Schneider Electric Harmony operator interfaces, for example, enhance operational efficiency and machine availability. Harmony solutions can range from a simple set of pushbutton or single-touch displays mounted on a machine to more advanced technologies such as multi-touch control panels, to advanced industrial PC supervisory control and data acquisition, and even to connected mobile technologies such as tablets and smartphones.

> By incorporating Harmony devices into their machines, OEMs benefit in multiple ways:

INCREASED BUSINESS VALUE

Machines are delivered with more functionality and innovative interface designs help users to realize more value from their machines (like connection to outside data from other process that drive better decision-making).

CUSTOMISED AESTHETIC

Unique look and feel enables not only more end user comfort and convenience but also increased simplicity and safety.

HIGHER EFFICIENCY PERFORMANCE

Intuitive machine interface designs help to reduce human operator error thereby driving higher productivity from operations staff.

FULL MOBILE CAPABILITY

Process data can now be viewable from mobile devices with tools that integrate data, documentation and graphics that allow for intuitive operation.

ENVIRONMENTAL ADAPTABILITY

Further differentiation is provided by HMI technologies that are more capable of operating under extended temperature ranges and that are resistant to moisture, shock, vibration and harsh chemicals.

Search “Harmony” at **RS Online** today!

MX2 Inverter Drives

- A compact AC inverter drive that combines easy operation with high-efficiency control and ease of integration
- Built-in EMC filter and the STO (Safe Torque Off) safety function and PID as standard
- Intelligent application wizard for quick set-up with ModBus / RS-485 comms as standard with options for CANopen, DeviceNet, Ethernet/IP, EtherCAT & PROFIBUS

826-4606 0.4 kW, 230 V ac - 3G3MX2-AB004-V1

ZEN Logic Module

- perating temperature ranges between 0°C and 50°C
- Ladder logic programming
- Standard LCD display
- Eight operation buttons

650-2984 12 Inputs, 8 Outputs - ZEN-20C1DR-D-V2

760-9266 ZEN Connector Cable - ZEN-CIF01

CP2E Compact PLCs

- A Micro PLC for compact equipment where Price/ Performance ratio is a key, while supporting data collection and Machine-2-Machine communication
- 'E' entry level models offer optional serial or Ethernet comms, while 'N' level offer integrated Ethernet ½ ports
- 'N' & 'S' level both have options for 2 or 4 axis positioning control with linear interpolation - ideal for pick/place and packaging machinery

196-3743 8 in, 6 out relay - CP2E-E14DR-A

196-3745 12 in , 8 out relay - CP2E-E20DR-A

D3 Series Microswitches

- Reliable Basic Switch with External Lever
- Available by 0.1 A, 6 A, 11 A, 16 A and 21 A models, all withself-cleaning contacts. 0.1 A utilizes gold alloy crossbarcontacts for high reliability at low loads.
- Available with internally or externally fitted levers, and 2 fixing positions for external levers

682-2503 SPST-NO - D3V-16-3C5

682-2370 SPDT-NO/NC - D3V-16-1C25

NB Series Touch Screen HMI

- Long-life LED backlighting
- Internal memory is 128MB
- USB memory stick support
- Vector and bitmap graphics
- Serial, USB, or Ethernet connectivity
- Animations and easy-to-use functions
- Multi-language support and tool
- On/off-line simulation

821-1794 5.6" NB5Q-TW01B

Compact E-Stop with Big Impact

- 30mm head with optional 360° illuminated ring ensures improved visibility and increased safety of the machines and processes
- Due to its modularity, the small E-Stop is flexible and easy to integrate into any design
- Supplied as actuator only, uses M22-(C)K01 contact blocks

202-0424 22mm mount, Pull to Reset

202-0425 22mm mount, Turn to Reset

202-0426 22mm mount, Pull to Reset - LED Illuminated

202-0428 30mm mount, Pull to Reset

202-0429 30mm mount, Turn to Reset

202-0430 30mm mount, Pull to Reset - LED Illuminated

RMQ Flat enclosures

- RMQ Flat Enclosures can be quickly installed anywhere, whether it's a flat surface or a mounting rail
- Compatibility with virtually all elements from the RMQ-Titan range – e-stops, pushbuttons, indicator lights, selector or key switches
- M22-FIY1 Yellow is perfect for mounting E-stops on Aluminium profile

181-7668 22mm, M22-FIY1, one gang, yellow

181-7669 22mm, M22-FI2, two gang, grey

181-7670 22mm, M22-FI3, three gang, grey

181-7672 30mm, M30-FI1, one gang, grey

181-7673 30mm, M30-FI2, two gang, grey

181-7674 30mm, M30-FI3, three gang, grey

Foot and Palm Switches

- The large, heavy-duty switches which can be actuated by hand, fist, elbow, or foot, ensuring that quick action can be taken
- Shock resistant and sealed to IP67, IP69K - ideal for rugged applications

225-8166 FAK-R/KC11/I - Red/Grey - NO/NC

110-4561 FAK-R/V/KC01/IY - Red/Yellow - NC

110-4566 FAK-R/V/KC02/IY - Red/Yellow - 2×NC

225-8172 FAK-R/V/KC11/IY - Red/Yellow - NC/NO

110-4562 FAK-R/V/Y - Replacement upper Red/Yellow

RMQ Flat Design Pushbuttons

- RMQ flat front devices offer a attractive, sleek design and are fully compatible with RMQ-Titan M22 modular components
- The mounting system automatically adapts to the sheet metal thickness being used and are available with an anti-rotation tab option

136-5521 M30C-FDL-B - Blue

136-5523 M30C-FDL-G - Green

136-5518 M30C-FDL-G-X1 - Green with 'I'

136-5524 M30C-FDL-R - Red

136-5519 M30C-FDL-R-X0 - Red with 'O'

136-5525 M30C-FDL-W - White

RMQ Flat LED elements

- Rear mount LED elements available in dual-colour elements (RG) and multi-colour elements (RGB) as well as standard colours
- RGB module allows seven different colours on a single pushbutton, all adjustable to your specific needs

124-5197 M22-FLED-RG - Red/Green

124-5198 M22-FLED-RGB - Full RGB

124-5194 M22-FLED-B - Blue

124-5195 M22-FLED-G - Green

124-5196 M22-FLED-R - Red

124-5193 M22-FLED-W - White

COMPLETE line

Build your cabinet with confidence

Control cabinet designers must constantly rethink their processes to remain competitive in the market. This often requires extensive research to develop the required knowledge of the latest available technologies. With a proven record of innovation, Phoenix Contact is the perfect partner to support this continual evolution of system design.

The perfectly coordinated interaction between hardware and software in the COMPLETE line approach streamlines your processes – from initial design, to implementation, to the reliable execution and running of your applications.

INSPIRING INNOVATIONS

TRIO DIN Power Supplies

- Compact, high reliability DIN rail power supplies for industrial control & automation use
- Options available with 12Vdc, 24Vdc & 48Vdc outputs and 1 & 3-phase inputs from 60W-960W
- Adjustable DC output and LED status indication

883-7374	24Vdc, 3A, 85 → 264Vac 1ph input	2903147
883-7352	24Vdc, 5A, 85 → 264Vac 1ph input	2903148
883-7364	24Vdc, 20A, 85 → 264Vac 1ph input	2903151

Uninterruptible Power Supplies

- Basic UPS modules with either a self contained backup battery or supported by remotely connected lead AGM batteries
- Simple to use, no configuration and can quickly add supply resilience to a control system

168--2508	24Vdc 60W Self-contained UPS	2905907
665-7854	24Vdc 2A UPS unit	2866640
665-7851	12Vdc 4A UPS unit	2866598

PTFIX Distribution Blocks

- Distribution blocks using time-saving, tool-free push-in direct connection technology
- Compact design enables space savings of up to 50% as well as simpler wiring
- Available with 6, 12, and 18 terminal points, with various mounting options, and eleven colours for clear, intuitive, and safe installation - DIN rail options listed

136-3231	6X2,5-NS35 Grey	2703015
136-3232	12X2,5-NS35 Grey	2703016
136-3233	18X2,5-NS35 Grey	2703018
136-3240	6/6X2,5-NS35 Grey	3273066
136-3241	6/12X2,5-NS35 Grey	3273088
136-3242	6/18X2,5-NS35 Grey	3273110

DIN Mount Patch Panels

- DIN rail mounting RJ-45 patch panels suitable for 10/100/1000 Mbps data usage, available with and without surge protection
- Suitable for use with Profinet & Modbus TCP automation networks as well as Ethernet

175-6031	2 × RJ-45	2703015
175-6032	1 × RJ-45 to screw terminals	2703016
175-6033	1 × RJ-45 to push terminals	2703018
175-6034	1 × RJ-45 to IDC terminals	2703019
175-6035	2 × RJ-45, surge protected	2703020
175-6036	1 × RJ-45 to screw terminals, surge protected	2703021
175-6037	1 × RJ-45 to push terminals, surge protected	2703022

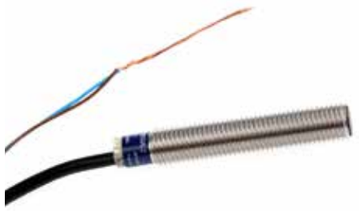
PT Series DIN Rail Terminals

- Compact terminals providing easy, direct conductor connection with up to 50% lower insertion forces than a PT push-in connection
- Suitable for use with solid and stranded conductors with ferrules of 0.34mm² and upwards
- Priced and supplied in packs

750-8472	PT 1.5/S (pack of 5)	3208100
201-6105	PT 1.5/S BU (pack of 50)	3208126
750-8501	PT 1.5/S-PE (pack of 5)	3208139
750-8453	D-PT 1.5/S (pack of 5)	3208142
687-9414	PT 2.5 (pack of 10)	3209510
687-9417	PT 2.5 BU (pack of 10)	3209523
687-9411	PT 2.5-PE (pack of 10)	3209536
388-4637	D-ST 2.5 (pack of 5)	3030417
708-1633	PT 4 (pack of 5)	3211757
708-1637	(pack of 5)	3211760
708-1646	PT 4-PE (pack of 5)	3211766
458-0897	D-ST 4 (pack of 5)	3030420
708-1683	PT 4-HESI (5X20) (pack of 5)	3211861
627-3383	CLIPFIX 35-5 (pack of 5)	3022276
687-9528	PT 2,5-MT (pack of 10)	3210156
687-9638	PTTB 2,5 (pack of 10)	3210567

Osi Optimum Proximity Sensors

- Flush-mountable inductive proximity sensors, designed for essential and repetitive applications
- 2m cable pre-wired versions (IP68 sealed)



512-4426	1.5mm, M8 × 1, NO	XS508B1DAL2
444-3243	2.5mm M8 × 1, PNP	XS608B1PAL2

OsiSense XS 4mm Inductive proximity sensors

- Twice nominal sensing distance
- Flush mount
- Fast switching frequency

695-6766	M12 × 1, NC	XS612B1MBL2
444-3322	M12 × 1, NO	XS612B1MAL2
444-3265	M12 × 1, PNP	XS612B1PAL2

OsiSense XS 8mm Inductive proximity sensor

- 2 & 3 wire controlled devices
- LED status display
- Operating temperature range: -25 → +70° C

444-3293	M18 × 1, PNP	XS618B1PAM12

Osiprox Inductive Proximity Sensor

- Flat format
- Flush or non flush mountable versions
- LED status display
- Operating temperature range -25 to +70° C

444-3192	PNP Non-Flush Mount	XS8D1A1PAM12

OsiSense XS 4mm Inductive Sensor

- Twice nominal sensing distance
- Flush mount
- Fast switching frequency
- 2 & 3 wire controlled devices

444-3271	4mm, PNP	XS612B1PAM12

OsiSense XS 15mm Inductive Sensor

- 2 & 3 wire controlled devices
- LED status display
- Operating temperature range: -25 → +70° C

444-3316	15mm, PNP	XS630B1PAM12

XCKJ Snap Action Lever Limit Switch

- Rated 240V 3A at AC15 10A Ith
- Snap action NC contacts with positive opening operation
- Comes with a pre-tapped ½" NPT cable gland entry

700-4309	NO/NC, 240V	XCKJ10541H29

XCKM Roller Plunger Limit switch

- 1 N/O (aux) and 1 N/C (safety) contacts
- Rating: 240 Vac, 3A
- Protected to IP65

235-981	NO/NC, 240V	XCKM102H29

XCKP Snap Action Limit Switches

- Visible operation
- Precise operating points
- Double insulation

447-3418	Metal end plunger	XCKP2110P16
447-3395	Roller lever	XCKP2118P16
447-3430	Horizontal plunger	XCKP2121P16

XCKS Snap Action Limit Switches

- Rated 240V 3A at AC15 10A Ith
- Snap action NC contacts with positive opening operation
- -25 to +70°C operating temperature

243-780	Roller plunger actuator	XCKS102H29
236-029	Roller lever actuator	XCKS131H29

ZCKM Snap Action Limit Switch

- 1 N/O (aux) and 1 N/C (safety) contacts
- Rating: 240 Vac, 3A
- Protected to IP65

360-8562	NO/NC, 240V	ZCKM1H29

Contact Block

- Contact Blocks for XCKJ/XCKM/ XCKS Limit Switch Ranges

360-8685	NO/NC, 240V	XE2SP2151

SIRIUS Touch Screen HMI Displays

- Integrated system diagnostics
- Can be configured using WINCC comfort
- Resolution is 800 × 480 pixell

864-3970	TP700 Comfort 7" -	6AV2124-0GC01-0AX0
864-3961	KTP700 Basic -	6AV2123-2GB03-0AX0

LOGO!POWER Switch Mode DIN Rail Power Supplies

- High precision photoelectric sensors ideal for smaller object detection
- Adjustable sensitivity control
- Reversible switching (PNP NO / NC)
- 10 → 30 VDC supply voltage

136-5297	2.5A	6EP3332-6SB00-0AY0
136-5298	4A	6EP3333-6SB00-0AY0

SIRIUS ACT Emergency Stop Control Stations

- Enclosure for command devices, 22 mm round

874-2305	3SU1801-0NA00-2AC2
874-2314	3SU1801-0NB00-2AC2
874-2301	3SU1801-0NA00-2AA2

SIRIUS 3RW40 Compact Direct Starters

- Ideal for detection of non-metallic or insulated materials
- Pre-wired connection - 2m cable
- 10-30Vdc supply with LED output indication

420-479	3RW4047-1BB14
420-508	3RW4027-1BB14
746-4943	3RW4027-1BB04
746-4925	3RW3038-1BB04

SIRIUS Innovation Contactor Overload Relays

- Delivers reliable detection of all kinds of transparent objects such as PET bottles, glass bottles or transparent trays
- Choice of Smart Teach enabling fast set up or trimmer sensitivity adjustment

746-0737	2NO/2NC, 10 A Contact Rating	3RH2122-1BB40
746-0768	4NO, 10 A Contact Rating	3RH2140-1BB40
746-0733	2NO/2NC, 10 A Contact Rating	3RH2122-1AP00
746-0743	3NO/1NC, 10 A Contact Rating	3RH2131-1BB40
746-0759	4NO, 10 A Contact Rating	3RH2140-1AP00

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WERMA

WERMA EvoSIGNAL –

Mini Midi Maxi Beacons

Industrial beacons with attractive features:

- Finding the right signal device is as easy as never before
- Three sizes can ideally cover almost any application segments
- TwinLIGHT and TwinFLASH merge two lighting functions in one element
- Tricolour and multicolour options combine several colours into one housing
- Best-in-class equipment: powerful, extremely durable (IP66), tamper-proof

EvoSIGNAL is the new modular, simple and clear standard solution for the signalling sector – in other words, typically WERMA.

Comprehensive range of EvoSIGNAL variants available online, examples shown as AC/DC supply with 115-230Vac supply options available from stock.

197-4169	Mini TwinLIGHT, Red, 24V
197-4179	Mini TwinLIGHT, Yellow, 24V
197-4175	Mini TwinLIGHT, Green, 24V
197-4190	Mini TwinLIGHT, Blue, 24V
197-4186	Mini TwinLIGHT, Clear, 24V
197-4187	Mini TriColour Red/Yel/Grn 24V
197-4172	Mini TwinFLASH, Red, 24V
197-4183	Mini TwinFLASH, Yellow, 24V
197-4199	Midi TwinLIGHT, Red, 12/24V
197-4206	Midi TwinLIGHT, Yellow, 12/24V
197-4203	Midi TwinLIGHT, Green, 12/24V
197-4215	Midi TwinLIGHT, Blue, 12/24V
197-4210	Midi TwinLIGHT, Clear, 12/24V

197-4213	Midi TriColour, Red/Yel/Grn, 12/24V
197-4208	Midi TwinFLASH, Yellow, 12/24V
197-4201	Midi TwinFLASH, Red, 12/24V
197-4223	Maxi TwinLIGHT, Red, 12/24VAC
197-4232	Maxi TwinLIGHT, Yellow, 12/24VAC
197-4230	Maxi TwinLIGHT, Green, 12/24VAC
197-4241	Maxi TwinLIGHT, Blue, 12/24VAC
197-4239	Maxi TwinLIGHT, Clear, 12/24VAC
197-4235	Maxi TwinFLASH, Yellow, 12/24V
197-4225	Maxi TwinFLASH, Red, 12/24V
197-4237	Maxi Rotating, Yellow, 12/24V
197-4228	Maxi Rotating, Red, 12/24V

Free Software

Efficiently solving design problems with

DesignSpark Mechanical v5.0

DesignSpark Mechanical software has just been upgraded to DSM v5.0

with a host of features that improve usability and design efficiency:

- User customisable shortcuts
- Custom rendering
- Flythrough display
- Improved sketching with equations and a 2D constraint-based mode
- Mass properties that better supports calculations for 3D printing

Engineers looking for extended features such as import & export of IGES format files, support for STEP files, GD&T annotations, customised drawing sheets, perspective modification on 2D drawings from 3D objects are supported too. Drawing and Exchange add-on packages add just the features you need and can be purchased individually, or as a bundle.

Download DSM v5 for free

Explore the extended features of DSM add-ons

DESIGNSPARK

Your go-to design engineering platform

ControlMaster Controllers & Indicators

- Panel mount 1/8, ¼ and ½ DIN process controllers that are more intuitive, easier to operate and feature packed
- Offering a full-colour TFT display giving a crystal clear view of the process with IP66 facia sealing
- Suitable for basic to demanding applications, PID functionality includes cascade, feed forward, adaptive, predictive and ratio control strategies

736-2829	Indicator, CM15, 96×48, 100→240Vac
736-2838	Controller, CM10, 48×96, 100→240Vac
736-2831	Controller, CM30, 96×96, 100→240Vac
736-2835	Controller, CM50, 76×144, 100→240Vac

AF Series Contactors

- Designed to increase operational uptime and reduce parts inventory for both machine builders and maintainers
- The electronically controlled coil offers benefits over conventional alternatives including wider operating range, AC & DC operation and lower current consumption
- Built-in suppression with connection sets and interlock unit for reversing and star-delta starting are available - 3 pole variants listed

711-6240	4kW 12-20DC NO
711-6073	4kW 24-60AC 20-60DC NO
711-6118	4kW 100-250V AC/DC NO
711-6130	4kW 250-500V AC/DC NO
711-6244	5.5kW 12-20DC NO
711-6076	5.5kW 24-60AC20-60DC NO
711-6111	5.5kW 100-250VAC/DC NO
711-6133	5.5kW 250-500VAC/DC NO
711-6070	7.5kW 24-60AC20-60DC NO
711-6115	7.5kW 100-250VAC/DC NO
711-6137	7.5kW 250-500VAC/DC NO

OT Series DIN Rail Mount Disconnectors

- Non-fused disconnectors suitable for a wide range of applications including motor control centres, switchboards and mains switches in various equipment and machines
- Fits onto a standard 35mm DIN rail or direct to base plate - 6mm shaft for extension

686-7301	Yellow/Red, Padlock, Door IP54 OT16-125 - OHYS3AH
686-7307	Black, Padlock, Door IP54 OT16-125 - OHBS3AH
686-7363	Black Pistol Handle, OT63-250 - OHB65J6
727-1511	Shaft 6mm x 180mm, OT16-125 - OXS6X180

ACS150 General Purpose Drives

- The expertly designed CM-UFD range of grid feeding relays ensures safe and reliable monitoring of numerous grid parameters when feeding energy into the public grid.
- Monitoring of voltage and frequency in single and three-phase mains (2-wire, 3-wire, or 4-wire AC systems)
- 0-minutes average value monitoring
- Rate of change of frequency monitoring configurable
- Vector shift detection configurable
- Error memory for up to 99 entries

876-2554	1SVR560730R3400 CM-UFD.M22
876-2551	1SVR560730R3402 CM-UFD.M33
876-2557	1SVR560730R3401 CM-UFD.M31

What to Consider in Industrial Control Panel Design

Understanding the fundamentals of industrial control panel design can help you ensure that your panel matches your specific needs and decreases the risk of costly mistakes during your project.

When designing a custom control panel, there are a number of key aspects to consider to ensure your panel operates properly, is safe to use, and remains reliable.

Every facet of your production process, equipment, and plant environment must be carefully considered when designing an industrial control panel. This knowledge is necessary when determining what type of enclosure is needed, the available space to install the control panel, what the electrical requirements are, and what hardware and software components are needed to achieve your desired functionality. While each custom control panel is tailored to a specific purpose and application, the majority of them have a similar overall blueprint.

RS Components have been helping designers & machine builders shape the future and below we highlight some areas which we believe can help you automate the future.

Enclosure Type and Sizing

Determining the enclosure type and size for your control panel is an important step in the design process.

When choosing the enclosure type, it is essentials to evaluate the environment that the panel will be located in.

For example, a panel that will be exposed to corrosive substances will need a fully sealed stainless-steel enclosure, while a panel that is installed in an area with high ambient temperature may require a ventilation fan or air conditioner.

Furthermore, a panel that is being mounted to a machine, pedestal, or on a wall will use a different style enclosure than a panel that will be free-standing.

Once the enclosure type has been selected, the next step is to determine the right size based on the space required to install and wire the intended control panel components.

Power and Circuit Protection

Another crucial step in designing a control panel is determining your power requirements. Conducting full-load calculations will help you determine how many amps will need to be supplied to the panel. Based on the voltage of the power supplied by your facility, you may need to include a transformer in your panel to convert the voltage to 120V AC and/or a power supply to convert to 24V DC.

You will need to keep in mind the types of equipment you'll be operating. For example, if your panel will be controlling motors, you may need to include contactors, overload relays, or motor starters to protect your motor from pulling too much electrical current and overheating.

Determining correct wire sizes to ensure delivery of the required load current, as well as adding the necessary circuit protection are crucial aspects of the electrical design of your panel. Circuit protection components include circuit breakers, surge protectors, and fuses, and are essential for creating consistency and preventing damage to your wires and components from excessive voltages or currents.

Controls Components

Another stage in creating a custom control panel is choosing the correct components and devices to achieve the control functionality you require. Simple control applications that only require the ability to turn something on or off based on an input signal can benefit from control components such as relays or timers.

More complex applications such as those requiring the ability to control a sequence of events may require a programmable logic controller (PLC), which is a microprocessor specially designed to operate in harsh industrial environments.

If you are controlling a motor, depending on the application, you may need a variable frequency drive (VFD), servo drive, or soft starter in your panel. A VFD is used in situations where you need to control motor speed. Alternatively, servo drives are used with servo motors and can control multi-axis movements. Finally, soft starters are used to gradually increase the voltage supplied to a motor during start-up to prevent a high rush of current and torque that can damage the motor and the equipment being driven.

Operator Interfaces

The control panel's operator interface can take many different forms, including pushbuttons, switches, indicator lights, digital meters, or human-machine interface (HMI) display.

Each of these interfaces can be used on their own or in conjunction with one another, depending on the level of functionality you need. The advantage of using an HMI in your design is the ability to combine all your pushbuttons, switches, and meters into one digital touch screen display.

Safety and Regulations

Safety is a top concern when designing a control panel. Implementing a disconnect switch to completely shut off power before performing maintenance or during an emergency is just one way to promote safety. Furthermore, using the lowest practical voltages, touch-safe components, and following NEC and UL regulations also helps make the control panel safer to use.

The main industrial control panel codes and standards include:

- UL 508A – Standard for Industrial Control Panels intended for general use.
- UL 698A – "Standard for Industrial Control Panels Relating to Hazardous (Classified) Locations."
- NFPA 70 – "Standard for safe installation of electrical wiring and equipment."
- NFPA 79 – "Electrical Standard for Industrial Machinery to protect operators, equipment, facilities, and work-in-progress from fire and electrical hazards."

Control Panel Maintenance

Once your custom control panel has been designed, built, and installed, it is important to perform continued maintenance to ensure safety and reliability.

Simple maintenance practices that can prolong the life of your control panel;

- Keeping pests away from panel wiring and out of the enclosure.
- Regularly clearing out dust build-up. Be careful not to vacuum near circuit boards without following electrostatic discharge (ESD) rules.
- Periodically checking terminal connections to ensure they remain properly tightened.
- Always keep the enclosure door closed.
- Contacting your systems integrator to perform any necessary software updates.

RS Components: Helping you build better

When you build and install new equipment you need to specify parts, keep to your schedule and manage costs. So, it's important that you have access to a broad range of products and technical support if you need it.

You can get everything you need from one place with our wide range of products from leading brands, covering electrical, automation, mechanical and electronics, plus 10,000 new lines being added each year.

We also have a range of services to optimise your build process

We can help you save time with technical support and help to find products, even those not on our website.

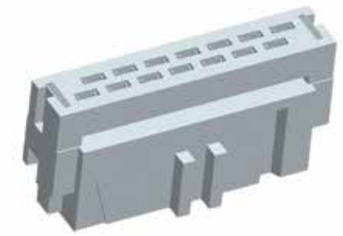
With clear online pricing and a range of delivery options available, we'll make sure that you get the right product at the right time.

We're here to support you. Contact us today -

Adrian Green
VIC State Sales Manager
RS Components Australia

14-Way IDC Connector Socket

- For 1.27 mm (0.05 inch) pitch ribbon cable.
- These female socket connector contacts mate with 0.64 mm (0.025 inch) square or round posts with 6.22 mm (0.245 inch) max. and 4.45 mm (0.175 inch) min. lengths which could have been previously soldered into the PCB.



189-5879 2-Row — 1-215915-4

SOLARLOK PV4-S connector kit

- Provides waterproof protection
- Minimizes power loss by providing low contact resistance

190-2029 (Pack of 5) — 2270025-1

CGAT Adhesive lined 3:1 Heat Shrink Tubing

- High strength bonding
- Moisture proof
- Flame retarded jacket
- Environmental sealing

157-3818 12mm — CGAT-12/4-0
157-3824 18mm — CGAT-18/6-0
157-3903 24mm — CGAT-24/8-0

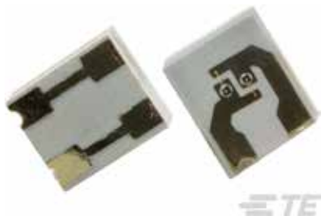
4 Pole Cable Plugs and Sockets IP67, IP69

- Based on DIN 72585, this range of sealed connectors has been developed to meet the demand for superior performance
- Vibration proofed
- Resistant to physical shock

395-7331 4 way DIN plug — 1-967402-1
395-7296 4 way DIN socket — 1-967325-1

EPM-5001 Series SMT Optical Detector Assembly

- Fast Response
- Matched to 660nm Emitter
- High Efficiency
- Clear Epoxy Lens



197-5282 8.07mm² — 10104019-20

Pro-Crimper III Ratchet Crimping Tool

- For use with the SUPERSEAL series of automotive wire connectors
- Constructed from tin plated brass for the tabs and tin plated phosphor bronze for the receptacles

314-1362 Wire Size 0.35 to 1.5 mm² — 58583-1

HD10 Series Cable Mount Housing

- Sealed to IP67
- Durable – 100 mating cycles minimum

425-456 Male, 9 contacts, Socket — HD10-9-96P
425-406 Female, 6 contacts, Plug — HD16-6-96S
425-440 Male, 6 contacts, Socket — HD10-6-12P

6860 Series Crimp/Solder contacts

- Copper alloy with gold over nickel plating
- Protrude 5.6mm from the back of the connector to allow direct connection to a PCB

314-6840 Size 16 — 6860-201-16278
314-6856 Size 20 — 6860-201-20278

DT15 Series PCB Headers

- Environmentally sealed connector
- Rugged thermoplastic connector housing
- Operating temp range -55 to +125 °C

724-2532 4 Way, 2 Row, Straight — DT15-4P

Universal Crimp Tool

- From Deutsch, this universal hand crimp tool has an eight-indent crimp designed to be used with solid contacts sizes 12, 16 and 20
- Used with both pin and socket contacts, the crimp tool features a simple screw adjustment for height/contact size, and a dial to select applicable wire sizes

425-973 20AWG to 12AWG — HDT-48-00

IMC Series Crimp Extraction Tools

- Offers compact multipole connection where space is at a premium
- Suitable for use on test equipment, industrial sensors, medical equipment, instrumentation & control system

314-6907 Contact size 16AWG — 6757-201-1601
314-6913 Contact size 20 — 6757-201-2001
314-6929 Contact size 22 — 6757-201-2201

DT Series Automotive Connectors

- Designed for cable to cable connections, and when mated is sealed to a high degree of environmental protection
- Safe, versatile and reliable, DT plug connectors are ideal for automotive applications

425-692 2 Way Plug Connector — DT062S-CE06
425-682 3 Way Socket Connector — DT063S-CE06

Rittal – The System.

Faster – better – everywhere.

The platform for everything

Infinite possibilities for industry and IT

Rittal's innovative Modular Enclosures, Power Distribution and Climate Control systems are the industry's first choice for protecting critical equipment.

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FRIEDHELM LOH GROUP

TopTherm side air conditioners

- Mounting on or in doors and side panels of enclosures with standardized mounting cut-outs
- Integrated automatic condensate evaporation (except SK 3303.500),
- Nano coating condenser for easy cleaning and constant cooling capacity and efficiency
- These air conditioners also use an intelligent operating system, turning fans onand off as needed to maintain precise temperatures while saving energy

764-4127	1600W, 585m³/h, 230V ac	3305500
764-4124	1100W, 600m³/h, 230V ac	3304500

AE Series Stainless steel Compact enclosures

- AE stainless steel compact enclosures 1.4301 (AISI 304) or 1.4404 (AISI 316L), incl. mounting plate
- Protection category IP 66, IP 55 for 2-door enclosures

784-6125	210mm x 300 mm x 300 mm	1003600
784-6147	210mm x 500 mm x 400 mm	1015600
784-6121	155mm x 300 mm x 200 mm	1002600
784-6128	120mm x 300 mm x 200 mm	1001600
784-6178	210mm x 600 mm x 600 mm	1016600
784-6159	300mm x 500 mm x 500 mm	1013600

KX Terminal Boxes

NEW

- Can be used for many purposes like to house various electronic, electrical and mechanical components, equipment, and devices
- Allows flexible interior installation
- Maintain high protection category
- IP 66 protection
- NEMA 4 protection category

202-3837	300 × 200 × 120mm	3186930
202-3866	400 × 200 × 120mm	3187930
202-3835	300 × 150 × 120mm	3188940
202-3841	300 × 300 × 120mm	3189940
202-3820	300 × 150 × 80mm	3186930
202-3823	400 × 200 × 80mm	3187930
202-3862	200 × 150 × 120mm	3188940
202-3821	200 × 200 × 80mm	3189940

AX Series Enclosures

NEW

- The Rittal AX command panel is an operating housing with handle strips which is based on AX.
- The AX command panel has an easily removable aluminium front panel for machining
- Protection category IP 55
- Naturally anodised front panel and cover caps
- Type 1, 12 IP protection category and rating to UL 508A

202-3944	500 × 500 × 210mm	3186930
202-3937	300 × 300 × 210mm	3187930
202-3940	300 × 200 × 150mm	3188940
202-3945	600 × 380 × 210mm	3189940

Discover the **RS PRO Wiring and Connectivity Series.**

An extensive selection of cables, connectors and accessories for every wiring and connectivity application and environment.

Find out more at **rspro.com**

Steel Wire Armoured Cable

3 YEAR WARRANTY

- Galvanised steel wire armour for optimum protection against damage and impact
- Excellent dielectric strength and corrosion resistance at high temperatures due to thermosetting XLPE insulation
- PVC bedding and sheathing to protect the cable in a wide range of environments
- Wide operating temperature range providing flexibility
- Available in a wide range of sizes and cores. Examples shown 5 core. 2 and 3 core versions also available on the RS website

185-4003	1.5mm² 50m
185-4004	1.5mm² 100m
185-4005	2.5mm² 100m
185-4006	4mm² 100m
185-4007	6mm² 50m
185-4008	6mm² 100m
185-4009	10mm² 50m
185-4010	10mm² 100m
185-4011	16mm² 50m
185-4012	16mm² 100m

SY Control Cable

3 YEAR WARRANTY

- Galvanised steel wire braided flexible control cable designed for measuring, control or regulation under tough mechanical stresses
- For installations where free movement is required without tensile stresses
- Examples shown are 1.0mm². Other CSAs available from 0.75mm² to 6mm², all supplied on 50m reels (100m reel options coming soon)

196-4657	2 core
196-4692	3 core
196-4683	4 core
196-4682	5 core
196-4685	7 core
196-4704	12 core
196-4701	25 core

YY Control Cable

3 YEAR WARRANTY

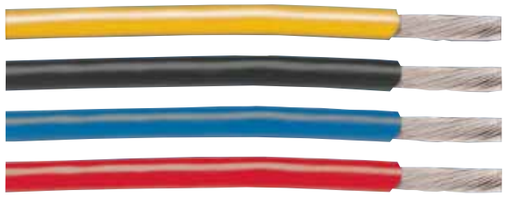
- Designed to be used as an interconnecting cable for measuring, controlling or regulation in control equipment
- Flexibility permits use for linking fixed and mobile equipment
- It is recommended for indoor projects in dry or moist conditions
- Supplied on 50m reels. Examples shown, other sizes available on the RS website

196-4675	0.75mm² 3 core
196-4669	0.75mm² 4 core
196-4702	1mm² 3 core
196-4672	1mm² 4 core
196-4695	1.5mm² 3 core
196-4693	1.5mm² 5 core
196-4665	1.5mm² 7 core
196-4677	2.5mm² 3 core
196-4686	2.5mm² 4 core
196-4691	2.5mm² 5 core

Metric EcoWire®

NEW

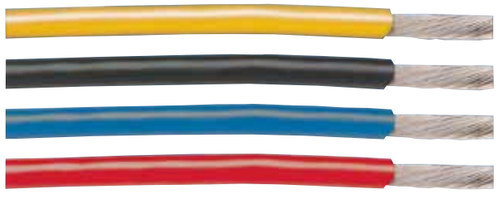
- Metric EcoWire® saves space in your critical applications where space is at a premium
- Zero-halogen, no phthalates or heavy metals
- 600V cable that is 45% smaller and 40% lighter
- Examples shown. Full range available on the RS website



201-2704	67025 BK033 0.25mm² black 100m
201-2731	67025 RD033 0.25mm² red 100m
201-2740	67050 BK321 0.5mm² black 50m
201-2761	67075 BK321 0.75mm² black 50m
201-2663	67010 BK321 1mm² black 50m
201-2689	67010 RD321 1mm² red 50m

EcoWire Plus

- EcoWire Plus offers all of the environmental benefits of standard EcoWire such as being smaller and lighter than PVC alternatives, plus additional fluid and chemical resistance
- Up to 45% smaller and 40% lighter than XLPE
- Rated from -40°C to +110°C at 300 V
- Meets ISO 6772 for oil and hazardous fluid resistance
- Supplied on 30m reels. Examples shown. Full range available on the RS website



749-5288	6820 BK005 0.08mm² black
749-5301	6820 RD005 0.08mm² red
749-5310	6820 WH005 0.08mm² white
749-5317	6821 BK005 0.13mm² black
749-5373	6823 BK005 0.33mm² black
749-5395	6823 RD005 0.33mm² red

Micro Coax

- Alpha's micro coaxial cable is a great space-saving solution that makes routing easier in applications such as medical probes, endoscopy systems, oximetry systems, industrial inspection, and more
- Exceedingly small and lightweight with stranded conductors for increased flexibility
- 90% shield coverage for excellent EMI protection and electrical characteristics
- Up to +200°C temperature range
- Supplied on 100m reels. Examples shown. Full range available on the RS website

122-2319	9442 WH033 0.0035mm² 0.3mm OD
122-2317	9438 WH033 0.0088mm² 0.46mm OD
122-2315	9434 WH033 0.022mm² 0.99mm OD
122-2314	9432 WH033 0.034mm² 1.12mm OD

EcoCable® Mini

- EcoCable® Mini is the next generation of 300V cables. By combining better performance and minimum environmental impact, EcoCable Mini uses its mPPE insulation and jacketing to provide all of the advantages in a smaller, lighter cable
- Up to 32% smaller, 44% lighter and 92% lower outgassing than standard PVC
- Contains no halogens, phthalates, or heavy metals
- Examples shown, supplied on 30m reels. Full range available on the RS website

832-4727	78002 SL005 2 core unscreened
832-4739	78004 SL005 4 core unscreened
136-8490	78152 SL005 2 pair screened
832-4828	78106 SL005 6 core screened

T1 Tw1ster Industrial Single Pair Ethernet (SPE)

- Robust two-wire Ethernet communication – reduces weight & cost for industrial applications
- Up to 1000m reach with 10Mbit/s data performance and PoDL functionality – reduces system complexity
- Barrier-free communication from shop floor to Cloud computing – simplifies design and implementation

203-9051	Industrial angled jack
203-9053	0.5m cable assembly
203-9054	1m cable assembly
203-9055	2m cable assembly
203-9056	3m cable assembly
203-9057	5m cable assembly
203-9062	10m cable assembly
203-9063	50m cable assembly

ix-Industrial®

- RJ45 performance in 70% less space – reduced PCB real-estate, increased stacking density
- Positive snap-in mating feature – robust metal construction provides effective audio confirmation of connection
- 5-point PCB THR hold-down contacts – high retention force & excellent shock/vibration performance

178-4192	Type B cable connector with solder termination
178-4193	Type B cable connector with IDC termination
178-4195	Female PCB connector
178-4180	Type A cable connector with solder termination
178-4182	Type A cable connector with IDC termination
178-4184	1m cable assembly

Han®1A Heavy Duty Power Connectors

- Lightweight IP65 robust plastic housing & inserts – 30% smaller than full metal system
- Easy to use locking system – quick and easy click & mate design
- Modular design - power, signal & data options within the same housing

188-1485	12 contacts, 6.5A male
188-1486	12 contacts, 6.5A female
188-1487	Locking lever
188-1488	Bulkhead mounted housing, straight
188-1489	Bulkhead mounted housing, angled
188-1491	Strain relief
188-1492	Fixing plate
188-1493	Cable adapter

Han® B Rear-Mount Housings & Frames

NEW

- Allows pre-assembly of cables/wires away from cabinet or machine – efficient manufacture of wiring looms
- Snap fit frame into rear fit housings – tool-less assembly
- Established IP65/66 protection – compatible with existing installations
- Examples shown are rear-fit panel housing with frame. Housings and frames also available separately

197-6822	Han 6B
197-6825	Han 10B
197-6828	Han 16B
197-6832	Han 24B

FLUKE®

Power Quality at the Service Panel

Voltage sags, tripping breakers, overheated electrical panels, and excessive voltage levels are all indications of possible trouble in an electrical distribution system. It is helpful to understand that these symptoms are telling us something is wrong with the power system. But where oh where do you begin the search to isolate the exact cause of these power quality problems?

Just like cars have a single connection point to monitor vital functions, the electrical system has a similar connection point: the electrical service panel. As a common point for branch circuit distribution, the service panel is also a convenient place to take the pulse of your electrical system.

A number of problems can be located right in the service panel itself. For problems elsewhere in the system, measurements at the service panel can tell you where to look next. Some problems can be caught by a quick visual inspection, while others require that measurements be taken.

FINDING THE CAUSE OF THE PROBLEM~

Depending on the voltage and measurement requirements, you can use a variety of tools for power quality troubleshooting, from digital multimeters to handheld single and three phase power quality analyzers that perform many calculations automatically.

VOLTAGE LEVEL AND STABILITY

Though this reflects in part the high pThe first step in checking to see if voltage levels and stability are the culprits is to measure voltage levels of the branch circuits, phase-to-neutral, at the load side of the branch circuit breakers.

Note: For safety's sake, when making voltage measurements always keep a circuit breaker between you and the fault current ampacity of the feeders.

If voltage levels are low at the breaker, they'll be even lower at the receptacle. This could be caused by low tap settings at the transformer. Other likely culprits include loose connections, long feeder runs, and overloaded transformers, which create excessively high source impedance (impedance from the load to the source). Source impedance and voltage drop are two sides of the same coin.

If intermittent voltage sags are suspected, start at the panel to isolate the cause of sags: Are the sags the result of loads on the same branch circuit or are they caused by loads elsewhere in the distribution system (including utility-generated sags)? We can start to isolate the source of the sag with a multi channel recording instrument, such as a Fluke power quality analyzer, that can trend voltage and current simultaneously.

UPSTREAM, DOWNSTREAM ~

What information are you looking for from the trendplots?

If a voltage sag occurs simultaneously with a current surge, the sag was caused by a load on the branch circuit (Figure 2). In other words, the cause of the sag was downstream of the measurement point and therefore can be thought of as a load-related disturbance.

If, on the other hand, the voltage sag coincides with a very small change in current, the sag was likely caused by something upstream of the measurement point and can be thought of as a sourcerelated disturbance. Typical source-related disturbances are heavily loaded three-phase motors started across-the-line or sags originating on the utility feed. If the sag is deep and approaches an outage, the cause is more likely to be the utility. The event probably reflects a fault and breaker trip followed by automatic breaker reclosure.

CURRENT BALANCE AND LOADING ~

To check current balance and loading, measure each feeder phase as well as current on each branch circuit. When making these measurements, it is critically important to use a true-rms clamp or true-rms digital multimeter (DMM) with a clamp-on accessory. An average responding clamp-on meter will not provide an accurate measurement as the combination of fundamental and harmonic current makes this a distorted waveform. A lower-cost average-sensing meter will tend to read low, which would lead you to assume that the circuits are more lightly loaded than they actually are.

HARMONICS ~

To check for the presence and level of harmonics, measure current on the feeder neutral. This will typically be in the 80 to 130 percent range of the feeder current, due to the fact that the third harmonic will add up in the neutral. Figure 5a shows some readings that were made in an office, at a lightly loaded panel. These waveforms were captured with a single phase power quality analyzer. Note that the neutral current (Figure 5b) is far in excess of what would be expected from unbalanced currents alone.

Although most of us are increasingly aware of the fact that third harmonic currents (also called triplen or zero sequence) generated by non-linear, singlephase loads add up in the neutral, we often wonder why.

GROUNDING~

Neutral ground bonds in subpanels are a violation of the NEC as well as of power quality performance wiring, but they are also quite common. Neutral ground bonds should be made at the transformer (although the NEC permits it to be made at the main panel). In any case, it should never be made downstream of the main panel, whether at a subpanel or a receptacle. When a neutral ground bond is made at a subpanel or receptacle, the ground path becomes a parallel return path for normal load current resulting in measurable current on the ground.

HOT SPOTS~

Poor connections and the resulting heat losses are the single greatest source of system inefficiency (according to a 1995 study by the then Washington State Energy Office). From the power quality point of view, loose terminations are a major contributor to excessive source impedance. Fortunately, they are easy to locate with a simple infrared thermometer.

Infrared (IR) measurements with tools like the Fluke 60 Series are a safe and effective technique for non-contact detection of panel hot spots. However, there are some key concepts that are crucial to understand if we're making these measurements.

CIRCUIT BREAKERS~

A lot of people don't think of breakers as having finite lifetimes. In reality, contacts and springs wear out. Measurements of circuit breaker voltage drop can help us determine the condition of the breaker. Measure across the line-to-load side of the branch breaker. If the voltage drop exceeds 100 mV, the breaker should be replaced. In the 35 to 100 mV range, readings should be documented and trended.

In summary, the service panel is the crossroad of the building's electrical system and the place where an experienced electrical troubleshooter can start down the right path to locate and fix any problems.

Fluke 179 Electronics Multimeter Kit

CALIBRATION AVAILABLE

- Reliable, precise and easy to use multimeter for troubleshooting and repairing electrical and electronic systems
- Comprehensive kit includes Fluke 179 DMM, 80BK-A integrated DMM temperature probe, AC280 SureGrip™ hook clips, TL910 electronic test probes, TL224 SureGrip™ insulated test leads, TPAK ToolPak™ magnetic meter hanger and soft carry case

132-176 FLUKE 179/EDA2

Fluke TiS60+ Thermal Imaging Camera

CALIBRATION AVAILABLE

- Boost you or your team's performance with 320 × 240 resolution infrared images taken with the TiS60+
- Easy to use fixed focus, with one-handed image capture, review and save capability
- Fluke Connect™ compatibility for sharing wirelessly

198-1145 FLK-TiS60+ 9HZ

Fluke 773mA Process Clamp Meter

CALIBRATION AVAILABLE

- Sources 4mA to 20mA signals for testing control system I/O or I/Ps
- Measures 4mA to 20mA signals with in-circuit measurement
- Simultaneously measures mA in-circuit with 24V loop power for powering and testing transmitters
- Source output signals in a linear ramp or 25% step output- Automatically change the 4mA to 20 mA output for remote testing

669-3493 Fluke 773

Fluke T6-1000 Voltage Tester

CALIBRATION AVAILABLE

- With FieldSense technology for ac voltage, current and frequency measurement without making electrical contact to live voltage
- Simultaneous voltage and current display shows all power supply measurements at a glance for efficient trouble shooting for motors and other appliances
- Easy to read display with backlight

146-2605 Fluke T6-1000

Fluke 1507 Insulation Tester

CALIBRATION AVAILABLE

- The Fluke 1507 is compact, rugged, reliable, and easy to use
- With multiple test voltages, it is ideal for many troubleshooting, commissioning, and preventative maintenance applications
- Additional features, like the remote probe saves both time and money when performing tests

518-6008 Fluke 1507

Fluke ii900 Ultrasonic Leak Detector

- Do more with the same air compressors – delay the capital expense of purchasing an additional compressor
- Ensure proper air pressure to your pneumatic equipment
- Lower utility costs
- Reduce leak detection time
- Improve reliability in your production line

187-6163 ii900

1736 and 1738 Three-Phase Energy Monitor and Loggers

- Records waveform snapshots and RMS profile
- Includes Fluke MP1 magnetic probe and Fluke 173× hanging kit
- Colour LCD display: 4.3in active matrix TFT, 480px x 272px, resistive touch panel

900-9983 FLUKE 1736/B
900-9986 FLUKE-1738/EUS

Fluke 430-II Series Power Quality Analysers

- Analyze power quality issues, calculate the costs of wasted energy and prevent downtime with the Fluke 434-II Energy Analyzer and
- Fluke 435-II Power Quality and Energy Analyzer
- Advanced power quality health—At-a-glance power quality health data in real time so you can make better maintenance decisions
- Energy loss calculator—Discover the costs of energy loss specifically caused by poor power quality

752-5004 FLUKE-434-II
752-5008 FLUKE 435-II
754-1268 FLUKE 437-II

Fluke Ti480 PRO Thermal Imaging Camera

- Increased sensitivity to visualize temperature differences
- Easier to visualize and diagnose issues with sharper onscreen images, multiple rectangle markers and 9 color palettes
- More intuitive visual interface, improved, user-tested, touch screen interface
- Get 4× the pixel data with SuperResolution, which captures multiple images and combines them to create a 1280 × 960 image

171-6857 FLK-Ti480 PRO 9HZ

Fluke 729 30G FC Pressure Calibrator

- Automatic pressure generation and regulation to 300 psi
- Easily document the process using onboard test templates
- Automatic internal fine-pressure adjustment

144-5553 FLK-729 30G FC

3 Series MDO Mixed Domain Oscilloscopes

- 11.6-in capacitive touchscreen, optional 16 digital channels for mixed signal analysis
- Built-in spectrum analyser
- Wide range of serial bus decoding and triggering options
- With 3 FREE options - ships with serial decode, MSO and arbitrary function generator software options

187-5454	MDO34 4 channel, 100MHz
187-5455	MDO34 4 channel, 200MHz
187-5456	MDO34 4 channel, 350MHz
187-5457	MDO34 4 channel, 500MHz
187-5458	MDO34 4 channel, 1GHz
187-5450	MDO32 2 channel, 200MHz
187-5451	MDO32 2 channel, 350MHz
187-5452	MDO32 2 channel, 500MHz
187-5453	MDO32 2 channel, 1GHz

Keithley DMM6500 Digital Multimeter

- 6½-digit touchscreen bench/system DMM with built-in features for education and electronics labs
- More measurement capability – including transient capture, data visualisation and analysis
- 5-in (12.7cm) multi-touch capacitive touchscreen with graphical display, adjustable cursors and pinch-and-zoom simplicity for easy waveform visualisation and analysis

173-9960	300kHz

TBS2000B Series Oscilloscopes

- 9-in WVGA colour display with 15 horizontal grids – shows 50% more signal
- Up to 200MHz bandwidth, 5M point record length, 2GS sample rate for faster debug and validation
- HelpEverywhere® function provides helpful onscreen tips for students and new users
- Introductory offer, up to 15% off manufacturer's list price while stocks last

200-6294	TBS2072B 2 channel, 70MHz
200-6295	TBS2074B 4 channel, 70MHz
200-6297	TBS2102B 2 channel, 100MHz
200-6298	TBS2102B 4 channel, 100MHz
200-6299	TBS2202B 2 channel, 200MHz
200-6300	TBS2204B 4 channel, 200MHz

AFG31000 Series Arbitrary Function Generators

- A high-performance AFG with built-in arbitrary waveform generation and real-time waveform monitoring
- 9-in capacitive touchscreen with shortcuts to frequently used settings
- InstaView technology – see the waveform at the DUT without the need for an oscilloscope or probe

179-3504	AFG31021 25MHz, 1 channel
179-3505	AFG31022 25MHz, 2 channel
179-3506	AFG31051 50MHz, 1 channel
179-3507	AFG31052 50MHz, 2 channel
179-3508	AFG31101 100MHz, 1 channel
179-3509	AFG31102 100MHz, 2 channel
179-8132	AFG31151 150MHz, 1 channel
179-8131	AFG31152 150MHz, 2 channel
179-8130	AFG31251 250MHz, 1 channel
179-8129	AFG31252 250MHz, 2 channel

MT-6600 Multifunction Tester

3 YEAR WARRANTY

- Test a variety of installation parameters
- 3.5 in TFT colour LCD display with 320 × 240 pixe
- Fast high current loop test
- Variable RCD current mode for customized settings
- PASS/FAIL indication for RCD tests
- Safe Earth Volt Touchpad detects raised earth voltages greater than 50 V, indicating potential dangerous situations

144-5338	1000V

Multifunction Calibrator

3 YEAR WARRANTY

- High precision calibration of RTDs and thermocouples
- Enables calibration of any process device that measures temperature – both sensors and temperature measuring instruments
- Can source and measure 14 types of RTD and 11 types of thermocouple

174-9557	4-20MA

Ultrasonic Cleaning Tanks

3 YEAR WARRANTY

- A high-quality cleaner that uses a combination of ultrasonic vibrations and cleaner solution to gently clean and degrease a wide range of materials from plastic to metal
- Durable and corrosion resistant stainless steel tank
- Wire basket included to safely clean items without damaging them or the transducers of the tank
- Adjustable heating and timer controls with LED lamps, giving you full control

183-7513	10 litre
179-7571	36 litre

Industrial Multimeter With Bluetooth

3 YEAR WARRANTY

- Ideal for measuring a wide range of electrical parameters such as voltage, current, resistance, capacitance and frequency
- Clean and user friendly interface with a large white LED backlit display, allowing you to easily display measurements in a wide range of environments
- With Bluetooth connectivity, you can also save and share data quickly and efficiently to your smart device

199-3846	

AC Current Datalogging Clamp Meter

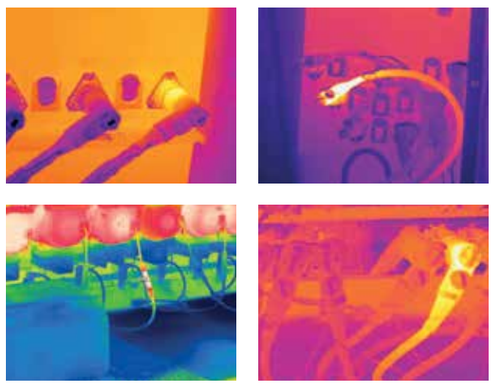
3 YEAR WARRANTY

- Flexible true RMS clamp meter specifically designed for access to awkward and hard to reach areas
- Ideal for the types of jobs where the hard jaw clamp meters are unable to gain access to, as the flexible coil can be snaked around obstructions with ease
- Plus datalogger for monitoring, and Bluetooth interface for results export

201-0209	

FLIR SOLUTIONS FOR ELECTRICAL INSPECTIONS

FLIR Exx-Series | *FLIR Ex-XT Series* | *FLIR DM285* | *FLIR CM275*



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- Hot Spot Detection
- Overheating and Cooling Issues
- Find Bad Connections
- Prevent Unscheduled Outages
- Ergonomic & User Friendly Cameras
- Save Time and Money

FLIR®

DLRO2

The smallest things can make a BIG difference

The DLRO2 packs a huge amount of testing ability into a handheld product. Not only does it include our new Difference Meter which is designed to help you spot changes easily, but it also has inadvertent connection protection up to 600 V and an optimised long lead test mode.

Want to see the difference?

Megger

Difference Meter For Quick Data Comparisons

NEW

- Use long leads at 1A without compromising test speed
- Safely test the resistance of inductive loads at 1A
- <600V active protection against inadvertent live connections without blowing a fuse
- Industry standard safety rated at CATIII 600V/CATIV 300V

205-0428

MIT410/2 Insulation Tester

CALIBRATION AVAILABLE

- Designed for electrical and industrial testing
- Single range, faster continuity testing from 0.01Ω to 1MΩ (New)
- Adjustable insulation test voltage from 10V to 1000V and 200GΩ range
- 600V Trms AC and DC voltage measurement
- CAT IV 600V with PI and DAR

921-4526

DCM305e - Earth Leakage Clampmeter

CALIBRATION AVAILABLE

- 0.001mA resolution - TRMS reading
- Up to 100A range for standard AC current measurements
- Low pass filter to aid stability of readings
- Auto, data and peak hold - 40mm jaw
- Analogue bargraph display for trending

179-4710

AVO385 - Digital TRMS Multimeter

CALIBRATION AVAILABLE

- CAT III 1000V and CAT IV 600V
- IP54 environmental protection
- High / Low sensitivity live circuit detection
- 10MΩ / 10kΩ input impedance
- MIN / MAX / AVG / Smoothing

136-7899

nz.rs-online.com

Connecting Dots:
Disruptions in Machine Building

What did you want to be when you were young?

"I wanted to build machines...& it never changed. But what's changed & constantly changing my mate…...are the ways we build & offer it I reckon" - Tim replied (my customer & Procurement Manager of a reputed manufacturing company).

I hardly remember mine - but one of the parts I loosely connect with is his notion of drive- to build and grow. The other being my typical non-technical but inquisitive mind hunting out for what exactly is changing in this $2.5 trillion machinery industry & its impacts within the habitat. Backed by strong references (BCG) & 'surface-research', here is what I have aligned with in terms of biggest disruptions in the market.

The needle movers in industrial machinery specially in next decade are solution selling, digitization & sustainability factor (BCG publication 2020). According to BCG, these are also the 3 factors that will affect the OEMs' strategies now & moving forward- big time.

SOLUTIONS-SELLING

Companies into Australian industrial machinery markets have taken this path for decades now focusing on aftermarket services- providing product and technical support to enhance customer experience. Besides recurring in nature with add-on margins, they contribute to the growth and reduce the cyclicality of many machinery building businesses. These also allow differentiated brand positioning through something other than product price and facilitate stickier customer interactions.

Solutions happen when industrial machinery companies offer something that directly affects customers' bottom lines, often by inserting themselves into some aspect of a customer's operations or processes. Great examples of these can be seen in inventory management and procurement solutions that leading global distributors like RS Components have specialised on. By seamless integration of procurement systems of the company & client's portals, placing automatic orders with self-discounted facilities, industry leaders like RS are ensuring customers have maintenance parts replaced as soon as they are needed. Also, services like 'Product-Plus' at RS where they provide extended sourcing service in cases where customers can't find a product on the web or in the catalogue is surely adding up to the 'solution-ability'. Minimizing machine downtime is another solution that can be provided- by remotely monitoring machines and finding the best time to perform repairs catering to the client's project schedule. This signifies an evolution of many OEMs' value propositions: from providing great products and repair parts to enabling business productivity through optimized machine performance and the elimination of unplanned down-time. Customers have embraced the shift from inputs to outcomes, and the solutions trend appears certain to accelerate.

THE DIGITIZATION OF ASSETS

There are many examples of how digital technology and more accessible data are revolutionizing the machine-building industry. In harsh environments where workers are difficult to recruit, digital technology can allow assets to be run remotely. In quarries, digital can help managers optimize their work sites, coordinating the activities of dozens of machines to improve throughput and reduce idle time. With real-time monitoring of asset health & its potential to identify potential failures early on when they are cheaper to fix and before they result in unplanned downtime.

The integration of digital technologies is not an inborn capability of industrial- machinery OEMs, which have their roots in mechanical engineering, not digital technology. The challenge that companies confront is multipronged relating both to different kinds of both hardware and software technology and to the ecosystem of players with varied backgrounds and strengths. Manufacturers also face participation decisions: who to partner with and what to buy versus build. Given a trusted global distributor like RS Components available with a deep & broad reach into the market, the advantage of partnering outweighs the cons by far.

THE GREEN FACTOR

The third important trend in industrial machinery involves sustainability. The pressure to reduce pollution and the effects of climate change is coming from multiple sources: the public, government regulators, and investors.

In the government realm, the commitment has varied from country to country, but it is hard to imagine that things will not turn—sooner or later—permanently in the direction of tighter environmental stand global localities, concerned about particulates, air quality, and noise, have introduced regulations to discourage specific equipment on construction sites. This is affecting decisions about the equipment used on new building developments in places like Paris, on road repairs in Stockholm, and at landfills in Los Angeles.

From an investor's perspective, it is one of the biggest boxes too. At Electrocomponents, it has initiated companywide ESG plans that incorporates reducing carbon footprints in all its plants, using key performance indicators to measure and report the contribution and impact to even changing the company mission statements. Companies that pay the most attention to emissions and other aspects of total societal impact now trade at a premium to those that pay less attention, according to BCG analysis.

An important thing to keep an eye on is the availability of technologies (including many machines and components) that contribute to greener business practices. In many sectors, these technologies are already economically competitive, with no subsidy or government action. This is true, for instance, of solar panels versus coal for power generation. In the case of other technologies, like battery storage in higher-power-output applications, the moment of economic viability is coming. The push for greener machine technologies will accelerate if carbon prices go up, carbon border taxes are imposed, or governments subsidize the technologies' development—all of which are possibilities. The good news is that sustainability is not all about playing defence. For OEMs with an ability to innovate, the regulations relating to sustainability create opportunities that did not previously exist.

The three accelerating and interconnected trends will shape the path to value creation for those most willing to rethink their current business models and will pose an existential threat to any companies that remain complacent.

Article by
Sakib Iftekhar

Internal Sales Team Lead
RS Components Australia

Carbon Steel Insulated Plier Set

- Digitally controlled heat gun with safety heat indicator and four memory programmes
- One-hand operation with soft grip handle and 3m power cord
- Maximum temperature 650°C and airflow of 500L/min
- Ideal for shrinking heat shrink tubing, film or packaging; stripping paint; drying out wood; softening adhesives or thawing frozen pipes

suttontools

204-3825	2 Piece	PG-2

Cable Tie Guns

- Lightweight and durable tools giving simple and problem free tensioning of cable ties
- Squeeze trigger to tension, twist to cut

HellermannTyton

187-8882	2.5 - 4.8mm	110-20006 MK20-PL-BU
187-8898	4.8 - 7.6mm	110-21016 MK21-PL-BU

DUO Tap and Drill Packs

- Makes selection of tap and correct pre-hole drill simple
- Pack contains: HSS ISO straight flute tap (E500) for threading through or blind holes up to 1.5XD and drill
- Tap lead is second cut

DORMER

174-0101	M3 tap 2.5mm drill	L000E500M3NO2XA002
174-0102	M4 tap 3.3mm drill	L000E500M4NO2XA002
174-0104	M5 tap 4.2mm drill	L000E500M5NO2XA002
174-0105	M6 tap 5mm drill	L000E500M6NO2XA002
174-0106	M8 tap 6.8mm drill	L000E500M8NO2XA002
174-0107	M10 tap 8.5mm drill	L000E500M10NO2XA002
174-0108	M12 tap 10.2mm drill	L000E500M12NO2XA002

One-Touch Tool Boxes

- Stackable tool box with one hand latch opening and self-closing
- 2 storage compartments on the cover and removable tray which allows more tools to be stored underneath
- Padlockable clasp (padlock not supplied)
- Folding handle for easier handling

FACOM

123-4649	391 × 164 × 222mm	BP.C16NPB
123-4650	481 × 237 × 271mm	BP.C19NPB
123-4651	603 × 260 × 273mm	BP.C24NPB

BE-9881S Insulated Ergo™ 1000V Live Working 5 piece Screwdriver set

- Conforms to IEC 60900, DIN EN 60900, VDE 0680 part 2
- All products are manufacture date marked
- Vanadium steel blades, hardened and chrome plated
- Tips are black oxide finished for high accuracy
- 3-part rounded ergonomic handle (with hanging hole) prevents pressure points and ensures optimum torque
- Colour coded handles for easy identification and selection of screwdriver within the set

BAHCO

288-8004	5 Piece	BE-9881S

Insulated Crimping Tool

3 YEAR WARRANTY

- Offers precision, consistent and reliable crimp
- DuoTech soft grip handle allows for optimum user comfort and ergonomics, while it works as a non-slip handle with little friction to avoid any injury or accidental slipping
- Self-releasing mechanism allows tool to be locked in place for a secure crimp
- Suitable from crimping insulated terminals 0.5 to 6mm

192-3665 0.5 - 0.6mm²

Tape Measures

3 YEAR WARRANTY

- Metric and imperial tape measure with positive blade lock for accurate measuring
- Belt clip for convenience
- Cushion grip for both comfort and non-slip

848-7604 3m
848-7613 5m
848-7616 8m

VDE Tool Kit

3 YEAR WARRANTY

- Tool kit containing all the essential hand tools for electrical work
- All tools tested to IEC 60900
- Kits contains: combination pliers, long nose pliers, cutters, Ph2 screwdriver, 4 & 5.5mm slotted screwdrivers in a plastic case with transparent lid

473-350 7 Piece

HSS-E Cobalt Drill Bit Set

3 YEAR WARRANTY

- High-performance HSS-E drill bits cut faster and last longer than regular HSS drill bits
- 135° non-slip split point for precise centring removes the need for drilling a pilot hole
- Set contains 1-13mm drills in 0.5mm increments contained in a handy storage box

216-690 25 Piece

55-Piece Socket and Bit Set

3 YEAR WARRANTY

- Professional Chrome Vanadium Steel ¼" socket and bit set supplied in a compact, easy to store case
- Soft comfortable ratchet handle for reduced fatigue and a tighter grip
- Set contains: sockets: 5, 6, 7, 8, 9, 10, 11, 12mm; ratchet handle; 50 & 100mm extension bars; 150mm flexible bar; universal joint; sliding T-bar; coupler; slotted bits: 3, 4, 5, 6mm; hex bits: 2, 2.5, 3, 4, 5, 6mm; Phillips: PH1 (x2), PH2 (x5), PH3 (x3); Pozidriv: PZ1 (x2), PZ2 (x5), PZ3 (x3); Torx: T10 (x2), T15 (x2), T20 (x2), T25, T27, T30, T40

817-9236 55 Piece

ROCOL®

Performance you can trust

SELECT

OUR EXPERTS' CHOICE
YOUR MAINTENANCE SOLUTION

Maintenance essentials: the experts' choice

There are some key products that every maintenance toolbox needs, and ROCOL has made it easy to keep your core product stores well stocked with the introduction of ROCOL SELECT.

Your maintenance essentials
The products in the ROCOL SELECT collection have been hand-picked by industry experts to give you all your maintenance toolbox essentials in a single product range, including high-performance lubricants, cleaners and general purpose lubricants.

A proven track record
With over 130 years' of working closely with manufacturers, and one of the industry's widest portfolios of high-performance lubrication and maintenance solutions, ROCOL understands the day-to-day challenges of keeping factories running efficiently and has developed its product portfolio to help maintenance engineers reduce downtime and improve productivity.

Committed to quality
From product concept and design to technical expertise and customer services, every function at ROCOL is carefully controlled within a BS EN 9100:2018 and ISO 9001:2015 accredited Quality Management System. Every batch is tested in a quality control laboratory and released for use only when it meets the high standards associated with all ROCOL products.

Trusted across the globe
From leading names in aerospace to household food brands, ROCOL products are used by companies around the world to provide performance improvements including life cycle cost reduction, reducing and improving Mean Time Between Failures, and Total Cost of Ownership of a lubricant maintenance programme.

Find out more
ROCOL high performance products are available through our trusted partner, RS Components. Ask your representative for more information about ROCOL's SELECT package.

3M™ UHMW Film Tape 5423

- Film tape which can help reduce squeaks, rattles and other noises that occur with movement i.e. in automotive and transportation assemblies
- Translucent, abrasion resistant backing helps protect surfaces from wear
- Rubber adhesive provides good initial tack for immediate bonding to material surface

787-3209	19mm x 0.28mm x 16m
787-3202	25mm x 0.28mm x 16m
787-3206	50mm x 0.28mm x 16m

3M™ Aluminium Foil Tape 425

- Thermally conductive tape helps dissipate heat and improves heating and cooling efficiency to protect temperature sensitive materials
- Resistant to chemicals to protect surfaces during de-paint process and other chemical masking operations

175-7785	12mm
175-7791	19mm
175-7808	25mm
144-4029	38mm
175-7814	50mm
144-4030	75mm

Electrical Insulation Tape

- For colour coding and insulation of electrical cabling
- Flame retardant and self-extinguishing - conforms to BSEN 60454 Type 2
- Easy tear and unwind, conformable, water, UV and abrasion resistant

504-2396	AT7 10 reels of 19mm x 33m
297-9273	AT34 black 19mm x 20m extreme weather
297-9289	AT34 black 25mm x 20m extreme weather

Aluminium Foil Tape

- Ideal for sealing metal or plastic ducting, sealing cold store insulation, joining foil faced glass fibre or rockwool
- Flame retardant and self-extinguishing

176-573	AT502 50mm x 0.07mm x 45m
176-567	AT500 50mm x 0.08mm x 45m
408-9574	AT506 50mm x 0.09mm x 50m

All Weather Polythene Tape

- Ideal for joining damp proof membranes
- Extreme temperature resistant (-40°C to +90°C)

176-6037	AT30 black
176-6038	AT30 white
176-6039	AT30 translucent

PROCELL®
PROFESSIONAL BATTERIES

PROCELL ALKALINE

Completely redesigned for longer lasting*, consistent performance.

Procell® professional batteries are launched to exclusively serve the professional battery market, as the replacement for Industrial by Duracell®, also known as IBD.

Procell® Alkaline batteries are completely redesigned to deliver consistent, reliable longer lasting* performance in professional devices such as flushometers, automatic taps, thermostats, bluetooth trackers, laser meters and many more.

Manufactured using superior cell design* to ensure high-quality cell construction. Each battery comes with a 'quality warranty'. Design, safety, manufacturing, and qualification follow Procell's stringent battery standards, which incorporate parts of the ANSI and IEC battery standards. Operating temperatures from -20°C. to 54°C.

RS Stk No.	Size	Pack
192-4384	AA	10
192-4385	AAA	10
192-4386	C	10
192-4387	D	10
192-4388	9V	10
192-4390	AA	638

Available in AA / AAA / C / D / 9V / CR123

*vs prior Industrial by Duracell

FOR GENERAL PURPOSE

FLUKE®

SAVE $500

LIMITED TIME OFFER

Until 31st August, save on the Fluke ii900 and ii910 Acoustic Imagers

- Do more with the same air compressors, detect leaks in minutes
- Ensure proper air pressure in your pneumatic equipment
- See your ROI with lower energy bills
- Improve reliability in your production line
- Detect partial discharge easily and quickly, at a safe distance

Fluke ii900

Was $29,370
Now $28,870

Fluke ii900
Sonic Acoustic Imager

RS STOCK NUMBER: 187-6163

Acoustic Imaging
LeakQ™ Mode for leak detection

Frequency Range
From 2 kHz to 52 kHz

Battery Life
6 hours battery life (2nd battery included)

Detection range
Up to 70 meters (230 feet)*

Display
7 inch 1280 x 800 LCD with capacitive touchscreen

Fluke ii910

Was $38,445
Now $37,945

Fluke ii910
Precision Acoustic Imager

RS STOCK NUMBER: 206-6117

Acoustic Imaging
LeakQ™ and PDQ™ Mode for leak & partial discharge detection

Frequency Range
From 2 kHz to 100 kHz

Battery Life
6 hours battery life (2nd battery included)

Detection range
Up to 120 meters (393 feet)*

Display
7 inch 1280 x 800 LCD with capacitive touchscreen

Contact us for a quote to save!

0800 888 780
PrefNZ@rs-components.com
Visit nz.rs-online.com/fluke

RS