


TP-P Range

Transmitter mounting surge protector


1 Introduction

The TP-P range surge protector provides surge protection for field mounted process transmitters and is available for 1/2" NPT, 20mm ISO and G1/2" threaded conduit entries. The TP-P range is certified and approved for use in hazardous areas. More details of this are shown throughout this installation guide.

2. Important safety information

	<p>WARNING</p> <p>The TP-P range must be installed, operated and maintained by trained competent personnel. The TP-P unit must not be subjected to mechanical or thermal stresses in excess of those outlined in the ATEX specifications.</p>
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The TP-P range must not be installed in an area where it may be attacked by aggressive substances.

	<p>WARNING</p> <p>Where hazardous area protection concepts are being applied the product must be installed in accordance with the requirements of the EC Type Examination guidelines in this document.</p>
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The 'transmitter' must be electrically isolated during the installation procedure.

All installation and maintenance must be carried out in accordance with all appropriate international, national and local standard codes of practice and site regulations and in accordance with the instructions contained within this instruction sheet.

3 Installation

3.1 Disconnect and isolate existing circuit. Select conduit entry to be used for installation, and remove any blanking plug.

Note: *If direct installation onto the apparatus itself is impossible e.g. because all conduit entries are in use already, an external junction box or conduit hub can be used.*

The TP-P range is supplied with 300mm leads, which should be sufficient for them to reach the transmitter terminals from a junction box. If these leads are not long enough then use supplementary terminals and wiring. Installation should be within 1m of, and bonded to, the transmitter.

3.2 Ensure that the TP-P body thread matches the conduit entry. Thread types are not interchangeable, but adapters may be used where necessary. For explosionproof (EEx d) installations, only certified or approved adapters are permitted.

3.3 Remove apparatus terminal housing cover.

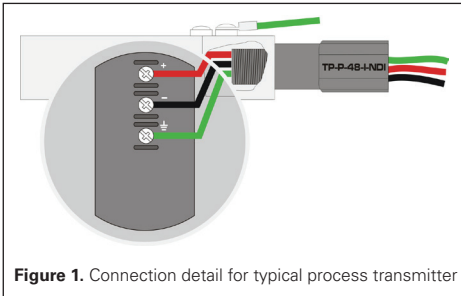


Figure 1. Connection detail for typical process transmitter

	+VE	-VE	Earth/Ground
TP-P48 & TP-P32	Red	Black	Green/Yellow

3.4 Insert connecting wires into apparatus body and start threading unit into conduit entry using moderate hand-force, with lubricants as necessary.

3.5 Tighten fully (hand-tight plus 1/2 turn of 23mm A/F spanner). The steel body of the TP-P device is not used as part of the electrical circuit, therefore sealing of the thread with PTFE tape or other sealing compounds will not affect the performance of the TP-P device.

Note:

In Explosionproof (EExd) applications, sealing of the thread is not permitted- the TP-P should be treated in the same way as any other cable gland/hub into similar equipment.

3.6 For effective protection, the leads of the TP-P should be as short as possible. Before wiring to the transmitter terminals, cut the leads to the appropriate length and strip back 10mm of insulation. Do not try to coil excess lengths of cable into the transmitter housing as this will degrade the protection given by the surge protector.

3.7 Connect the flying leads to the terminals indicated.

Note:

The protection circuit needs to be connected in series with the transmitter 4-20mA current loop.

3.8 Ensure that all connections are tight, particularly the earth bonding connection, which is likely to be via a stud within the apparatus terminal housing.

3.9 Refit apparatus terminal housing cover.

3.10 The field wiring is next connected to the provided three position plug. Connect +ve to the terminal marked "+"; Connect -ve to the terminal marked "-"; and connect the ground wire or shield (if present) to the terminal marked "G". Wire strip length is 5mm (0.196").

3.11 Using a long nose pliers, insert the plug into the socket inside the TP-P body. This connector must be orientated correctly for full seating and connectivity.

3.12 Complete the installation by mounting an appropriate fitting and/or conduit for the location used.

3.13 Reconnect circuit and test system to verify operational status.

4. EARTHING / GROUNDING



WARNING

The enclosure does not provide an external or internal connection for earthing or grounding the enclosure. It is the user's responsibility to provide adequate earth continuity via the mounting arrangements for all locations and all protection methods.

The TP-P earth wire (Green/Yellow) should be connected to the earth terminal or stud usually provided inside the transmitter housing. In the unlikely event that no such stud exists, make the connection to a structural mounting part, such as a terminal block fixing screw.

5 Maintenance

At intervals of not more than one year (more frequently for particularly harsh environments) visually check the installation and ensure that:

- i) Device and/or enclosure is firmly attached to mounting
- ii) There are no signs of external damage or corrosion
- iii) Interconnecting cables are not frayed or otherwise damaged
- iv) All connections are properly made with clear labelling

If this unit suffers damage send back to MTL Surge Technologies for evaluation which should only be carried out by MTL Surge Technologies. This product is not field repairable.

6 Approvals

In hazardous locations check the marking on the device to ensure that it is appropriate for the application. Mark the appropriate box (figure 2) to indicate the type of protection being utilised. For marking use a punch mark. The product range has been designed to meet the fault tolerant requirements of Electrical Apparatus for Category 'ia'. Entity parameters: See Certificate number Baseefa06ATEX0034X

ATEX Special Conditions for Safe Use:

The following relate to installations to Baseefa06ATEX0034X:

1. The apparatus is to be installed such that the flying leads are afforded a degree of protection of at least IP54.
2. Although all versions of the TP-P Series Surge Protection Devices meet the 500V test to the metal case the electrical circuit within the Surge Protection Devices are not capable of withstanding the 500V voltage withstand test for one minute without breakdown to the Green/Yellow wire. This must be taken into consideration in any installation.
3. These devices are not provided with an external connection facility for an earthing or bonding conductor. It is the user's responsibility to ensure adequate earth continuity via the mounting arrangement.

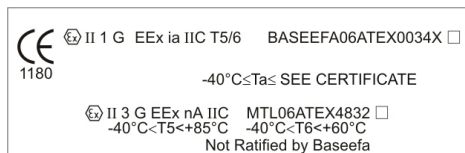


Figure 2 ATEX certification details



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Publication No. INS 801-680 Rev D 171016
October 2016

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