



Newsroom

INDUSTRIAL SWITCHGEAR & AUTOMATION SPECIALISTS

#61 October 2011



NCIG powers global coal industry...

NHP Contactor Select iPhone Application - Now Available	2
Selecting contactors and overloads for three phase electric motors is made easy with the Contactor Select App from NHP.	
NCIG powers global coal industry...	3
With the clear objective to increase the export capacity of the Port of Newcastle (the world's leading exporter of coal), the Newcastle Coal Infrastructure Group (NCIG) has successfully delivered a landmark development within budget and ahead of production schedule.	
It all boils down to CUBIC for Boyne Smelter	4
As Australia's largest aluminium smelter, Boyne Smelters Limited (BSL) recently undertook an upgrade to both modernise and extend the life of this grand scale operation.	
Condition Based Management bleatingly obvious for Fletcher International WA	5
When Fletcher International WA approached Bunbury Industrial Controls (BIC) for a registration solution at their abattoir in Narrikup, Western Australia, they knew exactly where to go.	
Product Reviews	
CEP 7-E	6
Electronic Motor Protection Relay	6
NHP Services and Training	6
NHP's solar solutions	6
Logix® Platform	7
The new PanelView™ Plus 6	7
Allen-Bradley® Remanufacturing Centre	7
Micro800™ sets a new benchmark in control	8



2

The future is bright for sustainable practices



3

NCIG powers global coal industry...



4

It all boils down to CUBIC for Boyne Smelter



5

Condition Based Management bleatingly obvious for Fletcher International WA



EDITORIAL

The future is bright for sustainable practices



Lloyd Thomas - Managing Director, CEO

As one door closes, leaving in its wake another financial year of pleasing positive growth, another one opens, bringing with it a new set of targets and approaches that reinforce the challenges that we are constantly faced with in a rapidly evolving and competitive market place.

At NHP, adaptiveness to change, as one of our six core company values, is an approach that now more than ever is being brought to the fore as the emergence of new sustainable technologies and alternative energy opportunities are firmly planting themselves as a viable if not already cemented industry direction. Change brings with it new opportunities - good companies seize and run with those opportunities.

As well as the many general social and political discourses that have existed for some time, we are now also seeing that more than just an idea, the once theory based concepts driving this movement, are now being physically employed across a broad range of domestic, commercial and industrial applications in projects throughout Australia and the rest of the world.

Consider, for example, the key economic influences that rest on a number of global mega trends such as climate change, demographic change, globalisation and urbanisation. Both collectively and in isolation, all of these trends place an increasingly growing value on, and link back to, this key issue of sustainability. Further, businesses are becoming more aware that as well as environmental concern and compliance with various legislations, end users are recognising the genuine cost savings that can result from implementing sustainable technologies and are therefore investing accordingly.

Given the strong uptake of such technology, NHP cannot afford to be complacent but must instead adopt a proactive approach that maximises the full potential of this technology and not only aids us in our our present needs, but does so in a way that will not compromise the ability of future generations to do the same.

With this in mind, at NHP we have strengthened our already highly skilled and dedicated team with the addition of industry professionals whose sole focus are in the fields of Energy Management and Renewable Energy to necessitate this. This sector of our business has already made significant progress working alongside the expanded NHP team, and through partnering with world-class supply partners who share the same vision, have developed an exciting product offering that continues to push the boundaries of sustainable technology. Such technologies include energy management and control systems as well as renewable energy systems, and a central element of our offering is the recent construction of our very own 'Sustainability Centre'. Located at our National Manufacturing and Distribution facility at Laverton, Melbourne, this centre not only showcases our suite of products through an interactive and fully operational site, but signifies the value NHP places on sustainability.

All things considered, a shift towards alternative energy and a sustainable future is, as well as a global priority, one that NHP will invest a strong focus in for 2011 and more importantly, looking forward. At NHP we acknowledge that a sustainable future is a must and further, will take the appropriate measures to ensure we are able to offer our customers a product and solutions model that reflects this.

“Change brings with it new opportunities - good companies seize and run with those opportunities.”

NEWS



NHP Contactor Select iPhone Application - Now Available

Selecting contactors and overloads for three phase electric motors is made easy with the Contactor Select App from NHP.

By simply selecting the motor voltage and kW, the Contactor Select App will display the motor FLC (Amps) and suggest which contactor and overload to use.

The Contactor Select App can select from either of NHP's Sprecher + Schuh or Allen-Bradley® brands, with contactor and overload selection made easy by providing you with the exact product number and product photo of the contactor or overload you need, as well as easy access to NHP's 1300 NHP sales number and website.

Useful for designers and electricians as a handy pocket reference tool, the Contactor Select App calculates full load current of three phase motors and allows correct product selection and overload settings to be made.

While it is now available on the iTunes App Store, it is also available in a web friendly version on our corporate website! So if you don't have an iPhone, you don't miss out!

To download this app from the iTunes store, simply scan the QR code below.



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1. Download

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2. Scan

Open your QR Code reader app and point the device's camera at the relevant QR code.



3. View

Once scanned the QR Code will automatically open the relevant location.



WHAT ARE QR CODES?

A QR Code (Quick Response) is a specific barcode that is readable by dedicated QR readers, smartphones, and, to a less common extent, computers with webcams. These codes help to quickly reference an online location or action.

COVER STORY

NCIG powers global coal industry...

Since September 2004, the Newcastle Coal Infrastructure Group (NCIG) had one clear objective: to increase the export capacity of the Port of Newcastle (the world's leading exporter of coal). With help of Downer EDI Engineering, Aurecon Hatch and NHP, the Newcastle Coal Infrastructure Group has successfully delivered a landmark development within budget and ahead of production schedule.

For many years, coal export capacity limitations at this pivotal port have often resulted in lengthy shipping queues, with the only solution to alleviating such queues, as well as looking to provide certainty to coal producers, being significantly greater port and rail capacity.

Formed in 2004 to address these fundamental capacity issues, both rail and port, was the NCIG which is comprised of six member companies being BHP Billiton, Centennial Coal, Donaldson Coal, Peabody Energy, Yancoal and Whitehaven Coal. This group proposed to build and operate a third coal export terminal in the Port of Newcastle, which was approved by the New South Wales Government in 2007.

Located on a 136 hectare site on Kooragang Island, the terminal was designed to incorporate the latest technologies to provide three essential services: a rail receiving system, a stockpiling area and a ship loading system.

Construction of the terminal was completed in just over two years, amassing over four million working hours, and was officially opened on May 3, 2010, with initial Stage One works enabling a capacity of 30 million tonnes per annum (Mtpa). Stage Two constructions have also now begun and are expected to be completed later this year, further increasing capacity to 53 Mtpa.

NHP, working alongside the switchboard contractor Downer EDI Engineering, supplied the control equipment for the Motor Control Centres (MCCs) as well as the power distribution products that were used for the on-site custom built panel boards used in the construction of the export coal terminal.

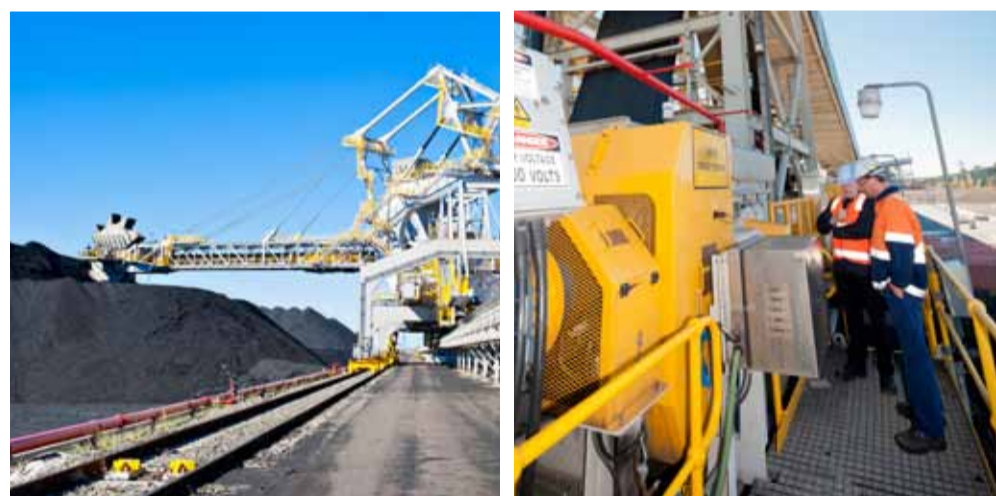
The switchrooms for the elaborate project were completely fitted out on-site, which greatly reduced labour costs as it allowed construction in a controlled environment, ensuring the finished product was of exceptional quality on completion with the added benefit of a faster build time.

When principle contractor Aurecon Hatch were awarded the NCIG coal export terminal venture, NHP presented a number of relevant products, particularly their range of full current LV isolators. The Energy Technical Director at Aurecon Hatch, worked closely with NHP on the NCIG project and was pleased with their product and services that were provided.

"NHP were able to listen to our needs and prepare several prototype isolators which were value-added with the customisation of their Socomec isolators. Pricing was competitive and delivery was prompt which made for great time and cost efficiency", he said.

"The NHP catalogues can be found in the design and site offices of many of my past projects and I have had a long term working relationship with NHP. With knowledgeable staff and technical support when required, they are a great asset to our projects".

With the NCIG export terminal expected to increase Australia's GDP by \$3 billion per year and generate up to 5,000 jobs across the region and the state, everyone involved in this significant project are understandably delighted with the final outcome.



(Above Top)
NHP's Projects Sales Supervisor, Andrew Guy, tours one of the MCCs with Senior Electrical Engineer from NCIG, Scott Liddell.

"NHP were able to listen to our needs and prepare several prototype isolators which were value-added with the customisation of their Socomec isolators. Pricing was competitive and delivery was prompt which made for great time and cost efficiency."

PROJECTS

It all boils down to CUBIC for Boyne Smelter

As Australia’s largest aluminium smelter, Boyne Smelters Limited (BSL) has the capacity to produce more than half a million tonnes of aluminium annually, and recently undertook an upgrade to both modernise and extend the life of this grand scale operation.

Located near Gladstone in Central Queensland, production activities at BSL include the manufacturing of carbon anodes, aluminium production (smelting) in reduction lines, and casting of molten metal into aluminium products. Undergoing a number of extensive expansion projects since it first commenced operation in 1982, the company recently embarked on another significant technology modernisation involving the construction of a fourth Carbon Baking Furnace – Carbon Baking Furnace Four.

Initiating this project, Rio Tinto, as major shareholders of the BSL joint venture, released a contract to design the furnace which once completed was to be more energy efficient whilst also reducing on-site greenhouse gas emissions. Within this contract it was specified that the design of the Carbon Baking Furnace was to include low voltage (415V) switchboards that had a fault rating of 80kA and had been tested in Australia for full arc fault containment compliant to AS1210 annex ZD.

Following a detailed submission process that included a number of proposed designs, many of which were unable to fulfil the criteria of the standard, Sinclair Knight Merz (SKM) in conjunction with SNC Lavalin – together as an Engineer Procure and Construction Management (EPCM) Project, put forward a modular design using the CUBIC range from NHP.

In line with BSL’s focus on delivering a sustainable operation that ensures minimal impact on the environment as well as health and safety of employees, the EPCM Project designed board was able to adhere to this, drawing upon a number of components from the NHP product range.

The LV Switchboards were procured based on BSL approved specification for LV switchboards and the CUBIC product was evaluated by the EPCM Project as being the most technically compliant with the specifications from the bids received. Utilising the CUBIC MD System (multi drawer) as an integral element to the original design, the Project was able to offer high levels of safety for operators, positive isolation with the removal capability of the drawers, as well as lock out and test features of the cells.

“Adding to the strength of our design, an installed arc-detect system was an additional safety feature and with the further advantage of installation of the boards into locally manufactured switchrooms, ease and speed of on-site construction was assured which was a valuable plus for the customer”, said the Senior Executive Electrical Engineer from SKM.

Working with PT Automation Solutions (PTAS) who detail designed the switchboard, NHP, as well as the CUBIC MD System that featured in the complete prefabricated 26m long switchboard, also provided the project with all of the low voltage protection and isolation devices, motor starters, variable speed drives, as well as distribution boards and DeviceNet Modules communicating to a ControlLogix® PLC platform.

“Having worked with NHP on a number of other projects prior to this one with BSL, including Gladstone Ports, Hinze Dam, All Connex Water and SeaWorld, we knew the working relationship NHP is one that we can rely on”, said Neil Cook, Electrical Engineering Manager from PTAS.

“NHP were, and continue to be very helpful and supportive of PTAS on many projects and it’s that kind of post-sale support that makes the difference”, he continued.

Resulting from the success of the initial Carbon Bake Furnace contract, PTAS also manufactured the Fume Treatment Centre MCC based on the same specification used for the Carbon Bake Furnace Four.

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“NHP were, and continue to be, very helpful and supportive of PTAS on many projects and it’s that kind of after-sales support that makes the difference.”



(far left) NHP’s Steven Leslie goes through the CUBIC MD system with Chris Niehoff, Systems Engineer PTAS.

(left) The 26m switchroom was also fitted with a series of Allen-Bradley® PowerFlex drives.

PROJECTS

Condition Based Management bleatingly obvious for Fletcher International WA

As a leading solutions provider to the Australasian industrial electrical industry, NHP prides itself on an 'end to end' solutions and service model that not only ensures safety and reliability through leading products, but promises to meet any application need. So when Fletcher International WA approached Bunbury Industrial Controls (BIC) for a refrigeration solution at their abattoir in Narrikup, Western Australia, BIC Engineering Manager, Rob Darlow, knew exactly where to go: NHP.

Fletcher International WA are leaders in the supply of sheep/lamb meat, skins, wool products and associated bi-products to an extensive global market, and following a large refrigeration compression motor breakdown, they were determined to develop a systems solution that would a) restore the refrigeration back to full working order in a timely manner, and b) implement appropriate preventative measures to reduce the risk of future breakdowns.

Rob Darlow, having considered the various elements of this particular application need, suggested the Rockwell Automation XM Series Condition Monitoring be installed on all six of the abattoir's screw compressors and associated motors to monitor and alarm in the event of impending failures. The installation of this system was combined with a previously planned upgrade from the original OEM system to a BIC supplied CompactLogix PLC and PanelView HMI control system, also from Rockwell Automation.

As authorised distributors of Rockwell Automation, this brought NHP into contact with BIC and together they were able to draw upon their extensive industry knowledge and experience to tailor a solution that would suit the Fletcher International WA request.

"BIC presented the concept of Condition Based Management (CBM) to Fletcher International WA and explained the advantages and cost savings of early detection that the Rockwell Automation products would provide. Early detection enables the end user to plan an outage at a time of their choosing and either repair or replace the equipment affected accordingly, and these economic benefits were immediately understood by Fletcher International", said Andrew Godber, Sales Manager, BIC.

Playing a major role in this selection process was Fletcher International WA's Electrical Manager. Calling upon both his close relationship with BIC and his thorough knowledge and experience in maintaining the PLC/Network/HMI/SCADA of the site, he was able to take control of the CBM project. Reinforced with the all hours support of both NHP and BIC that included on-site assistance during the commissioning of each system, the Electrical Manager was able to install and program the system that returned immediate results.

"Within a month of the installation, the Rockwell Automation CBM system alerted us of an impending bearing fault in a compressor motor that left undetected, would have ultimately collapsed and resulted in a damage bill that would have more than likely been greater than the installation itself. I am more than pleased with our investment in this equipment", the Electrical Manager said.

The application of this Rockwell Automation CBM system at Fletcher International WA, Narrikup, brings to the fore the importance and the advantages of investing in a project's initial outlay, and how this translates into genuine cost savings across the overall life of a project.



(above) Lenny Guetlich from the Fletchers International WA Electrical Department working on the CBM installation.

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"Within a month of the installation, the Rockwell Automation CBM system alerted us of an impending bearing fault in a compressor motor that left undetected, would have ultimately collapsed and resulted in a damage bill that would have more than likely been greater than the installation itself."

PRODUCT REVIEW

Protect your motor with a CEP 7-E Electronic Motor Protection Relay

Motors play an important role in the efficient running and functioning of a production process. Motor damage and breakdowns lead to consequential damage and production shutdowns, a high price to pay for inadequate protection. The basic aim in protecting motors is to permit the motor to operate up to its thermal and mechanical limits while not exceeding them and providing maximum sensitivity to faults.

The complete range of Sprecher + Schuh CEP 7-E motor protection relays and their leading edge technology provides the versatility and accuracy to ensure the above is achieved in all application types. The CEP 7-E relays includes features like:

- Selectable trip class and field installable side mount modules
- A wide (5:1) set current adjustment range
- Robust mechanical and electrical mounting to Sprecher + Schuh contactors

The range of CEP7-E motor protection relays from NHP are available in four basic models:

- CEP 7-EE (Enhanced)
- CEP 7-EE_P (Pass-through)
- CEP 7-ED1 (Standard)
- CEP 7S-EE (Single Phase)

The CEP 7-EE model is a full featured selectable trip class motor protection relay with provision for field installable side mount modules to handle Remote Reset & Indication, Jam/Stall protection, Ground Fault protection, PTC Thermistor protection and Communications (EtherNet/IP, Profibus-DP or DeviceNet).

An IP 66 rated remote and indication display is available and is used in conjunction with the non-communication side mount modules which distinguishes between different fault types and also allows for remote reset.

The CEP 7-EE range also offers voltage ratings up to 1000V AC (above 45kW) which is a requirement in most mining applications. The CEP 7-EE_P is a DIN-rail mountable pass through relay and is ideal for retro fitting applications where older direct-mount motor protection devices have failed but the contactors are still in service. This option also allows for field installable side mount modules and can be used in 1000V AC applications (in conjunction with 1000V rated insulated cables).

The above are all self-powered devices which eliminate the need for a separate control power source. They also all incorporate superior phase failure and imbalance protection and have dramatic lower energy requirements that save money and reduce panel space compared to the traditional bimetallic electromechanical overload relays.



Check out the latest CEP7-E brochure by scanning the QR code.



PRODUCT REVIEW

Expect the best, plan for the worst with NHP Services & Training

Unforeseen disruptions such as those that we have experienced this year in the form of natural disasters not only affect all aspects of the supply chain, but in the case of equipment breakdown, add to significant downtime costs which may impact on overall profitability.

Unfortunately, planning for uncertainty is easier said than done, and there is no single silver bullet strategy that can cover all potential situations. In saying that, working in partnership with equipment suppliers is one important step in the right direction.

At NHP, our experienced Services & Training team can assist with planning and supporting customers' maintenance needs and implement solutions and strategies to minimise unforeseen impacts on operations.

Assisted by in country supply partners such as Rockwell Automation, NHP is able to offer a comprehensive portfolio of Services & Training products that can augment typical maintenance strategies including:

- **Reactive:** Maintenance for the non-critical operations, which can be resolved on an ad hoc basis.

- **Preventative:** Maintenance programs, or tasks, to minimise the risk of future failures through routine maintenance.
- **Predictive:** Maintenance strategies which are strategically planned for, monitored, and continually assessed.

Get on the front foot and protect your business with NHP Services & Training.



PRODUCT REVIEW

NHP's solar solutions offering expands even further

NHP are pleased to offer the Australian renewable energy market a non-polarised 1000 V DC rated isolator for solar photovoltaic installations, further expanding our comprehensive range of solar products and solutions.

Compliant with AS/NZS 5033 standards and meeting Clean Energy Council (CEC) guidelines for PV isolation when used with either non-isolated or isolated inverters, this enclosed 1000 V DC rated isolator also boasts an IP 65 protection rating and is UV stabilised. A 4-pole isolator (each pole rated to 1000 V DC), this unit also comes complete with interchangeable jumpers which allow top or bottom cable connection and a lockable 'OFF' position.

Looking forward, and with the solar industry anticipating the uptake of the current draft standard AS/NZS 5033 (which amongst other regulations states that circuit breakers and any other load breaking disconnection devices used for protection and/or disconnecting means shall not be polarity sensitive) NHP, backed by this release, is well positioned. When you're considering your next solar application, think NHP.



Clean Energy Council
MEMBER



Automation products, systems and solutions

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PRODUCT REVIEW

The Logix® Platform from Rockwell Automation, the logical and economical choice

Traditionally plant operators have had to use disparate control systems for each section of a plant - a DCS for the process, a PLC looking after the packaging plant, a 'black box' system looking after the batching, as well as a number of safety components. All these systems are linked together with gateways that if one ever failed, down time is longer than it need be.

The simple solution? The Logix platform from Rockwell Automation and NHP.

Utilising the Logix platform now means that users can perform process, batch, discrete, drives, safety and motion all with the one set of tools. This means one overall software package and just the one skill set. With this type of control, the factory floor can experience faster start-ups, lower maintenance costs and optimised productivity. This allows the focus to shift to what your controlling rather than keeping the skills up of those who work with the system that controls it.

With growing pressure to keep costs down, a scalable architecture is also important. Integrated Architecture from Rockwell Automation provides the flexibility to buy the best fit for your application, reducing costs because you are only buying what you need.

By using the same skill-set, the same software and the same engineering for the largest part of the plant right through to the smallest, not only saves money at a project level but reduces repair times, training and development costs.



PRODUCT REVIEW

Experience the new PanelView™ Plus 6 available from NHP

The PanelView Plus operator interface was first launched in 2003 and was considered one of the most advanced products in the marketplace, providing both a hardware and software platform for factory automation. The PanelView Plus has continued to be an integral part of the Rockwell Automation Integrated Architecture offering, providing operators at the machine level a prized view into the control system.

Recent advancements in technology have enabled Rockwell Automation to take the PanelView Plus to the next level in operator interface. When developing a dedicated terminal, a solid operating system is critical and this is why Microsoft Windows CE 6.0 was chosen as the next OS. All prior releases of CE were constrained by a 32 megabyte processing limit, restraining an application's size and performance. Hardware advancements were also critical and have advanced from a 650MHz to a 1GHz processor and from a 64Mb flash/ram to a 512 Mb flash/ram. These changes along with feature enhancements are all part of the PanelView Plus 6.

These enhancements include:

- Complete Symbol Factory Library
- Built-in PDF viewer
- Remote recipe and data management with ability to save data in .csv format
- Last-Known-Good (LKG) and Factory Default Reset Function
- Built-in full-Unicode font to support multiple languages with a single run-time application - without font-linking
- Greater connectivity to peripherals



TRAINING

Allen-Bradley® Remanufacturing Centre adding new value to old parts

Located in Blackburn, Victoria, the Rockwell Automation remanufacturing centre performs a factory certified "seven step remanufacturing process" to failed Allen-Bradley units, which as well as ensuring optimum performance, also results in genuine cost savings for you and your project.

Remanufacturing is a process whereby failed units are restored "like new" or to better condition, ultimately extending equipment life (MTBF) and enhancing its performance.

Complete with 12 month warranty on the whole unit, remanufacturing is an economical alternative to basic repairs and/or purchasing "new-for-old", and the Blackburn facility rates amongst the industry's best for quality assurance.

Over 75% of remanufactures are turned around in under three weeks, with a priority service available when immediate shipment of a previously remanufactured unit is more desirable.

Just another example of the after-sales service from Rockwell Automation and NHP.



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INNOVATIONS

Micro800™ sets a new benchmark in control

NHP is proud to announce the new to market Micro800 range from Rockwell Automation. The Micro800 range sets a new global standard for convenience and ease of use, while providing just enough control capability to match your application.

The Micro800 range of smart relays and micro PLCs utilises the Connected Components Workbench Software. The CCW software, available as a free download or on CD from NHP for a nominal charge ensures a common user experience across multiple system components. This common, easy to use environment helps to reduce the learning curve associated with any new product. Programming of the PLC is via a standard USB cable, with the standard PLC programming languages (Ladder, Function Block, Structured Text) all supported.

Physically, the Micro800 range shares many common components and accessories including USB ports, removable terminal blocks, and simple serial communications ports. This makes it easy to stock and support, resulting in quicker deliveries and faster trouble-shooting.

With a wide range of compact controllers (from 10 – 48 I/O pts) designed for low cost, standalone machines, the added bonus of a variety of plug-in modules means the user need only pay for what is needed. The plug-in modules can change the personality of the base unit controller which can be used to:

- Increase the basic I/O count
- Provide specialty I/O such as RTD and Thermocouple
- Add extra communications functionality
- Utilise Encompass Partner expertise to add enhanced capabilities to your controller

Plug-in modules for the Micro800 range include:

- Analogue input/output (2-channel/4-channel, non-isolated)
- RTD/thermocouple inputs (2-channel, non-isolated)
- Trim potentiometer (6-channel, analogue input)
- Serial port RS232/485 (isolated)
- Micro830 backup memory and high accuracy real-time clock

Complete with application aids that include pre-developed HMI screens and sample programs, the new Micro800 range offers reduced supply chain costs as sourcing can be achieved entirely through NHP, and is now available with a 12 month warranty.

For further information on the Micro800 range and its features and benefits, request a hard-copy version of the latest brochure, or scan the QR code to instantly get it on your smart phone!



NHP Newsroom #61

Editor: Alastair Dwyer
Creative: Elias Dimitrakakis

Contributions: John Holmquest, Andrew Guy, Stuart Neil, Sav Papadopolous, Peter Tripp, Michael Santin, Chris Mears, Ryan Low, Ross De Rango, Phillip Newnes

NHP Electrical Engineering Products Pty Ltd

A.B.N. 84 004 304 812

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AUSTRALIA

nhp.com.au

Sales 1300 NHP NHP



VICTORIA

Melbourne
+61 3 9429 2999

Laverton
+61 3 9368 2901

Albury/Wodonga
+61 2 6049 0600

Dandenong
+61 3 8773 6400

TASMANIA

Hobart
+61 3 6228 9575

Launceston
+61 3 6345 2600

SOUTH AUSTRALIA
Adelaide
+61 8 8297 9055

NEW SOUTH WALES

Sydney
+61 2 9748 3444

Newcastle
+61 2 4960 2220

Wollongong
+61 2 4272 5763

ACT
Canberra
+61 2 6280 9888

QUEENSLAND

Brisbane
+61 7 3909 4999

Townsville
+61 7 4779 0700

Rockhampton
+61 7 4927 2277

Toowoomba
+61 7 4634 4799

Cairns
+61 7 4035 6888

WESTERN AUSTRALIA

Perth
+61 8 9277 1777

NORTHERN TERRITORY

Darwin
+61 8 8947 2666

NEW ZEALAND

nhp-nz.com

Sales
0800 NHP NHP

Auckland
+64 9 276 1967

Hamilton
+64 7 849 0257

Napier
+64 6 843 6928

New Plymouth
+64 800 NHP NHP

Wellington
+64 4 570 0634

Christchurch
+64 3 377 4407

Dunedin
0800 NHP NHP

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