

MTL mSAPN range surge protectors

1 Introduction

This weatherproof surge protection module is for connection to the Public Switched Telephone Network.

2 General

The mSAPN provides heavy duty lightning and surge protection for equipment including telephones, faxes, modems and telemetry circuits connected to the PSTN. It is housed in a rugged, weatherproof enclosure and is designed for high performance with ease of installation.

3 Installation

	WARNING Do not carry out installation work if a thunderstorm in the area is present or likely.
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This unit can be wired free-standing or fixed to a flat surface.

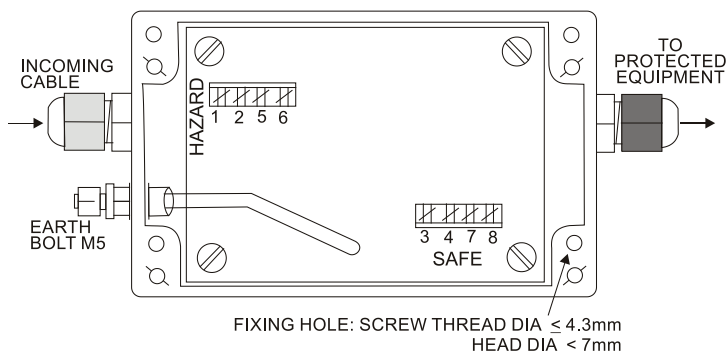
Fixing: remove the lid using a flat-bladed screwdriver to release the four quick-release screws.

Four fixing holes are provided in the enclosure base, in a rectangular pattern, centre spacings 50 & 108mm. Fix to a flat surface only, to avoid stressing the enclosure. Maximum screw thread diameter 4.3mm, maximum head diameter 7mm eg. No.6 or No.8 screw.

Wiring: strip the outer insulation from the incoming cable to a depth of 50mm and push the cable through the gland at the 'Hazard' end of the circuit board so that the outer insulation just appears on the inside of the box.

Using the IDC insertion tool provided, connect the signal wires to terminals 1 & 2 of the 'Hazard' connector, by pushing the insulated wires into the terminals, which automatically displaces the inner insulation.

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Repeat the above procedure for the 'Safe' end, taking care to use the colored wires in the same order for terminals 3 & 4 as at the 'Hazard' end, to preserve polarity.

If the unit is a mSAPN/2 module, the second SAPN protection circuit should be wired using terminals 5 & 6 for the incoming signal with 7 & 8 for the protected signal output. Tighten the glands to clamp the cables. Replace the lid.

Earth Cabling - preferably using an M5 ring terminal placed between the two M5 plain washers on the earth bolt, connect the mSAPN (or mSPAN/2) to the star point earth using as short a length as possible (preferably less than 1 metre) of cable of at least 2.5mm² cross section. The preferred colour for the earth cable is cream, in accordance with BS6701: part 1: 1990; 'Installation of apparatus intended for connection of certain telecommunication systems'.

4 Maintenance

The unit is designed to provide maintenance-free protection over a typically twenty year life, determined by the lifetime of the gas discharge tube primary protection.

In the event of a surge exceeding the device ratings, the failure mode is safe, caused by the secondary protection diodes going short circuit, and the equipment will therefore remain protected.

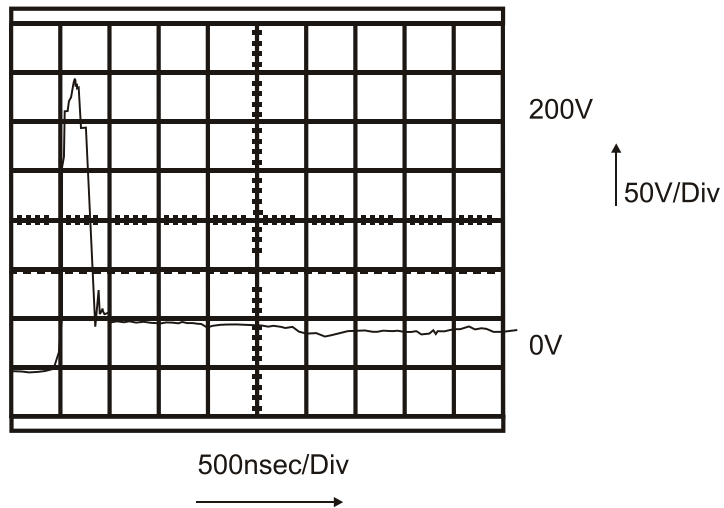
In the even of any problems, we recommend that the unit be returned to the factory where each component can be properly checked.

Should the unit require cleaning, clean only with a damp cloth after disconnecting from telecoms circuits.

5 Data and specification

Mechanical:	
Enclosure dimensions (mm)	120 (l), 80 (w), 55 (h)
Overall length (mm)	165 including glands
Weight	220g
Enclosure material	ABS
Enclosure IP rating	IP65
Earth bolt	M5, stainless steel

Electrical:	
Clamping voltage (@ 5mA):	220V ±10%
Line resistance:	4.7 ohm per wire
Peak impulse current (8/20µsec waveform):	10kA
Peak let-through voltage for 4kV pulse (8/20µsec waveform):	<250V (see figure on next page)
Capacitance (line to line):	0.7nF typical
DC insertion loss (600 ohm system):	0.07dB
Bandwidth (600 ohm system):	750kHz typical
Return loss (600 ohm system):	42dB
Leakage current (max) at 180V:	10µA
Electrical Safety	Class II product with double insulation. Contains TNV-3 telecoms circuits.



mSAPN let-through voltage with 4kV 8/20µsec surge applied input line-earth.
Output monitored output line-earth.

6 ENVIRONMENTAL

Ambient temperature range:	-40°C to +80°C
Humidity:	5% to 95% RH (non-condensing)
Altitude:	2000m maximum

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