

TRANSNET

HV JUICE



November | December 2011

New Generation Mains Branch Joints



Raychem

NEW-Portable LED Floodlights



www.transnet.co.nz

TE & TransNet Onsite to Assist Transpower

Steve Breeze of TransNet and Simon Sheterline of TE Connectivity were asked to travel to Te Matai Sub Station in the Bay of Plenty to advise on a 33kV cable termination failure and temporary fault repair. The failed cable termination had been replaced and re-livened with a Raychem alternative. Upon inspection it was noted that there were multiple other terminations showing signs of surface discharge and erosion and were in urgent need of repair. After discussions with the Transpower Engineer and local contractors from United Group, Transpower decided it was necessary to organise an immediate shutdown of a 110kV transformer bank and applicable 33kV

circuits. Critically effected electrical apparatus included a 110kV-33kV step down transformer, local service transformer, Neutral Earth Resistor (NER) and associated 33kV cable circuits equating to a potential loss of 32 mega watts from the Transpower grid.

The scheduled shut down ran over the weekend from Saturday until Tuesday and the TE Connectivity/TransNet team was called upon to supply twenty 500mm² 33kV single core termination kits specially designed to be retrofitted to existing cable terminations. They were also asked to supply a single core 500mm² 33kV inline joint. It was a big ask on a Friday afternoon for the TransNet kit room but they made it

happen and ensured all kits were ready for delivery first thing Saturday Morning.

Installation was carried out in a joint effort between Transpower contractors and TE Connectivity technical staff. Stripping the substandard cable accessories from the existing terminations was carefully and precisely achieved leaving very little need for any further cable prep. The new Raychem 33kV HVTO outdoor kits were customised and installed according to the predetermined dimensions of the existing cable terminations. Testing and commissioning of all circuits took place a day earlier than expected resulting in a future proof outcome for all involved.



Te Matai Sub Station in the Bay of Plenty

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A New Generation of Mains Branch Joints



TE Connectivity's New Generation Mains Branch Joints offer all the latest technology in one box. The TBJ kits accommodate 4 core XLPE, PVC & SWA or STA cables; solid, stranded, sector & round – Copper & Aluminium from 70–300mm² in just three units.

- The vacuum formed shell gives more room to accommodate the larger cables – up to 300mm².
- Kits are range taking so main and branch cable can be different sizes if necessary.
- The orange brush covers are rated to 5000V and offer a reliable and robust alternative to insulating patches. They reduce installation time and the risk of flashover while live jointing.
- The holes on the brush covers allow the resin to flow freely and encapsulate the connector and the shroud.
- Connectors are Bimetal, simply wrap copper conductors in brass gauze.
- UBR Connectors will accommodate solid, stranded, round and sector cables.
- Joint can be buried quickly, RAPID RESIN 4300 has a curing time of 3hrs 15mins.
- UBR connectors are tested to international standard IEC 61238-1. The moulded insulation shroud is tested to 5kV AC and 1kV DC.



Insulating connector covers ensure installer safety & keep cores separated in joint.



Raychem

Product Code	Conductor Size (mm ²)		Cable Entry Diameter (mm)	
	Main Cable	Branch Cable	Min	Max
TBJ-1	70-150	70-150	35	67
TBJ-2	185-240	185-240	48	70
TBJ-3	300-300	300-300	70	77

For more information on these kits or for neutral screen or PILC kits please contact your local account manager or customer service.

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Dutchclamp[®] Cable Clamps

The Dutch Clamp range includes; Cable clamps and blocks for mounting low, medium and high voltage cables. This top quality Dutch product is the result of 25 years of research development experience. Dutchclamp cable clamps are in use throughout the world, they have proven reliability and are made to the highest quality.

The range of sizes available for each clamp model ensures a perfect fit to achieve the required short-circuit-proof mounting of your expensive cables.

The unique design of Dutchclamps, in combination with the specific composition of the raw materials, makes these plastic cable clamps among the strongest in the world.

Suitable for single and multi-conductor cables mounted individually (12-170mm diameter) and in trefoil configuration (27-150mm diameter). The Triple and Unifix IM types are stackable.



CHARACTERISTICS

- Simple installation.
- Withstand short-circuit currents up to 202kA.
- Mechanical tensile strength up to 68,800Nm.
- Resistant to oils, UV, ozone, salts, moisture, acids and even radio-active emissions.
- Self-extinguishing V-0 (UL94), halogen-free, low smoke.
- Temperature range from -40°C to 120°C.
- Black coloured.
- Triple and Unifix IM types are stackable.
- Single Cable Clamps 12-170mmOD.
- Trefoil Clamps 27-150mmOD.

TESTING

Dutchclamp cable clamps are tested by UL, Damstra Laboratory (KEMA registered), Eaton and Centrilab (reports available upon request).



Contact Customer Service for more information.

Dutchclamp[®]

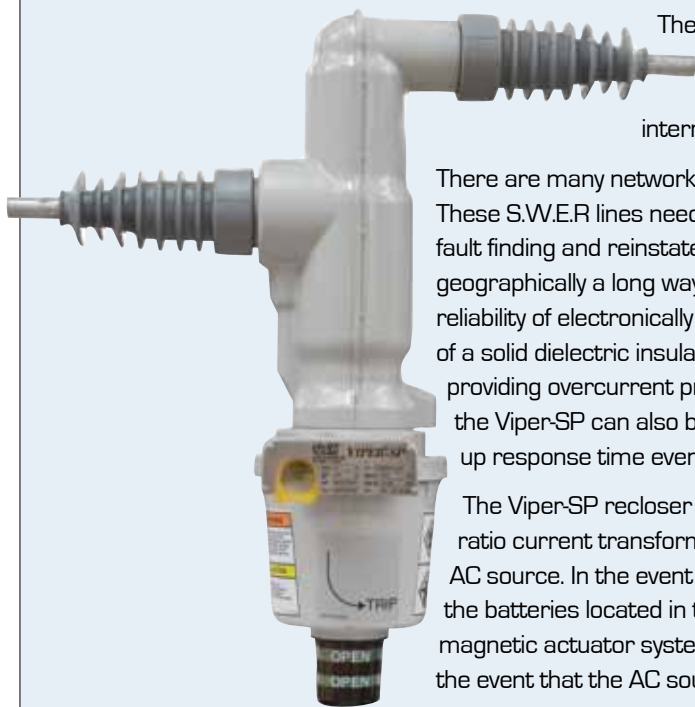


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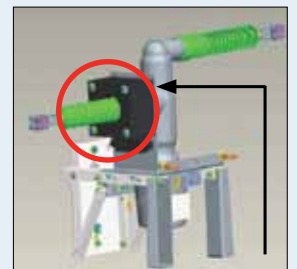
S.W.E.R Line Recloser – G&W Viper-SP



The Viper-SP has just got even better, designed to provide electronic over current protection for single phase operation on systems rated through 38kV, 800A continuous current 12.5kA symmetrical interrupting. It can now detect low fault current – as low as 4amps.

There are many networks around the country running Single Wire Earth Return (S.W.E.R) lines. These S.W.E.R lines need to be automated as much as the rest of the network to enable faster fault finding and reinstatement of supply to customers who often, on S.W.E.R lines, are geographically a long way from the nearest faultman. G&W's Viper-SP combines the time-proven reliability of electronically controlled, vacuum fault interrupters with the maintenance-free benefits of a solid dielectric insulated device. The Viper-SP is designed for automatic or manual operation providing overcurrent protection for single phase systems. If set up, the Viper-SP can also be operated from the control room, speeding up response time even more.

The Viper-SP recloser monitors the circuit using an internal multi-ratio current transformer. The unit is powered by an external 120V AC source. In the event AC power is lost, the unit operates through the batteries located in the control. The unique design of the magnetic actuator system provides for local and remote operation in the event that the AC source power is lost or interrupted.



External 100:1 current Transformer fitted to load side bushing

FEATURES

- Lightweight and compact – weighing approximately 45kg
- Available with external 100:1 current transformer to detect low fault currents
- The Viper-SP is compatible with the Schweitzer SEL-351RS Kestrel control.
- All modules are UV protected and 100% factory tested for partial discharge.
- Equipped with G&W's quality epoxy polymer system to fully encapsulate the vacuum interrupters, providing excellent insulation properties while providing fully shielded, void-free construction.
- Designed for overhead, substation and pad mount applications. Polemounted units can be equipped with either vertical or horizontal insulators
- Utilises the latest in magnetic actuator technology. Tested for over 10,000 mechanical operations to assure a long maintenance free operating life.
- Can be supplied pre-assembled with arrestors and VT, significantly reducing installation time.
- Single control cable brings all current, breaker status and trip/close information to the control.
- The Viper-SP is automation ready, simplifying conversion for future automation requirements.
- Hotstick operable, manual trip and lockout handle. An open and closed contact indicator verifies the contact position. Operation of the manual trip handle and lock out disables local or remote closing including mechanical block until the handle is reset.
- Vacuum interrupters are sealed within solid dielectric insulation providing dead tank construction



For further information on how the Viper-SP could improve your network reliability, please contact our switchgear specialist Selwyn Russ in the Auckland office

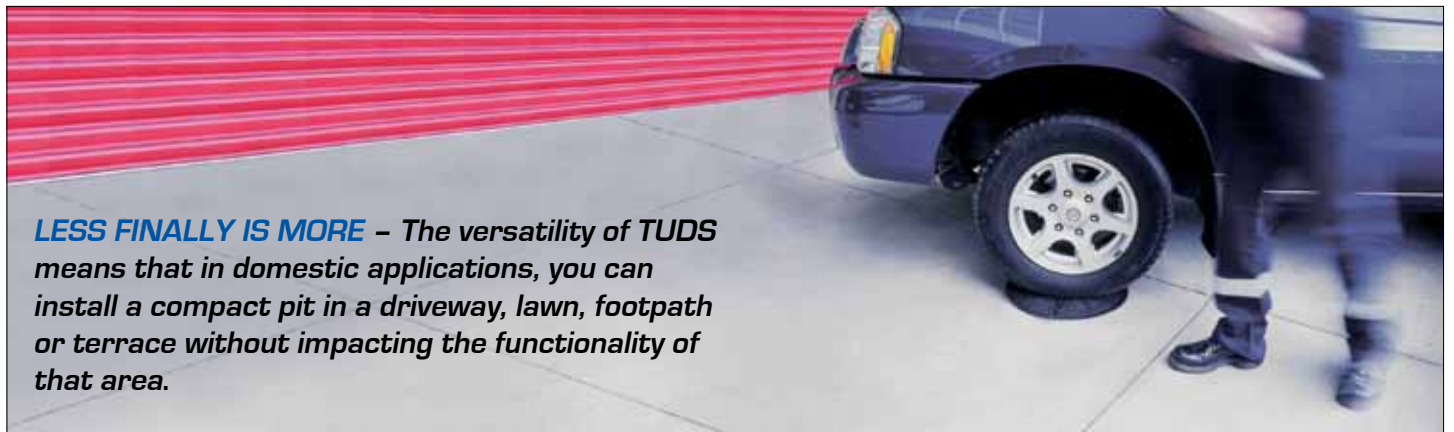
G&W

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TUDS – Total Underground Distribution System



LESS FINALLY IS MORE – The versatility of TUDS means that in domestic applications, you can install a compact pit in a driveway, lawn, footpath or terrace without impacting the functionality of that area.



Benefits of TUDS

- Public safety is improved – no more hit pillars with exposed live wires.
- All fittings are safely tucked away in an in-ground pit – reduces maintenance and replacement of damaged fittings.
- Lid has been tested for safety and strength – can withstand 80kN of downward force.
- Durable and UV stable materials are used in the pit and lid manufacture.
- IP68 fully submersible fittings are used inside the pit for fusing and connecting services.
- No more street furniture, TUDS is flush with the ground.
- Flush mount design means reduced chance of vandalism and impact damage.

TUDS is a proven system, the fittings are of the highest quality and are very simple to use. A TUDS solution is available for all installations up to 100amps. For more information contact your local rep or customer service.



The driveway shown above was blighted by the presence of a large ugly pillar which was not only visually awful but a dangerous obstruction conveniently placed to be repeatedly run over by vehicles using the driveway. The use of TUDS pits has tidied the area up and provided a much safer environment. **RIGHT: Cambridge Town Centre.**



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FLUKE-TI25 THERMAL IMAGING CAMERA

The ultimate trouble shooting and maintenance tool.

FEATURES

- Visual image fusion technology
- Drop proof to 2m
- Voice annotations
- Sturdy carry case and full reporting software
- Temp Range: -20°C to 350°C
160x120 Uncooled FPA-Uncooled Microbolometer Detector
- Field of view: 23x17 Deg
- Spatial resolution: 2.5mrad
- Visual camera: YES (Fusion)
- Accuracy: $\pm 2^{\circ}\text{C}$ or $\pm 2\%$ of reading whichever is greater
- Image storage: SD Card
- Weight: 1.2kg
- IP Rating: IP54



CAT NO.	DESCRIPTION
FLUKE-TI25	THERMAL IMAGING CAMERA

*Other models available on request include; T110, T127, T129, T132 and FLIR

PHASE MARKERS

EVERLAST – When you absolutely, positively must have a sign, tag, or marker that you'll NEVER NEED TO REPLACE.

Everlast Indestructible Phase Markers are made to last in the harsh environment that is New Zealand.

- Tested by Underwriters Laboratories, results showed 30yrs with no change.
- Tests included – UV exposure, salt spray, vibration, abrasion, temperature variation, fumes and more.
- 3.5" x 2/5" with a hole in each corner for mounting.
- Safety is improved because legibility is guaranteed for 30yrs.
- No wasted labour replacing faded markers – saves money.
- Made from solid UV stabilised polypropylene plastic.



CAT NO.	COLOUR
EL3R011	RED
EL3Y011	YELLOW
EL3U011	BLUE



EVERLAST™



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RAYSULATE INSULATING MATERIAL

Designed to protect energised conductors or busbar from flashovers due to contact from birds, possums and other wildlife, Raysulate comes in many custom shapes. They are made from a UV stable, track resistant, high performance TE (Raychem) material to ensure years of reliable service.

A variety of different shapes and sizes are available to cover circuit breaker bushings, bus standoff insulators, capacitors, transformer bushings, voltage regulators, potential transformers and more.

The beauty of the Raysulate range is it can be re-entered for other maintenance needs and then reused, thus lowering overall lifetime costs.

We have a standard range of covers in stock, for all custom covers please contact your account manager or our customer service team.



LED WORK STANDS

**The best temporary light stand ever!
No more blown lamps and excessive heat.**

Totally portable, can run from vehicle lighter socket, battery or power supply adapter – direct into mains power. In terms of reliability, safety and versatility this light stand is the best of the best.

FEATURES

- Totally portable – run from vehicle lighter socket, battery or mains power via supplied power supply adapter.
- Cool running temperature.
- Rugged and not prone to vibration damage.
- Telescopic stand for compact storage and transportation.
- Supplied with power supply adapter to enable mains power connection.
- 12m lead for versatility.
- Power supply is 10-30V DC or 230V AC via power supply adapter.



New Product



CAT NO.	DESCRIPTION
LEDFL-PORTABLE1	SINGLE LIGHT STAND
LEDFL-PORTABLE3	TRIPLE LIGHT STAND

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