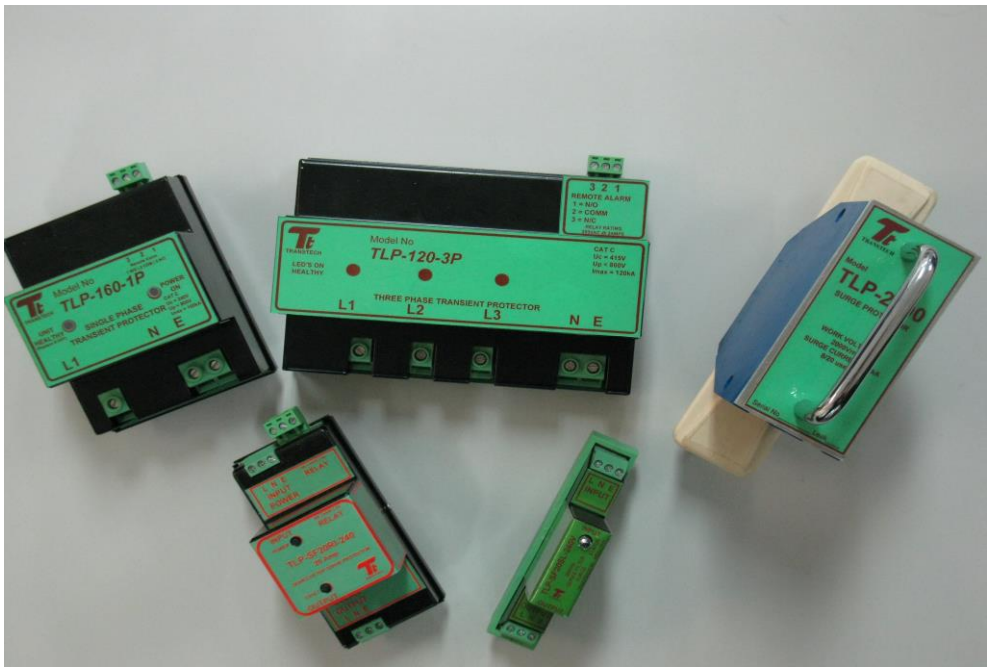


Installation Guide for Transient Protection

Introduction

Transtech Electronic Controls (TransTech®) is a WA owned and operated company with Engineering Sales Offices in Melbourne and Perth and specialist distributors in all other States.
TransTech® has prepared this guide to answer questions on the installation of its range of electronic transient/surge protectors.

Recommended steps for effective surge/lightning protection

- Ensure a site main earth and maintenance of the main earth.
- Bonding of all structures/buildings to earth.
- Bonding of all metal pipes and to earth
- Use of re-bars for directing strikes to earth.
- Electronic surge/lightning protection for all incoming and exiting cables

Installing an Electronic Protector

The installation of a transient over-voltage protector is VERY IMPORTANT because an incorrect installation will reduce its effectiveness markedly and **always use a licensed Electrician**

The important areas to pay attention for Mains Protectors are:

1. The length of the connecting cables, ensure they are short as possible preferably less than 500mm if at all possible.
2. No coiling or curling of connecting cables – ensure they are straight.
3. The size of the connecting cables, make as large diameter as possible but no less than 16mm^2 for Mains protectors.
4. The earth connection must go directly to the main earth bar and be no less than 16mm^2 diameter.
5. Ensure adequate separation between the “clean” conductors and those cables/conductors that are unprotected.

WIRING of Mains Protectors (Parallel Connection)

AS/NZS 1768:2005 states that Surge/SPD mains protectors should have fuse protection preceding them (in addition to internal fusing). A set of protective fuses or MCB should be installed to protect the TLP protector as per the table at the foot of this page).
The fuse(s) or MCB offer an isolation feature to allow the TLP to be removed from service and replaced if need be.

Fig 1. Single Phase Connections

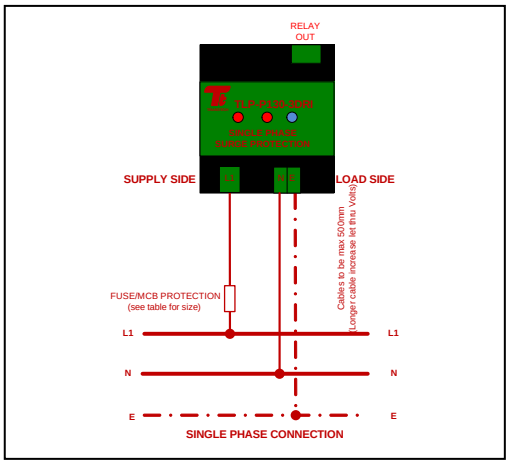


Fig 2. Three Phase Connections

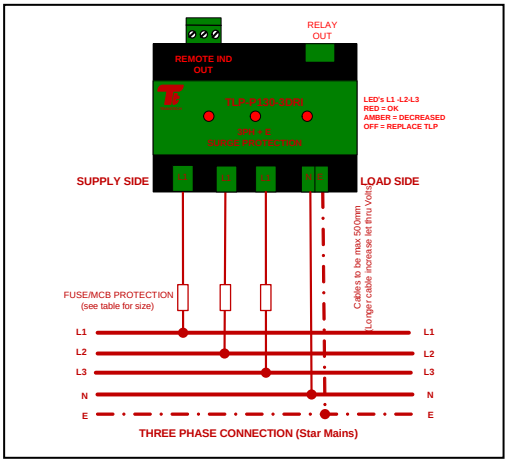
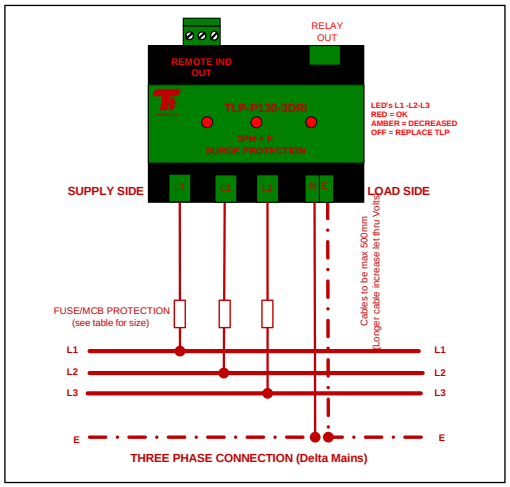


Fig 3. Three Phase Delta Connection



INSTALLATION NOTES

1. Cables connecting the TLP series should be as short as possible (less than 500mm is ideal), they should be straight and not have loops or curls and be bound tightly together.
2. Cables should be a large as possible with a maximum of 16mm^2
3. Where the mains can exceed 100Amps a set of protective fuses or MCB should be installed to protect the TLP.
4. The earth cable must be straight with no loops or curls and of 16mm^2 size. The earth should be less than 1 Ohm impedance.

PROTECTION TABLE FOR SURGE PROTECTORS:

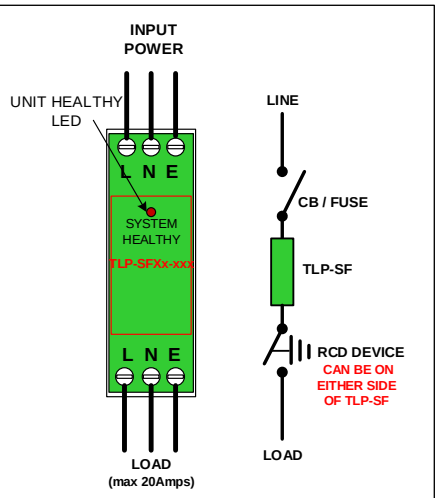
All TransTech TLP surge protectors have internal fuse protection offering up to 100Amp fault current, above this; please install external protection as per the list below.

TLP MODEL	SURGE RATING	PROTECTION	AMPS	COMMENT
TLP-SF20SL-240V	25kA	HRC or RCD	25	Single phase series filter for sub-circuits
TLP-CP50-3P	50 kA or less	HRC	30	Fuse available will allow transient clamp
TLP-CP80-3P	80 kA rated	HRC	50	Fuse available will allow transient clamp
TLP-CP130-3P	130 kA rated	HRC or MCB	50	MCB or Fuse will allow transient clamping
TLP-P160-3P	160 kA rated	HRC or MCB	50	MCB or Fuse will allow transient clamping
TLP-P200-3P	200 kA rated	HRC or MCB	50	MCB or Fuse will allow transient clamping
TLP-P240-3P	240 kA rated	HRC or MCB	50	MCB or Fuse will allow transient clamping
TLP-P300-3P	300 kA rated	HRC or MCB	63	MCB or Fuse will allow transient clamping

WIRING of Sub-Mains Protectors (Parallel & Series Connection)

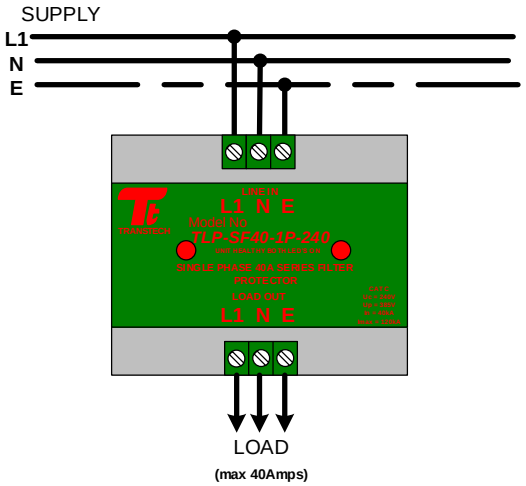
TransTech® model TLP series also includes a range of “series/filter” types from 20Amps up to and including 63Amps in single phase and 32Amps 3 phase for Mains Protection. It is essential that mains protectors can be isolated to exchange or service them, therefore we recommend a set of protective fuses or MCB must be installed to protect the TLP protector (see table at the foot of previous page).

Fig 4. Single Phase 20A Series Filter



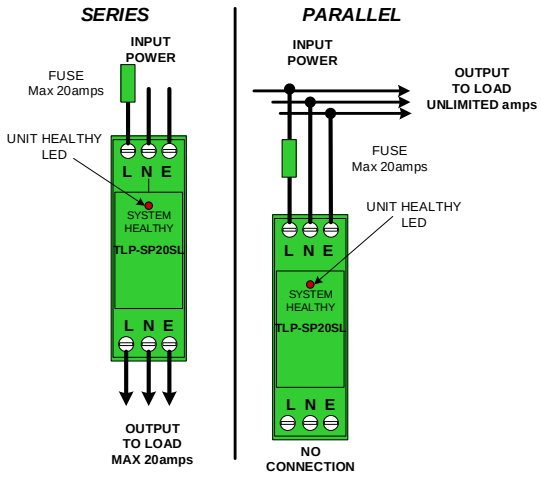
CONNECTION DIAGRAM

Fig 5. Single Phase 40 & 60A Series Filter



CONNECTION DIAGRAM

Fig 6. Single Phase 20A Series/Parallel types.

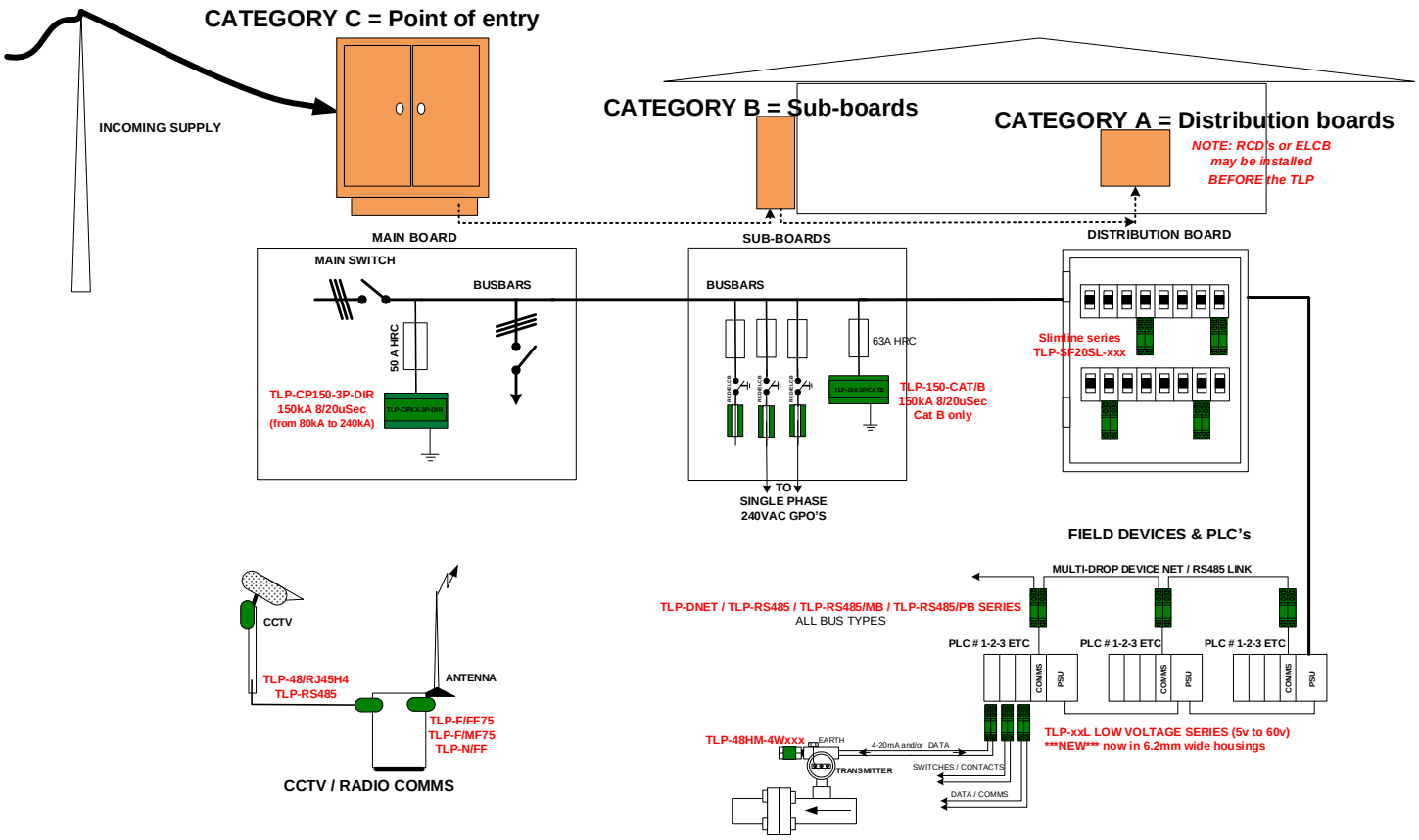


INSTALLATION NOTES

5. Cables connecting the TLP series should be as short as possible (less than 500mm is ideal), they should be straight and not have loops or curls and be bound tightly together.
6. Cables should be a large as possible with a maximum of 16mm^2
7. Where the mains can exceed 100Amps a set of protective fuses or MCB should be installed to protect the TLP.
8. The earth cable must be straight with no loops or curls and of 16mm^2 size. The earth should be less than 1 Ohm impedance.

Transtech® only recommends surge/lightning protectors that offer protection for BOTH Common Mode PLUS Differential Mode conditions.

A typical plant layout from Main Board to Sub-boards to field items.



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