

Weidmuller Wireless Industrial Lighting Control //

A phone call from JA Russell Rotorua's Branch Manager Phil Roper to Cuthbert Stewart Ltd led to an interesting safety solution at the Aratiatia Power Station.

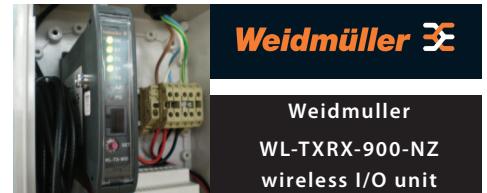
Peter Gillespie, CSL's Business Manager for Weidmuller products, contacted ABB's Bruce Tremain at the power station where he is employed as a maintenance electrician/operator. ABB have the operational and maintenance contract for all of the hydro stations on the Waikato scheme.



Aratiatia power station 100 tonne gantry crane

Bruce's major challenge was that the operational staff could not switch the new 1000 Watt lights on the 100 tonne gantry crane from ground level. The crane traverses the entire width of the Aratiatia power station and its power supply is provided by a typical three phase rail and collector system. The crane is often used in positions where additional lighting is required for safe operation of the crane. Climbing up onto the crane to switch the lights on can be an arduous and unsafe task in the middle of the night.

Bruce came up with an innovative idea to switch the lights on and off wirelessly. Peter Gillespie met him on site and discussed the application. It became apparent very quickly to Peter that this was an ideal application for the Weidmuller WL-TXRX-900-NZ wireless I/O units, providing a point to point wireless system with analogue, discrete I/O and pulse signal capability. The signals are transmitted by license free 900 MHz radio and are cost effective for point to point application.



Peter arranged for a Weidmuller wireless demo unit for Bruce to trial, as in most wireless applications it is best to try before you buy. Wireless projects are subject to environmental influences and doing an on site trial ensures that a wireless solution is suited to the environment and the application. The trial proved to be very successful and all parties concerned were confident that the Weidmuller product was up to the task.

ABB purchased the products through JA Russell Rotorua, and Cuthbert Stewart Ltd is pleased to report that the Weidmuller units are providing an excellent solution to an operational safety issue.

For further information on the Weidmuller wireless units, please contact Peter Gillespie on 027 230 7439 or email peterg@cuthbertstewart.co.nz.



Think Automation and beyond...

CSL appointed as exclusive distributor for IDEC control and automation

"Cuthbert Stewart Ltd has added an exclusive value add string to its bow," says CSL Chief Executive Phil Elliott. "In securing the IDEC agency for New Zealand we have broadened our already extensive product range for the industrial market which helps us achieve our goal of adding value to our customers. We can now support a broader range of industrial control and automation products providing a one stop shop for industrial users".

The selection process implemented by the CSL management team for new additions to our product ranges must include an exclusive agreement and internationally recognised products from suppliers who value long term partnerships.

"Our history clearly shows that the CSL management team will make the hard calls on product selection that benefit CSL and its customers in the long run," continues Phil Elliott.

After reviewing a number of options, IDEC very quickly ticked the boxes once the CSL selection process was undertaken.

The CSL management team was impressed by the professionalism and commitment shown by key IDEC personnel to bring it all together along with the support of incumbent NZ distributor Landis & Gyr NZ.

"We are all working together to ensure a smooth transition for our customers," comments Paul Morton Sales Manager of IDEC Australia.

The IDEC control and automation range is an excellent complimentary fit to our existing industrial ranges which include Weidmuller, Fibox, Partex, Cooper Crouse Hinds and many others all supported by a strong technical support and sales team.

The IDEC range includes:

- LED Solutions
- Automation & Sensing
- Safety
- Switching & Controls



For information on the full range of IDEC products please contact the CSL customer service team or your local sales representative.



CORROSION RESISTANCE //

It's less about metallurgy and more about gas tightness!

There is much discussion within some industry segments concerning the effect of corrosive environments on the metal parts in a terminal block. In order to declare that one metal plating combination is superior it is important to clarify the function of each metal part and the impact corrosion on each part has on the overall reliability of the termination.

A traditional terminal block consists of a moulded plastic body and various metal parts including screws, clamps and a current bar or current bars. The metal parts perform a mechanical function, i.e. securing the wire within the clamp, and an electrical function, i.e. maintaining a low resistance current carrying capability. The impact corrosion has on these separate functions is very different.

A rising yoke clamping system presses the wire against a current bar thus separating the mechanical and electrical functions. The electrical conductivity is determined by the contact area between the wire and the current bar and the resistance of the current metal plating. The contact area is determined by the clamping force and the hardness of the current bar and its plating. The screw and clamping yoke are not required to conduct a current – their function is strictly mechanical.

Weidmuller uses heat-treated steel screws and yokes for maximum strength. These parts are zinc plated for corrosion protection and then covered with a chromate layer. Chromate treatments are widely used for inhibiting corrosion on a variety of metals and alloys. The improvement in corrosion protection is due not only to the physical barrier of the film itself but also to a self-healing property that continues to protect even though scratches or abrasions have penetrated to the base metal. Chromate coatings have a low electrical resistance and a large number of copper, silver plated and aluminum electrical and electronic components are successfully protected by this means.

Weidmuller's current carrying part, the current bar, is made from brass or copper with tin-lead plating. This offers low resistivity and good corrosion resistance. The relatively soft plating and serrations on the current bar allow the contact area between the wire and current bar to be maximised thus lowering the contact resistance. The combination of the zinc plated steel and tin-lead plated brass or copper is considered resistant to sulphur dioxide (SO₂), hydrogen sulfide (H₂S), and ammonia (NH₃).



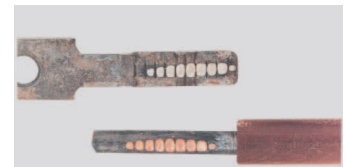
This test, in accordance with IEC 512-6-6 serves to assess the ability to withstand the effects of salt spray.

Another option for the metal plating materials is nickel plated brass. Nickel also provides corrosion resistance but if it is scratched the corrosive environment may come in contact with the base metal. Unlike a chromate plating there is no self-healing effect. This combination is promoted as being superior in salt mist environments because salt mist causes a zinc oxide to develop on zinc plated steel parts. Although visually unappealing, the zinc oxide actually forms a barrier to protect the steel. Salt mist does not appear to cause an oxide layer on nickel plated brass but actually long term exposure to even non-salt laden air does – it is just not as visible as those on zinc plated parts. A nickel alloy with high copper content exhibits the least amount of corrosion in salt mist environments but has relatively low resistance to H₂S.

Having said all this, the characteristic that really determines a terminal's corrosion resistance is whether the connection is gas tight.

Whether the corrosive environment is salt mist, SO₂, H₂S, NH₃ or some other gas, corrosion on the screw and clamping yoke that does not reduce the clamping force may have absolutely no effect on the quality of the connection. If contact resistance is not increased the connection is still electrically sound. Corrosion may make loosening and re-tightening the clamp difficult but in most cases once installed the terminals are left as they are for years. If the connection i.e. the area of contact between the wire and current bar, is gas tight there will be no corrosion of the electrical connection. An environment may cause severe corrosion on the screw, clamp, and even the current bar but as long as the contact area is gas tight the resistance of the connection will not be affected.

Another point to keep in mind is the mix of corrosive gases. In most corrosive environments there are multiple gases present and each may affect metal parts differently. Gas tight connections are the important feature.



IEC 512-6-11a The connection must be gas tight at a minimum of 75% of the points where the current bar makes contact with the conductor. In the image the gas tight areas appear bright and in sharp contrast to the remaining surface discoloured due to extensive exposure to the test atmosphere.

It should be noted that most companies promoting nickel plated brass also offer zinc plated steel parts and all terminal block suppliers provide grounding (PE) terminals with steel parts making contact with the DIN rail. If there was one metal plating combination that was 'the best' for all environments wouldn't all the terminal block manufacturers be using it? To say one metal plating is best for all environments is simply impossible unless the terminal uses gold!



IDENTIFICATION SOLUTIONS – THE ONE STOP SHOP //

Cuthbert Stewart's Value Add Custom Printing and Engraving Centre has now been in operation for two years.

From our humble beginnings of custom printing cable/wire and terminal markers; CSL are now a well respected and major national supplier of Precision Laser and Rotary Engraved labels, Mimic panels, Schematic drawings, Pole numbering and much more. These services complement our existing customised cable and wire marking.

CSL has also invested in the latest, high tech equipment available. This has helped CSL increase the number of options to customers and as a result we have seen our customer base grow daily. Together with our highly skilled staff, this has been a winning combination for our customers.

Our Value Add team are 100% customer focused, providing a printing and engraving service that is of a high quality, professional and cost effective. Speed to market is a priority.



left to right are:
Allan Clout, David Maule and Jack Hobbs.

Label printers and generic manual identification systems are supplied to CSL by world renowned suppliers Weidmuller and Partex. A visit to our website www.cuthbertstewart.co.nz will provide information on these products and suppliers.

Printers:



Partex MK10



CSL sites in Wellington and Auckland have a large range of inhouse demonstration printers for customers to view in action. This often helps present options to our customers that they possibly would not have considered beforehand. CSL printers are all user friendly. We invite you to 'have a play'. Enquiries to labels@cuthbertstewart.co.nz.



Weidmuller PrintJet Pro



New Identification Products:

IDST - ShrinkTech printable heat shrinkable marker sleeves for wire and cable identification. This 3:1 shrink ratio material provides fast shrinkage and covers a wide range of wire diameters.

IDST is flame retardant and can be printed by CSL's new thermal transfer printers, along with existing software, or with CSL's new software. The printer provides a permanent non smudge image and withstands aggressive abrasion, fluids and solvents. IDST sleeves can be printed on both sides for maximum data content and readability.

Available in all regular sizes 3/32–2" (2.4–50.8mm) and standard colour options (white and yellow). Enquiries to labels@cuthbertstewart.co.nz.

SHRINK TECH

GK420T



C-RANGE INFRARED WINDOW //

The safest choice for medium voltage and outdoor thermal inspections

If you are concerned about Arc-Flash but wish to continue with your infrared thermography program, infrared windows are the answer. These Arc-Resistant, outdoor certified, infrared windows allow thermal, ultraviolet, visual and fusion technologies to be used without exposing personnel to live equipment.

All infrared windows from Fluke Corporation use the unique Quadraband™ multispectral optic, allowing inspection with any camera for total flexibility both now and in the future.



Increase the safety and speed of your infrared inspections

- Engineered and tested to withstand electric-arcs up to 50kA for a huge 30 cycles.
- Certified by UL & CSA for Type 3/12 (Outdoor) environments in North America and Canada, the C-Range windows are tested to withstand the long term ageing effects of UV exposure.
- Certified by SIRA Certification IP65 (Outdoor) environments in Europe.
- The CLIRVU® coating – exclusive to Fluke Corporation Windows – seals the optic prior to assembly to protect against moisture degradation.
- Own a Fluke Camera? The Quadraband™ optic is IR-Fusion® compatible allowing the thermographer to see potential problems both ways.
- Got more than one window per panel? Each C-Range window is delivered with an identification plate attached for unique, on-site numbering for rapid location confirmation and faster repairs.
- Each infrared window comes complete with a security access key, installation instructions and self-adhesive drilling template.

QUADRABAND™ Optic Technology

Do you have an infrared camera with IR fusion capability? Do you simply want to take a digital photograph of a problem to help with the repair? Using pre-shot digital pictures of switchgear attached to outdoor panels is never a long term, robust solution.

With C-Range Quadraband™ optics you can use the same IR Window to confirm a disconnect position, clarify a phase color in a multicable feeder or even visually detect discoloration as further confirmation of a problem.



Infrared inspection windows



ECANZ TRADE SHOW //

OUT & ABOUT

In July Cuthbert Stewart were once again part of the major ECANZ Trade Show event held at Addington Raceway in Christchurch.

Our main focus this year was on displaying and making visitors to the show aware of the many new product ranges we have coming into the market and also updates on some of our existing products.

Featured products included:

- **Nexans Cable Accessories**
GPH Shearbolt Connectors and LV/HV Heatshrink.
- **Shark Gel Products**
Straight & Branch Joint Kits
- **Cable Identification Systems**
Including the new GK420T Thermal Desktop Printer
- **Fluke Test & Measurement**
Ti32 Thermal Imaging Cameras and the new Fluke 233 Remote Display Multimeter
- **Amprobe Test Equipment**
AT-5000 Cable & Pipe Locators
- **Hazardous Area Products**
New Champ LED Light Fittings - MEDC Sounders & Beacons
- **Weidmuller**
Surge Protection & Signal Conditioning Products



left to right are:
Denis King (Business Manager - Identification), Jane Kelland (Sales Rep - Southern Region), Kevin Mercer (Key Account Manager - Energy - South Island).

The new range of Fluke Multimeters and Thermal Imagers generated many enquiries and having George Bongiovanni from Fluke Australia in attendance enabled us to answer many questions on the day.

Cable and Equipment Identification is another product range that is continuing to grow within Cuthbert Stewart.

We had on display some of our Wire and Cable Printing systems which enable companies to print their own labels on-site. This included the new GK420T Thermal Desktop Printer which can print our new range of ShrinkTech heat shrinkable labels for Wire & Cables.



left to right are: Iain Terry (Sales Rep Northern Region), George Bongiovanni (Fluke Australia), Kerry Schreiber (Business Manager - Hazardous)

EXTRA value with Fluke's Thermal Imagers //



KEY CONTACTS //

Technical Team
TechTeam@cuthbertstewart.co.nz
www.cuthbertstewart.co.nz

Customer Service
Free Phone - 0800 288 423
Free Fax - 0800 808 851

Geoff Thomson
Technical Manager - Industrial
027 443 2346

Peter Gillespie
Business Manager - Weidmuller
027 230 7439

Denis King
Business Manager - Identification/Fibox
027 235 5132

Kerry Schreiber
Business Manager - Hazardous
027 245 1011

Peter Whitwell
Northern Region Sales Manager
027 266 9285



Purchase a Fluke Ti32 or TiR32 Thermal Imager and receive a FREE Netbook at your FREE Training session. Plus MORE great EXTRAS!



For more details visit our website:
www.cuthbertstewart.co.nz
Or phone: 0800 288 423

FREE Distance Meters & Training

When a Fluke Ti25/TiR1 Imager is purchased we will give you a 421D Distance Meter absolutely FREE plus training for TWO people! When a Fluke Ti10/TiR Imager is purchased we will throw in a 416D Distance Meter and training for ONE person FREE!

