

The Isolation Unit is designed for use on auxiliary pilot cable networks associated with EHV power cables. The product forms part of a new product range combining microprocessor techniques with Drallim's long distance two-wire digital multi-drop protocol, which has been established and proven for many years in the international telecommunications sector.

**Features:**

- ❖ Self-contained wall-mounted IP66 enclosure.
- ❖ Single Pilot Pair configuration.
- ❖ Internal 48V/48V DC/DC converter (15KV Isolation).
- ❖ High Voltage transformer Isolation withstand:
 - 14kV Continuous.
 - 15kV One minute.
 - 20kV 1.2/50 μ s.
- ❖ Medium Voltage transformer isolation – 5kV continuous.
- ❖ Separate 'hot side' and 'cold side' compartments.
- ❖ Integral 'Hot side' Perspex screening with suitable labelling to conform to HSE Regulations.
- ❖ Pilot DIN rail disconnection to 15kV ('Hot side'), with grounding leads and isolation plugs.
- ❖ Meets EMC and Type-Test approval for installation in National Grid Company substations.

The Isolation Unit is specifically designed to protect against damaging induced voltages on auxiliary pilot cables associated with EHV power cables. The purpose of the device is to provide a suitable barrier to these potentially harmful voltage spikes.

The isolation unit is designed to withstand induced voltage transients up to 15kV RMS and provides protection for associated monitoring equipment connected to individual pilot pairs (between pilot connection in common mode to earth).

**SINGLE ISOLATION
UNIT
3991438/TPAIR
3991438/MCORE**

The Drallim Group

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When connected to a port of the Remote Monitoring Control Unit, the device is set to transmit into twisted pair (multi-pair) pilots. Options are also available to drive into multi-core cables having low characteristic impedances. The pilot DIN rail also offers the option of grounding the external pilot pair using integral grounding plugs, whilst the removable plug provides disconnection functionality directly from the 'hot side' of the pilot circuit, thereby providing a safe working environment.



Internal View of Isolation Unit

Performance Specification:

Parameter	Description
Isolation Continuous:	14kV.
Isolation 1 minute:	15kV.
Isolation 1.2/50µs:	20kV.
Transducer Supply voltage:	30v dc (Typical), 55V (Maximum).
Maximum line current under short circuit:	110mA.
Hot side Transient Suppression:	TISP4180 Bi-directional Symmetrical Crowbar Transient Suppressor.
Cold side Transient Suppression:	3 OFF TISP4180 Bi-directional Symmetrical Crowbar Transient Suppressor. 1 OFF TISP3180 Bi-directional Symmetrical Crowbar Transient Suppressor.
V _{BREAKDOWN} (V _Z):	145v @ I _{DEVICE} 1mA.
V _{BREAKOVER} :	180Vmax @ I _{DEVICE} 0.15A min, 0.6A max.
I _{HOLD} MIN:	150mA.
V _{ON} MAX:	3.0V.
I _{PEAK PULSE CURRENT} :	150A ANSI STD C62 8/20 µS.
The devices are in accordance with the following standards	10/700 µS 1.5kV.
CCITT IX K17:	5/310 µS 38A.
VDE 0433:	10/700 µS 2 kV 5/200 µS 50A.
RLM88:	10/700 µS 1.5kV 0.2/310 µS 38A.
Temperature Range:	0 – 70°C
Humidity Range:	0 – 85%
Power Input:	Nominal 48V DC.
Enclosure:	GRP to IP66.
Terminations (Hot side):	PPT/35 Screw Clamp Connections 15K Vac (Induced).
Overall dimensions:	Height 350mm Width 544mm Depth 150mm.
Overall Weight:	9 kilograms
Electrical Conformity:	EMC and National Grid Company Type Test Approval.

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