

EARTHING & BONDING

SOLUTIONS FOR HV & LV EARTHING & BONDING



www.transnet.co.nz

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ABOUT TRANSNET NZ LIMITED

TRANSNET COMPANY OVERVIEW

At TransNet we offer a large range of products to the Electrical Distribution, Transmission, Rail, OEM and Wholesale industry. We have the expertise and knowledge to assist with equipment specification as well as providing hands on service and support in the field.

With three stocking distribution facilities in Australasia, and 24hr contact, TransNet is able to offer local support and fast delivery.

TransNet is one of the largest suppliers to our industry in Australasia, offering the most diverse range of products and support. We have a switchgear workshop, an R&D workshop and a Raychem kitting room on site in our Auckland Head Office and we are well equipped to offer training and support for all our products.

At TransNet we pride ourselves on the ability to react quickly to any situation and have product to you whenever and wherever you need it. Our staff are knowledgeable and happy to help, we have a number of technical specialists in a range of product areas, all ready to assist if and when required.

As the sole New Zealand Distributor of TE Connectivity Energy products including brands such as Raychem, Utilux, AMP and Guro, we have the local and international support and expertise of one of the largest manufacturers in our business. TE Connectivity Energy has a research and development programme second to none, continuously improving existing products, while designing and testing new products to improve network reliability. We are proud to offer an extensive range of quality brands from around the globe for a holistic approach to supply in the electricity industry.



ENVIRONMENTAL RESPONSIBILITY



At TransNet we take environmental responsibility seriously and as part of our commitment to the environment we have implemented a range of policies and practices to do our part in protecting the environment. We have achieved and maintained ISO 14001 - Environmental Management System certification since 2017, an achievement we're immensely proud of. In addition to this, we have the first and only fully functioning Micro Grid of its kind in New Zealand right here at our head office, with 150kW of solar generation and a 30kW/130kWh smart storage system, we're able to power our entire operation for most of the day.



We're already moving to reduce our impact even more by adding electric vehicles to our fleet and using our solar farm to charge them.

THE TRANSNET DIFFERENCE

WHENEVER, WHEREVER, WE'VE GOT IT - PRODUCT RANGE

- More than 20 years supplying to the electrical industry
- 100% privately New Zealand owned and operated
- IANZ accredited HV Test Lab, ISO 14001 Certification & Environmental Management System
- Three stocking locations in Australasia
- R&D workshop, Switchgear workshop & Raychem kitting room
- Extensive stock holding for superior emergency response
- Quality products sourced from reputable brands from around the world

See below for some of the product ranges we can offer your business.

| | | | |
|---|---|--|--|
| Asset Protection  | Cable Accessories  | Cable Management  | Cable Protection  |
| Circuit Protection  | Connectors  | Duct Seals & Glands  | Earthing  |
| ECOLight LED Lights  | EVSE  | Fireproofing  | Hazardous Area Solutions  |
| Heatshrink  | Insulators  | Line Hardware  | Monitoring  |
| Safety Equipment & Testing Facilities  | Switchgear  | Test & Measurement  | Tools  |

HV OVERHEAD EARTHING

TEMPORARY 11/33KV EARTH SETS

Temporary earth sets with attached earth stick for visual confirmation of earth set installation. These earths are a well known and extensively used design here in New Zealand. The set is made up of the following;

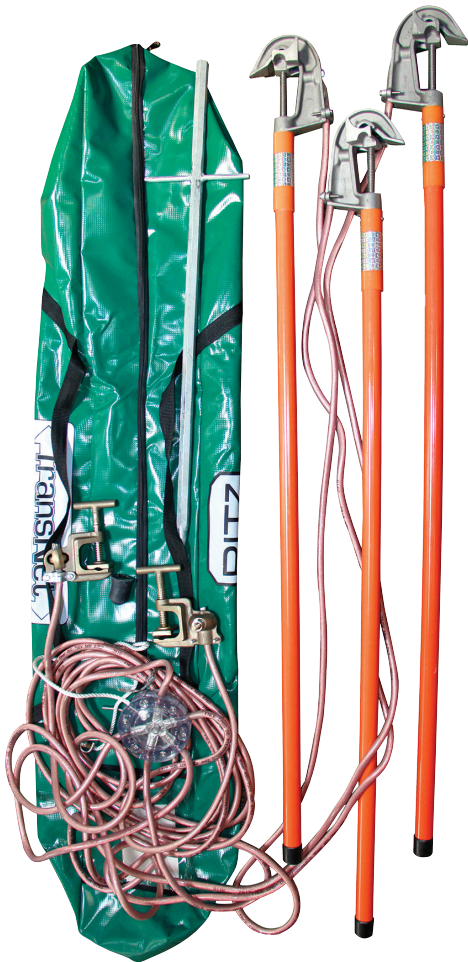
- 3 x 3m leads attached to fully insulated line clamp hotsticks
- 1 x 9m lead from cluster to ground with ground clamp
- 1 x 1m lead from cluster to pole with ground clamp to bond pole metal work
- 1 x heavy duty storage bag
- 1 x 1m earth stake
- 1 x Acrylic cluster cover for easy fast inspection of connections

FEATURES

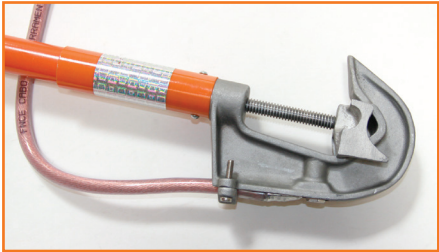
- Reflector at the top of each stick for night time visual check
- Factory test report supplied with every set
- Unique serial number for traceability
- Inspected and tested to IEC 61230 standard

ALSO AVAILABLE

- Longer 2 piece sticks
- 50mm² conductor for higher fault current applications



Extendable Hotsticks



| Cat No. | Description | Fault Rating |
|---------------------|---|----------------|
| CAR/ST-NZ-HG14880 | RITZ PORTABLE EARTH SET, 35MM ² | 10kA / 0.5 Sec |
| CAR/ST-NZ-HG14880-5 | RITZ PORTABLE EARTH SET, 50MM ² | 15kA / 0.5 Sec |
| TN11-33KV/SET | RITZ PORTABLE EARTH SET, 35MM ² , 2 PIECE STICKS | 10kA / 0.5 Sec |

HV OVERHEAD EARTHING

TEMPORARY 11/33KV EARTH SETS - SNAP ON CLAMP

Temporary earth sets with "snap on clamps" are available with a separate earth lead or with the earth looped into the set.

These spring loaded clamps make it extremely fast and easy to install the earths on overhead lines, the operator simply sets the preloaded jaw of each clamp and mounts them onto the application plate which is connected to a hotstick. Once the clamps are mounted to the application plate they are lifted above the conductor and pulled back down over it to snap into place.

These clamps are equally easy to remove, simply pull each clamp from the conductor with the clamp removal tool specifically

designed for use with these clamps.

A three phase set with separate earth lead helps to reduce the amount of weight being lifted into the air while the looped shorting and earth set offers the convenience of everything already being connected (this is ideal for urban applications).

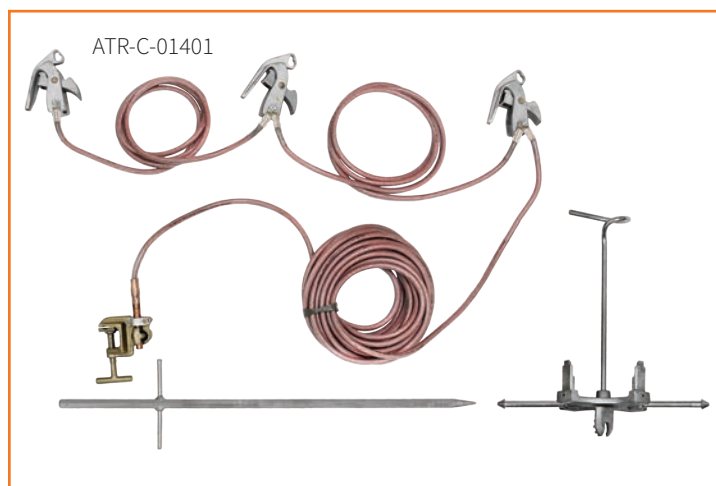
ACCESSORIES

- Application platform – to attach snap on clamps to overhead lines, comes with universal hotstick attachment
- Clamp removal tool – to remove snap on clamps from overhead lines, comes with universal hotstick attachment

Snap Clamp



Ground Clamp



| Cat No. | Description | Fault Rating |
|-------------|--|--------------|
| ATR-C-01400 | RITZ SNAP CLAMP PORTABLE EARTH SET WITH SEPARATE GROUND LEAD, 35MM ² CU | 8kA / 1 Sec |
| ATR-C-01401 | RITZ PORTABLE SNAP CLAMP EARTH SET WITH COMBINED GROUND LEAD, 35MM ² CU | 8kA / 1 Sec |
| ATR13628-1 | RITZ SNAP CLAMP | N/A |
| ATR1442-1 | RITZ SNAP CLAMP REMOVAL TOOL | N/A |
| ATR04694-1 | RITZ ALUMINIUM UNIVERSAL CLUSTER FOR INSTALLING & REMOVING GROUND CLAMPS | N/A |

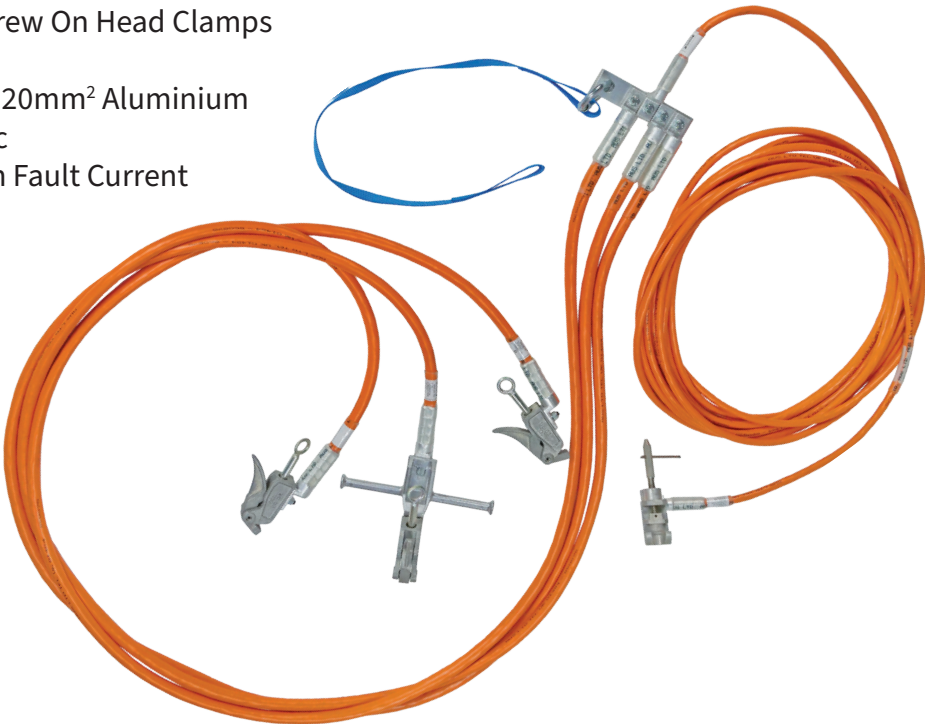
HV OVERHEAD EARTHING

TRIPLEX EARTH KIT

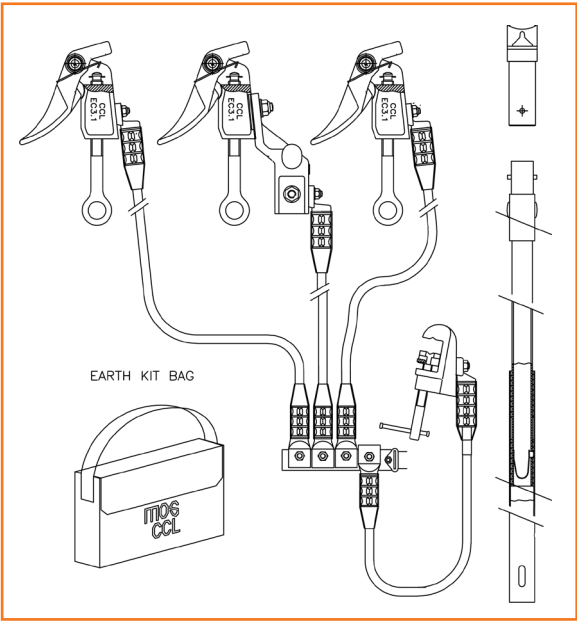
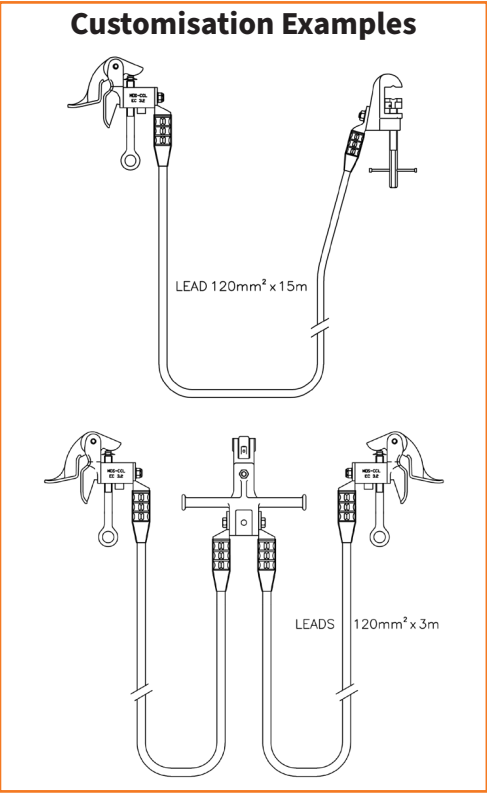
Mosdorfer HVE015 Earth Leads with Screw On Head Clamps

- Phase to Phase / Phase to Ground 120mm² Aluminium Fault Current Rating of 17.5kA/1 Sec
- Phase to Ground 50mm² Aluminium Fault Current Rating of 7.5kA/1 Sec
- Total weight of 11kg
- Can be used with existing Universal Sticks and an adapter

Fully customisable to suit your networks' individual requirements. Talk to your local TransNet Account Manager to find out more.



Customisation Examples



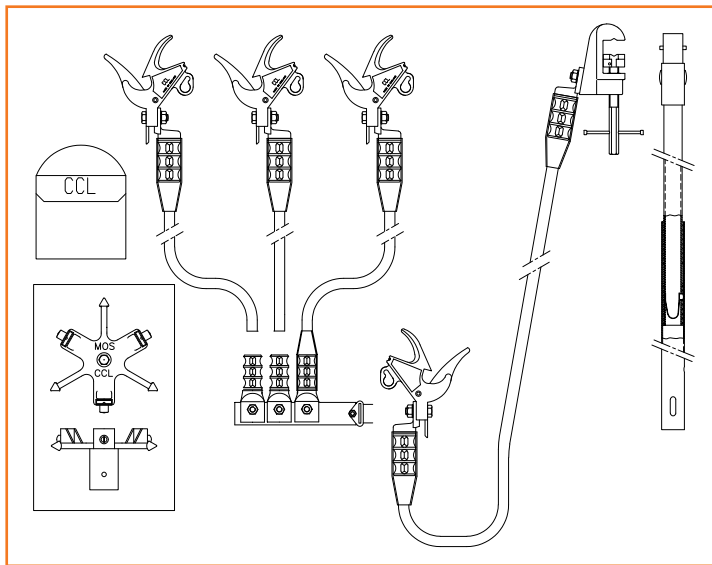
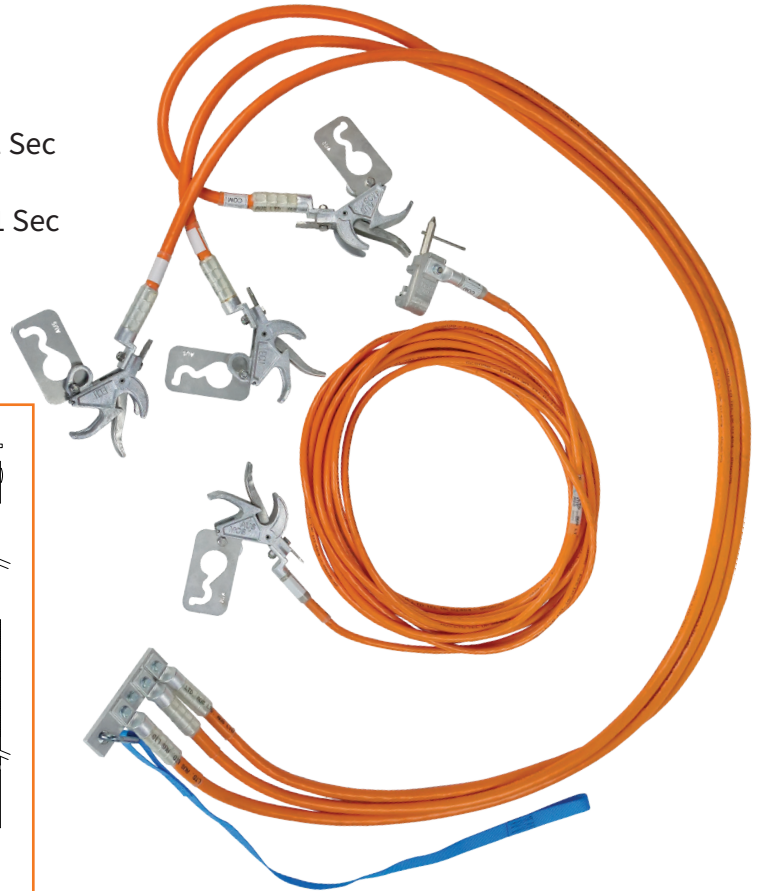
| Cat No. | Description |
|--------------------|---|
| MOSCCCL-HVE015 | MOSDORFER CCL TRIPLEX EARTH KIT INCLUDES ROD021 STICK, CARRY BAG & E ADAPTOR |
| MOSCCCL-HVE015-010 | MOSDORFER CCL TRIPLEX EARTH KIT WITH EC3.1E LINE CLAMPS, 2x3m x 120mm ² ORANGE PHASE LEADS JOINED WITH PARKING BAR & CARRY BAG |
| MOSCCCL-ADPE | MOSDORFER CCL E-ADAPTOR |
| MOSCCCL-RAIN001 | MOSDORFER CCL RAIN SHIELD |
| MOSCCCL-ROD021 | MOSDORFER CCL 4 TO 8FT TELESCOPIC ROD |

HV OVERHEAD EARTHING

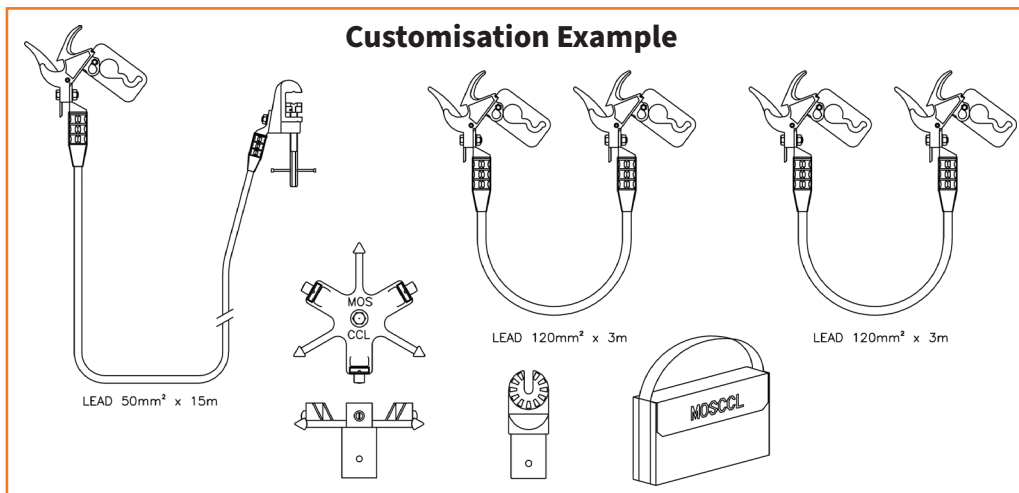
TRIDENT EARTH KIT

Mosdorfer HVE040 with Snap On Head Clamps

- Phase to Phase Fault Current Rating of 12.5kA/1 Sec
- Phase to Phase Conductor 120mm² Aluminium
- Phase to Ground Fault Current Rating of 7.5kA/1 Sec
- Phase to Ground Conductor 50mm² Aluminium
- Total weight: 11kg
- Can be used with existing Universal Sticks and the attachment of an adapter



Fully customisable to suit your networks' individual requirements. Contact us for information.

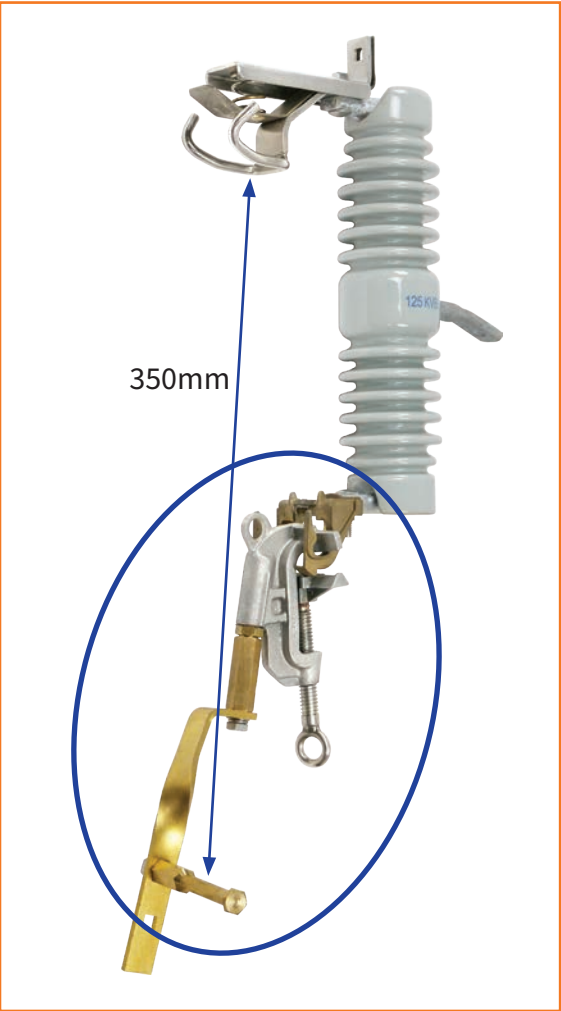


| Cat No. | Description |
|-------------------|--|
| MOSCCL-HVE040 | MOSDORFER CCL TRIDENT EARTH KIT |
| MOSCCL-HVE040-011 | MOSDORFER CCL TRIDENT EARTH KIT INCLUDES CARRY BAG & D ADAPTOR |
| MOSCCL-ADP0D | MOSDORFER CCL D-ADAPTOR |
| MOSCCL-ROD021 | MOSDORFER CCL 4 TO 8FT TELESCOPIC ROD |

HV OVERHEAD EARTHING

CUTOUT EARTH CLAMP

Designed to attach to the bottom contact of an EDO and allow Temporary Earths to be safely applied when the EDO isn't fitted with an Earth Spigot.
Earthing attachment is easily applied with a Shot Gun Stick.
Fits both existing and new DDO versions.



| Cat No. | Description | Max Current Fault Rating |
|--------------|---|---|
| TPACCT15 | AL CUTOUT CLAMP, THREADED 15 DEGREE | GRADE 3 - 27KA @ 15 CYCLES, SYMMETRICAL |
| TPACCT15-2PS | AL CUTOUT CLAMP, THREADED 15 DEGREE WITH 3/4" PARKING DOUBLE STUD | GRADE 3 - 27KA @ 15 CYCLES, SYMMETRICAL |

HV OVERHEAD EARTHING

HV OVERHEAD ELECTRIC TRACTION LINE EARTHING

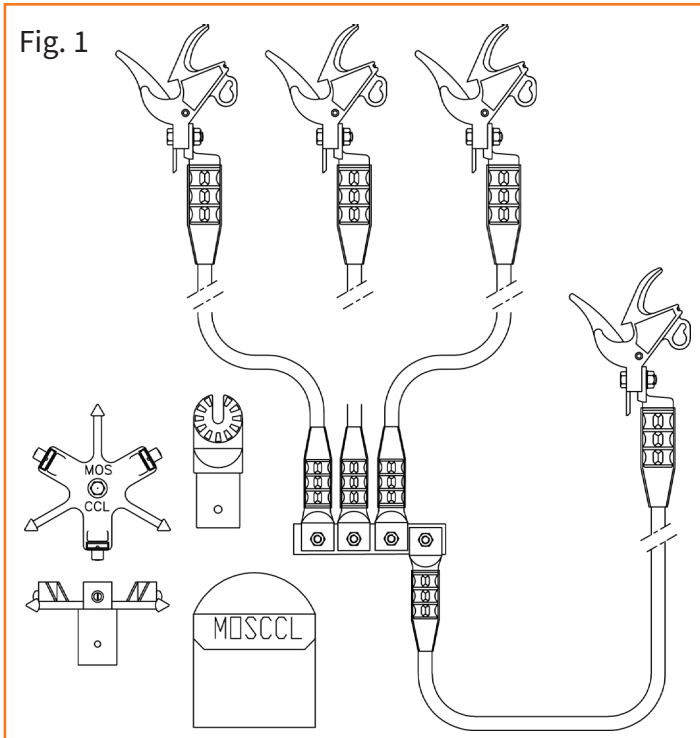
Mosdorfer EC1.1-1525 Traction Earths for 1.5-25kV systems.

Standard equipment used by many railway companies throughout the world for providing temporary earth bonds between overhead catenary or contact conductors and the earthed rail line or designated earth points. This equipment incorporates the EC1.1-'D' snap-on line clamp for rapid engagement and disengagement from the line conductor. EC1.1 clamp must be applied using Type 'D' dispenser head fitted to the operating rod. 'Traction' equipment is supplied contained in a heavy duty PVC carry bag with shoulder strap for easy handling. Cable leads to interconnecting clamps are flexible aluminium braid, arctic grade PVC sheathed - (bright orange) for maximum visibility when installed at the point of work.

Rating 7.5kA/1 sec (tested to British Rail Standard). TD Ref 272/60, available on request. Recommended operating rod GF1-1.2 with 'D' adaptor.



Fig. 1



FEATURES

- Made using 50mm² Al Flex to keep lead set as light as possible.
- Rating 7.5kA/1 Sec
- Designed to be used with Standard Extension Sticks fitted with Universal Head.

OPTIONAL EXTRAS

EC1.1 adaptor plate to assist disengagement of overhead line clamp from ground level.

Example earth set shown in Fig. 1. Contact your local TransNet Account Manager to find out more about this range and the flexibility associated with customisation to suit your application.

HV GROUND MOUNT EARTHING

TRAVIS BALL SOCKET EARTHING SET

The ball socket clamps make this earth set fast and easy to install using gripall hotsticks or bayonet stick attachments on regular hotsticks. With 4ft long yellow/white insulated leads there is a generous amount of space for attaching to an overhead installation.

FEATURES

- 4 leads at 4ft long attach to central cluster block
- 3 leads in one direction, with the other in the opposite direction for balance
- 4/0 yellow with white strip insulated copper flex cable
- Ball socket clamps for use with gripall or bayonet hotstick attachment for application & removal
- Rated at 6H: 55kA @ 15 cycles (250ms)



| Cat No. | Description |
|------------------|---|
| GC40YWCH44-00366 | HV OVERHEAD EARTH SET WITH 4 CLAMPS, 4FT LEADS RATED AT 6H: 55KA @ 15 CYCLES (250MS) |

LV OVERHEAD BONDING

LV JUMPERS - CUSTOM MADE

WHEN ORDERING PLEASE SPECIFY:

- Conductor Size
- Jumper Lead Length

*Made to order, choice of clamp, conductor size and length

CONDUCTOR SIZES

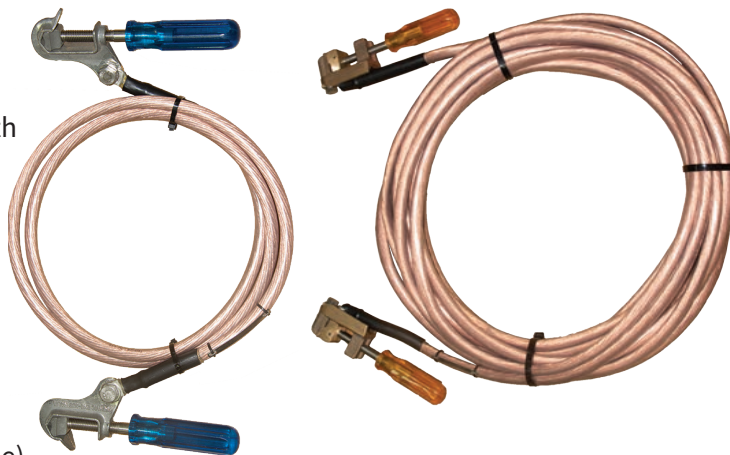
35mm²
50mm²
70mm²
95mm²

LENGTH

0.5m increments

CLAMP ACCOMMODATES

5-19mm OD (Blue handle)
0-27mm OD (Yellow handle)
6.5-12.5mm OD (Red/Black handle)



LV JUMPER CABLE - CLEAR SHEATH

Extra flexible electrolytic copper cable, with 750V insulated protection made of crystal clear PVC, for visual inspection of the copper filaments, suitable for grounding equipment and terminals.

| Cat No. | Size (mm ²) | ISC Cap. (Symmetric kA) 30 Cycles (0.5X) |
|---------|-------------------------|---|
| CTC-35 | 35 | 10 |
| CTC-50 | 50 | 15 |
| CTC-70 | 70 | 20 |
| CTC-95 | 95 | 30 |



LV JUMPER CLAMPS

Perfect for LV Jumper leads or Truck earths, these clamps are easy to use and robust to offer a long service life.

| Cat No. | Description |
|---------------|--|
| BPL12-TIN | S/DRIVER CLAMP (BLUE) JAW OPENING 5-19MM OD |
| SC-P101559-02 | S/DRIVER CLAMP (YELLOW) JAW OPENING 0-27MM OD, STRAIN RELIEF FITS CABLE 25-35MM ² |
| ATR13047-1 | SPRING LOADED GROUNDING CLAMP (RED) JAW OPENING 6.5-12.5MM OD |
| ATR13047-2 | SPRING LOADED GROUNDING CLAMP (BLACK) JAW OPENING 6.5-12.5MM OD |

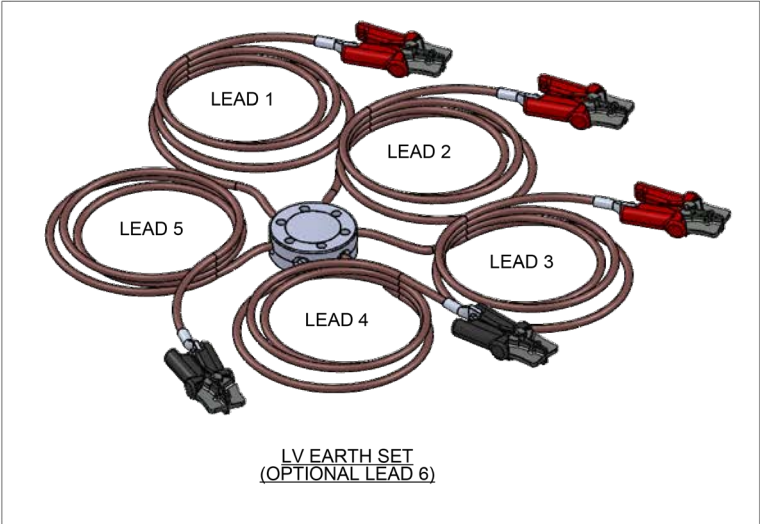


LV OVERHEAD BONDING

TEMPORARY LV EARTH SETS

- Flexible Copper Conductor with a clear sheath for ease of visual inspections
- Screwdriver handle clamps mean no tools are required for installation
- Reusable, these jumpers are for temporary use and can be used over and over again
- Strain relief applied to connection point for longevity of unit
- Designed for low voltage applications only
- Clear centre cluster for visual inspection of connection integrity
- Available with 35mm², 50mm² or 70mm² conductor

Common/standard sets outlined in table below. Custom earth sets available, please contact us with your requirements.



| ITEM No. | DESCRIPTION | PART NO. |
|----------|-------------------------|-------------------|
| 1 | GROUNDING CLAMP (RED) | ATR13047-1 |
| 2 | GROUNDING CLAMP (BLACK) | ATR13047-2 |
| 3 | S/DRIVER CLAMP (BLUE) | BPL12-TIN |
| 4 | S/DRIVER CLAMP (YELLOW) | SC-P101559-02 |
| 5 | CLUSTER: RITZ EARTH SET | G4754-1 / ACRYLIC |

| LEADS | | |
|---------------|-------------------|-------------------|
| SIZE | 35mm ² | 50mm ² |
| PART No. | CTC-35 | CTC-50 |
| QUANTITY REQ. | | |
| LENGTH (m) | 1. | 1. |
| | 2. | 2. |
| | 3. | 3. |
| | 4. | 4. |
| | 5. | 5. |
| | 6. | 6. |



ITEM 1
GROUNDING CLAMP (RED)



ITEM 2
GROUNDING CLAMP (BLACK)



ITEM 3
S/DRIVER CLAMP (BLUE)



ITEM 4
S/DRIVER CLAMP (YELLOW)



ITEM 5
CLUSTER: RITZ EARTH SET

| Product Code | Number of Leads with Handles | Length of Leads | Features |
|----------------------|------------------------------|-------------------|--------------------|
| LVE/SET6X2M35Mm2LEAD | 6 | 2M | |
| LVE/SET35MM1.5M10M | 5 | 4 × 1.5m, 1 × 10m | |
| JUMPSETLV5WAY2MTR | 5 | 2M | Comes in Carry Bag |
| LVE/SET35MM1.5M5M | 5 | 4 × 1.5m, 1 × 5m | |
| LVE/SET35MM2M | 4 | 2M | |
| LVE/SET35MM5x1.5/10m | 6 | 5 × 1.5m, 1 × 10m | |

LV OVERHEAD BONDING

SINGLE LV EARTH / BONDING LEAD

WHEN ORDERING PLEASE SPECIFY:

- Conductor Size
- Jumper Lead Length

*Made to order, choice of clamp, conductor size and length

CONDUCTOR SIZES

35mm²

50mm²

LENGTH

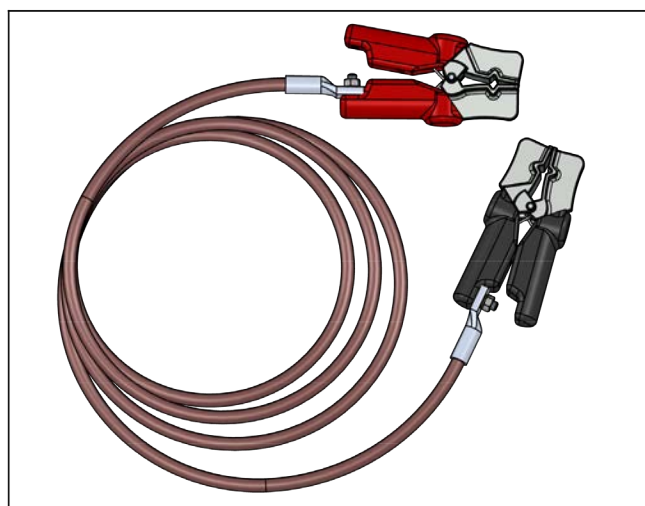
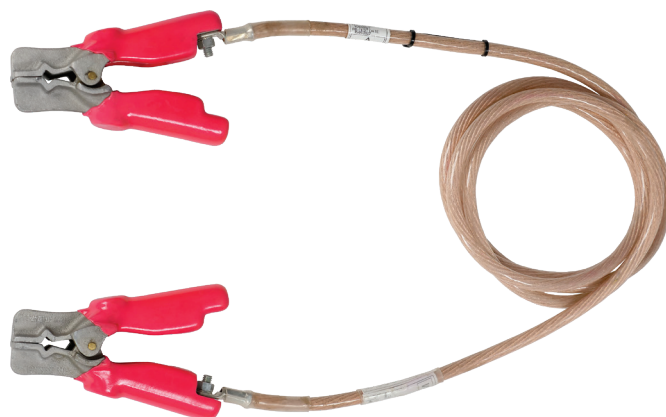
0.5m increments

CLAMP ACCOMMODATES

5-19mm OD (Blue handle)

0-27mm OD (Yellow handle)

6.5-12.5mm OD (Red/Black handle)



| ITEM No. | DESCRIPTION | PART NO. |
|----------|-------------------------|---------------|
| 1 | GROUNDING CLAMP (RED) | ATR13047-1 |
| 2 | GROUNDING CLAMP (BLACK) | ATR13047-2 |
| 3 | S/DRIVER CLAMP (BLUE) | BPL12-TIN |
| 4 | S/DRIVER CLAMP (YELLOW) | SC-P101559-02 |



ITEM 1
GROUNDING CLAMP (RED)



ITEM 2
GROUNDING CLAMP (BLACK)



ITEM 3
S/DRIVER CLAMP (BLUE)



ITEM 4
S/DRIVER CLAMP (YELLOW)

| Cat No. | Type | Size (mm ²) | ISC Cap. (Symmetric kA) 30 Cycles (0.5X) |
|---------|-----------|-------------------------|--|
| CTC-35 | CONDUCTOR | 35 | 10 |
| CTC-50 | | 50 | 15 |

| Cat No. | Type | Description |
|---------------|-------|--|
| ATR13047-1 | CLAMP | SPRING LOADED GROUNDING CLAMP (RED) JAW OPENING 6.5–12.5MM OD |
| ATR13047-2 | | SPRING LOADED GROUNDING CLAMP (BLACK) JAW OPENING 6.5–12.5MM OD |
| BPL12-TIN | | S/DRIVER CLAMP (BLUE) JAW OPENING 5–19MM OD |
| SC-P101559-02 | | S/DRIVER CLAMP (YELLOW) JAW OPENING 0–27MM O.D., STRAIN RELIEF FITS CABLE 25-35MM ² |

LV OVERHEAD BONDING

LV OVERHEAD BONDING LEAD 25MM² 5 CLAMP

LV Bonding lead with 5 screw on head clamps. The leads are joined together permanently for ease of use and no need to create a bond between all connection points.

FEATURES

- 25mm² orange sheathed flexible copper conductor
- Mosdorfer screw on head clamps
- 5 Clamps daisy chained together to bond the entire space with one unit

Fully customisable to suit your networks' individual requirements. Talk to your local TransNet Account Manager to find out more.



| Cat No. | Description |
|------------|--|
| LVBONDLEAD | LV OVERHEAD BONDING LEAD 25MM ² ORANGE FLEX, 5 CLAMPS & STORAGE BAG |

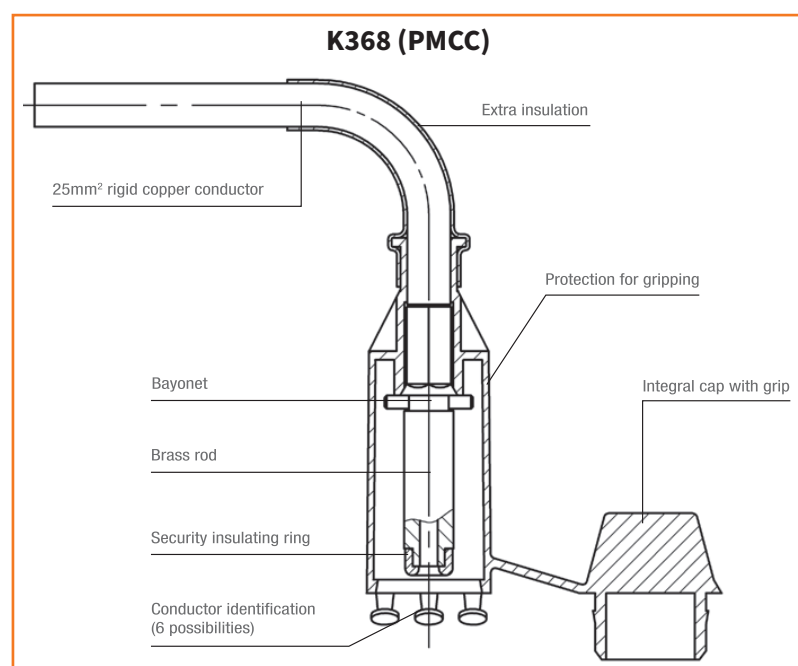
LV OVERHEAD BONDING

INSULATION PIERCING CONNECTOR FOR MEASURES & SHORT CIRCUITING

This IPC (Insulation Piercing Connector) is used for short-circuiting or earthing of low voltage ABC networks. It also enables voltage measurements.

FEATURES

- Connection is established by insulation piercing
- Dielectric strength in water is over 6kV
- Tightening screw, which is the only accessible metal part, is potential free
- Tightening efficiency is ensured by shear head screw
- End socket is protected by an integral cap avoiding corrosion and water penetration
- This IPC meets the requirements of the NF C 33-020 and EN 50-483 standards



INSTALLATION

- Check that the tap plug is completely inserted in the connector
- Position the connector on the main conductor
- Using a 13mm hex spanner, tighten the connector onto the conductor until shear head breaks
- The 17mm permanent head is only provided for eventual disassembly, do not use it to tighten the screw further after the shear head has snapped

The PMCC socket can be sold separately. It can be used with the whole 6 kV CBS/CT connector range.

| Cat No. | Description | ERDF Conductor Range Main Line Insulated Al-Cu (mm²) | Real Conductor Range Main Line Insulated Al-Cu (mm²) | Weight (g) |
|---------|-------------------------------|--|--|---------------|
| K362 | CONNECTOR ERDF CMCC/CT 25 ZF | 16-25 | 16-25 | 225 |
| K363 | CONNECTOR ERDF CMCC/CT 70 ZF | 35-70 | 16-70 | 226 |
| K361 | CONNECTOR CMCC/CT 95 ZF | - | 16-95 | 228 |
| K364 | CONNECTOR ERDF CMCC/CT 150 ZF | 54-150 | 16-150 | 234 |
| K368 | PMCC SOCKET | - | - | 102 |

LV OVERHEAD BONDING

ABC BONDING DEVICE

Designed for short-circuiting and eventually earthing of a low voltage ABC. It is connected on CMCC type connectors.

- Connected using CMCC Type Connectors
- Composed of 6 or 7 Insulated Sockets using Bayonet System
- 25mm² Copper Leads
- 200A Continuous Rating, 4kA/ 1 Sec Fault Rating
- Optional 10m, 25mm² Copper Dropper Lead



K006

| Cat No. | Description |
|---------|--|
| K008 | SHORT CIRCUITING EQUIPMENT 6 SOCKETS |
| K009 | SHORT CIRCUITING EQUIPMENT 7 SOCKETS |
| K006 | OPTIONAL 10m, 25mm ² DROPPER LEAD |
| F243 | EARTHING ROD, ROUND 1M |

NEUTRAL FLAG

Used to identify the Neutral conductor when working on overhead lines. Made of sturdy PVC to withstand outdoor elements, it has neoprene on the inside to avoid slipping down the wire and 12 magnets secured in the material to keep it in place. The black loop at the corner gives an easy access point to remove it while wearing gloves.



| Cat No. | Description |
|--------------|--|
| NEUTRAL-FLAG | STURDY YELLOW PVC NEUTRAL FLAG WITH MAGNET FASTENING |

LV OVERHEAD BONDING

EQUIPOTENTIAL BONDING COMPONENTS

Working with local pole suppliers and asset owners we developed a 316 Stainless Steel T Handle to screw directly into the internal thread of the bonding point on new generation concrete poles. The standard T bar has enough room for two clamps, and the longer version has enough space for 3. There is also an option to permanently fix a lead from the T bar handle directly to the central cluster of your portable earth set.

If you're working on wooden poles there won't be an existing bonding point, so for wooden poles we have a 316 stainless steel coach screw with an internal thread the same as that found in the new generation concrete poles. The coach screw is designed to accept the same T bar handle. Once installed, this coach screw becomes a permanent fixture. In order to identify this coach screw is in fact a bonding point, we have a 316 Stainless Steel Bonding Point sign which is fitted when the coach screw is installed.

We also have the ability to cater for your company's custom requirements, contact us for more information.



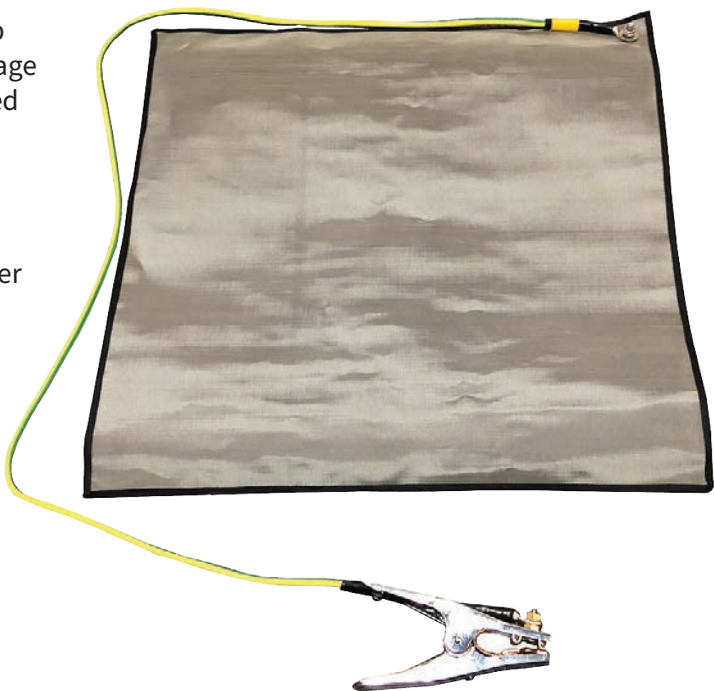
| Cat No. | Description |
|-----------------|--|
| IP0150 | STAINLESS STEEL EMBOSSED BONDING POINT SIGN |
| EBTBARM12 | THREADED EQUIPOTENTIAL BONDING T BAR |
| EBTBARM12-1M | THREADED EQUIPOTENTIAL BONDING T BAR WITH 1M COPPER LEAD AND LUG END |
| EPBCS316M16X150 | COACH SCREW FOR BONDING ON WOODEN POLES |

LV GROUND MOUNT BONDING

EQUIPOTENTIAL BONDING MAT

Designed to assist in de-energised work by eliminating step and touch potential voltages, by establishing an equal voltage potential between personnel using the Mat and the clamped object.

- 770mm x 770mm Mat size (custom sizes available)
- 35mm² Weldflex cable with heavy duty insulation
- 400 Amp welding clamp – heavy duty spring with Copper contacts (lower or higher current clamps available)
- Stainless Steel mesh
- All Stainless Steel and Brass hardware to prevent corrosion
- Bound edges
- Cable affixed to Mat to prevent fatigue
- Comes as a kit with protective carry bag



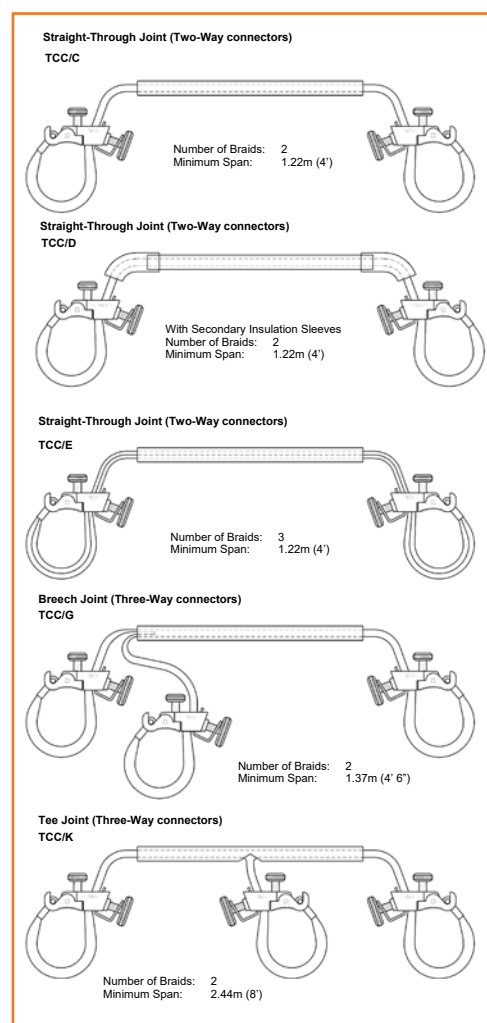
| Cat No. | Description |
|---------|--|
| 181EP-1 | 770 x 770mm Equipotential Mat in Carry Bag |

LV GROUND MOUNT BONDING

TEMPORARY CONTINUITY CONNECTORS

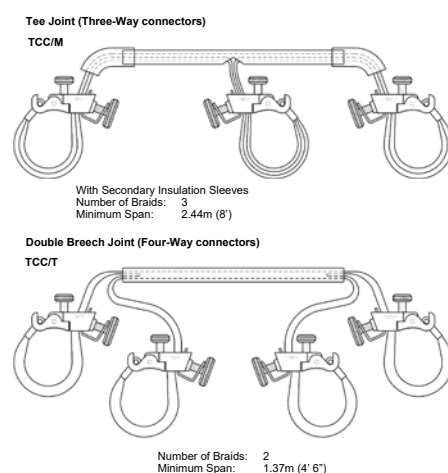
Temporary continuity connectors for Metallic Cable Armour or Sheathing.

Developed over many years in co-operation with the industry. These connectors are designed to offer protection to personnel by maintaining electrical continuity across breaks in metallic armour and sheathing during jointing or repair operations on underground distribution cables.



They consist of cross bonds of flexible tinned copper braid which are connected to the armour or sheath by special clamps. The braid has a clear polythene tubing insulation and certain connector designs have an adjustable secondary insulation in the form of a sliding outer sleeve.

The range covers a wide variety of joint configurations, and the necessary cross-sectional area of the bond to meet anticipated fault levels



is achieved by means of permutations of tinned copper braids, the basic product having a cross-sectional area of 22mm² (2 x 11mm² CSA).

Successfully tested to a short circuit withstand of 6KA @ 1 SEC (Test Certificate available on request)

Specialised connectors can be made to order, and lengths varied to suit individual requirements.

Standard parts listed in table below, fully customised solutions available, contact us for information.

| Cat No. | Joint Type | No of Braids | Primary Insulation O/A (min. span) | Secondary Insulation | Length O/A |
|---------|---|--------------|------------------------------------|----------------------|------------|
| TCC/C | STRAIGHT THROUGH Two way connectors | 2 | 1.22m | | 1.83m |
| TCC/D | | 2 | 1.22m | * | 1.83m |
| TCC/E | | 3 | 1.22m | | 1.83m |
| TCC/G | BREECH JOINT Three way connectors | 2 | 1.37m | | 1.98m |
| TCC/K | TEE JOINT Three way connectors | 2 | 2.44m | | 3.05m |
| TCC/M | | 3 | 2.44m | * | 3.05m |
| TCC/T | DOUBLE BREECH JOINTS Four way connectors | 2 | 1.37m | | 1.98m |

LV GROUND MOUNT BONDING

TEMPORARY CONTINUITY CONNECTORS

Temporary continuity connectors are designed to meet the basic requirements for cross bonding pipe diameters or combinations of diameters within the normal service range.

Custom units can be manufactured to network specifications on request. Please contact us for further information.

TCC/W consists of two heavy duty, plated steel, spring loaded clamps with insulated grips, joined by 4 metres of insulated flexible tinned copper braid of 11mm² C.S.A.

A 4 metre flexible bond has been used so that it can easily be lead away from the immediate area of work on a pipe, and where possible laid outside the excavation. Longer or shorter versions can be produced to meet customers own requirements.

TCC/SW is identical in specification and application to TCC/W, but is fitted with additional insulation in the form of a protective hilt intended to prevent physical contact with the bare metal of the clamp jaws. It is designed in accordance with the safety requirements of the Scottish Association of Directors of Water and Sewage Services (SADWSS).

Suitable for all metal pipes up to 45mm diameter. Span 4 metres.

TCC/HW Is a hybrid device designed to bond between pipes of widely dissimilar diameters beyond the range of TCC/W or TCC/SW e.g. where a small service pipe up to 45mm (1 3/4") is taken via a ferrule from a larger pipe in excess of 45mm, up to 457mm (18") o/d.

It consists of a TCC/W-type spring loaded clamp at one end connected by a tinned copper braid of 11mm² C.S.A. (or 22mm² as specified in "Code of Practice on Electrical Earthing Nov 1991"), length o/a 5 metres, to an infinitely adjustable clamping arrangement. Electrical contact is established by means of a circumferential wrap around the pipe, the braid being tensioned by the specially designed clamp. The braid has a clear polythene primary insulation fixed at the spring loaded clamp end, and a sliding, adjustable length of secondary insulation sleeve at the adjustable clamp end to give protection on exposed braid up to the clamping point on the pipe.

TCC/BW consists of a tinned copper braid of 11mm² C.S.A. (or 22mm² as specified in "Code of Practice on Electrical Earthing Nov 1991"), length o/a 6 metres, with a infinitely adjustable clamping arrangement at each end to accommodate pipes of up to and including 457mm (18") outside diameter. Electrical contact is established by means of a circumferential wrap around the pipe, the braid being tensioned by a clamp specially designed for this purpose.

TCC/W

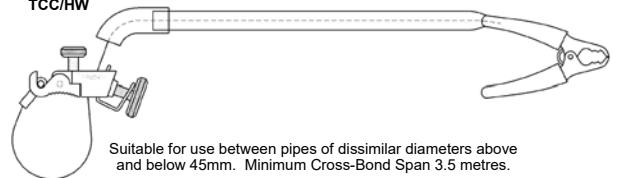


TCC/SW



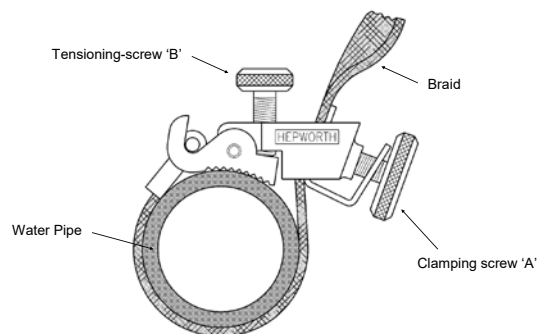
Suitable for all metal pipes up to 45mm diameter. Span 4 metres.

TCC/HW

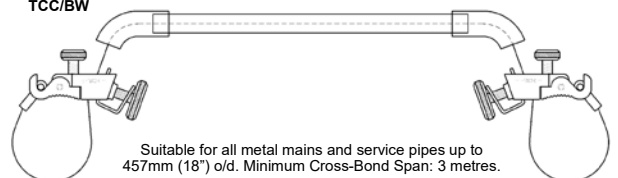


Suitable for use between pipes of dissimilar diameters above and below 45mm. Minimum Cross-Bond Span 3.5 metres.

TCC/HW & TCC/BW Connectors



TCC/BW



Suitable for all metal mains and service pipes up to 457mm (18") o/d. Minimum Cross-Bond Span: 3 metres.

LV GROUND MOUNT BONDING

LV DIN EARTH SET

This earthing set is designed for earthing of LV DIN fuses. The set consists of short-circuiting cartridges, short-circuiting Cu cables in transparent insulation, earthing Cu cable, earthing clamp and insulating pole enabling you to safely attach the set. The insulating pole is made of glass fibre laminate which is suitable for its high electrical and mechanical resistance and stability. The set is suitable for indoor and outdoor use and is produced according to standards CSN EN 61230, IEC 1230, PNE 35 9705, DIN 46 235.



PACKING

This earthing set is delivered in a sturdy plastic storage box. Included in the box are instructions for use, function description and the quality and test certificate.

STORAGE

This unit must be stored in a clean dry place in its plastic storage box to protect against mechanical damage.

WARRANTY

A 24 month warranty is provided on this product. The warranty is limited to manufacturing defects only.

TECHNICAL DATA

| | | | | |
|---------------------------------------|------------------------------------|-------------|------------------------|-------------------------------------|
| Climatic group | Normal from -25 to +55°C | | Pole material | Glass fibre laminate |
| Rated short-time withstanding current | 6 kA/1s | 8.5 kA/0.5s | Cross section of cable | 25 mm ² short-circuiting |
| Length of pole | 350 mm | | | 25 mm ² earthing |
| Length of handle | 160 mm | | Length of cable | 500 mm short-circuiting |
| Equipment versions | 801.001 - P (with insulating pole) | | | 1500 mm earthing |
| | - H (with fuse handle) | | Weight of equipment | 4.5kg |

| Cat No. | Description |
|-------------|---|
| 1115281041T | LV DIN EARTH SET FOR INDOOR & OUTDOOR USE |

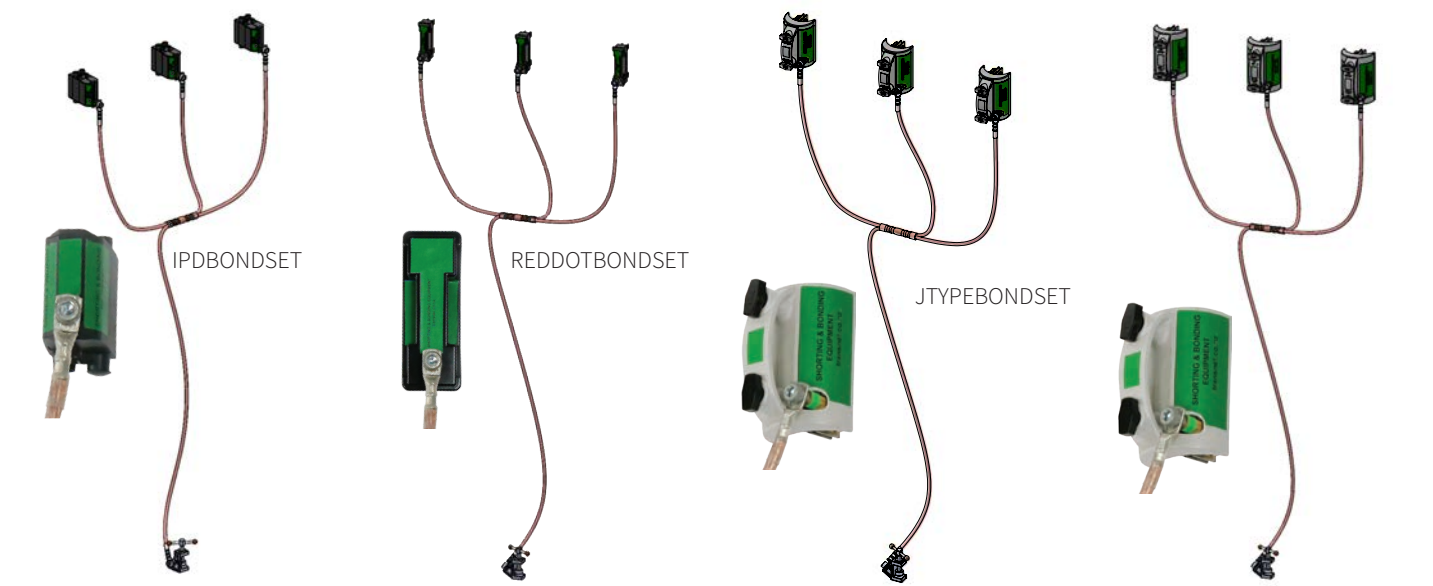
LV GROUND MOUNT BONDING

LV SERVICE FUSE BONDING SETS

Designed with the idea of creating an LV Underground Bonding Kit which includes Fuse Base attachments for fast and easy installation. Several different types of fuse, commonly found in Underground LV Transformers, Cabinets and Pillars have been selected for the standard sets.

FEATURES

- Allows Bonding Leads to be safely applied to 100A IPD, 63A & 100A Red Dot, 76, 82mm & 92mm J Type Fuses
- Uses the same Bonding Harness as LV DIN Set
- Bonding Leads can be installed using the Insulated Installation Pole from the LV DIN Set
- Bonding Harness can easily be customised to single leads if required, ie for Bonding Street Light circuits
- Standard lead set is 25mm² Flex which maintains flexibility for installation on LV Frames with very restricted Space
- Keeps all connections within the foot print of the fuse base where fuses are in very close proximity to each other



| Cat No. | Description |
|-------------------|---|
| IPDBONDSET | LV BONDING SET WITH 3 X IPD STYLE FUSE CONNECTIONS |
| 32ASLHWBONDSET | LV BONDING SET WITH 1 X 32A FUSE CONNECTION |
| 63AREDDOTBONDSET | LV BONDING SET WITH 3 X 63A RED DOT STYLE FUSE CONNECTIONS |
| 100AREDDOTBONDSET | LV BONDING SET WITH 3 X 100A RED DOT STYLE FUSE CONNECTIONS |
| TNRS63/100BONDKIT | LV BONDING SET FOR 63A & SMALL BODY 100A FUSE CONNECTIONS |
| JTYPEBONDSET76 | LV BONDING SET WITH 3 X 76MM J TYPE STYLE FUSE CONNECTIONS |
| JTYPEBONDSET82 | LV BONDING SET WITH 3 X 82MM J TYPE STYLE FUSE CONNECTIONS |
| JTYPEBONDSET92 | LV BONDING SET WITH 3 X 92MM J TYPE STYLE FUSE CONNECTIONS |

LV GROUND MOUNT BONDING

COMPLETE LV BONDING KITSET

Customised complete kitsets comprise all the LV bonding devices required by individual networks on a case by case basis. Housed in a sturdy plastic case with foam cutouts to protect and safely store each device. Please discuss with our team, what your requirements are.

Inclusions can include (not limited to)

- J Type Fuses
- Red Dot Fuses
- IPD Fuses
- K199 Fuses
- Henley Fuses

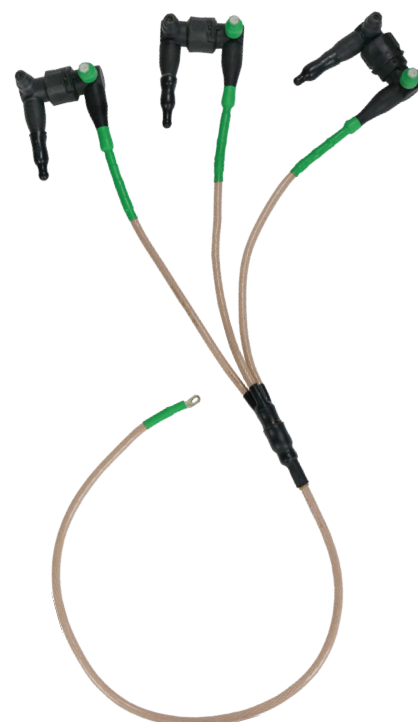
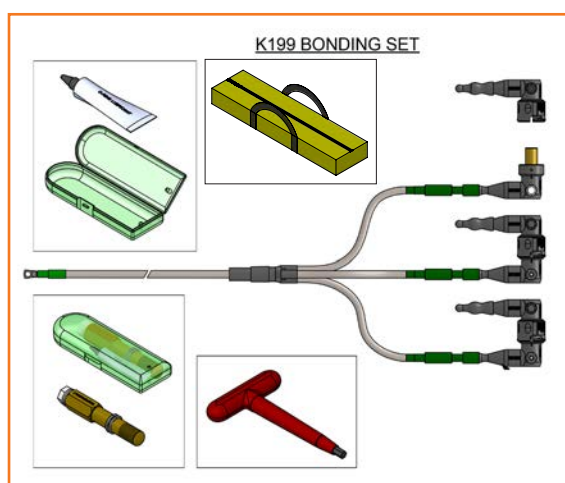


| Cat No. | Description |
|---------------|--|
| LVBONDKITCASE | CUSTOMISED LV BONDING SOLUTION - ALL PACKED IN STURDY PLASTIC STORAGE CASE |

K199 LV BONDING SET

Bonding for TUDS and pillar installations.

- Allows Bonding Leads to be safely attached to the Load Side of the Fuse and Gelport.
- Supply Side of the Fuse can be capped.
- IP Rating of Fuse and Gelport is maintained allowing the equipment to be put back into the TUDS and the Lid closed.



| Cat No. | Description |
|-------------|---------------------------------|
| K199BONDSET | K199 UNDERGROUND LV BONDING SET |

USER GUIDE

USER GUIDE – LV UNDERGROUND NETWORK BONDING EQUIPMENT RANGE

Note: This document is intended as a Guide only for the safe use of TransNet's range of Low Voltage Underground Network Bonding Equipment and does not replace any Network or Company Operating Standards or Procedures.

STEPS

1. Check Bonding Equipment is in good condition and in test. The Bonding Set may include Bonding Leads, Inserts and any Insulated Application Tools.
2. Check LV Voltage Testers in good condition, in test and working. (Preferably use Contact Type Voltage Tester.).
3. Check all Bonding Leads are disconnected from all Bonding Inserts.
4. Remove all Fuses/Links as necessary to isolate the circuit to be Bonded.
5. Test both sides of Fuse Base to determine which side is DE-ENERGISED using PROVE – TEST – PROVE method to ensure your tester is working correctly.
6. If both sides of the Fuse base are Live DO NOT INSTALL THE BONDING INSERT.
7. Once one side of the Fuse Base is proven DE-ENERGISED you can install the Bonding Insert with Lead Connection Point to DE-ENERGISED Side of Fuse Base.
8. Test the Bonding Insert Lead Connection Point to prove the insert has been installed correctly and the Bonding Lead Connection Point is DE-ENERGISED.
9. If the Bonding Lead Connection Point is live, the Bonding Insert may have been installed with the Bonding Lead Connection Point to the Live Side of the fuse base.
10. If this happens remove the Bonding Insert, turn 180°, re-install and re-test to prove Bonding Lead Connection Point is DE-ENERGISED.
11. DO NOT CONNECT ANY BONDING LEADS IF THE BONDING LEAD CONNECTION POINT IS LIVE.
12. Once the Bonding Insert Lead Connection Point has been proven DE-ENERGISED the Bonding Leads can be connected, firstly making sure the Bonding Lead Tail Clamp is connected to Neutral/Earth Point before connecting to the Bonding Insert Lead Connection Points.
13. Once all leads are connected a DO NOT OPERATE TAG should be attached to the Bonding Device.



is DE-ENERGISED.

DIN Type Bonding Insert

Red Dot Bonding Insert

J Type Bonding Insert

IPD Bonding Insert

BONDING LEAD CONNECTION POINTS. MUST TEST AT THIS POINT AND PROVE DE-ENERGISED BEFORE CONNECTING BONDING LEADS.



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