

# ZoneMaster range

## AC panel transient voltage surge suppressors

### Introduction

This document explains how to install the ZoneMaster range of AC panel surge protective devices.

### Installation instructions

Warning: Terminals marked L1, L2, L3, N, GND (where relevant) must be connected respectively to phase(s) neutral and ground. Failure to comply may result in danger or damage. See corresponding diagrams for proper connections.

### Installation description

ZoneMaster units are connected in parallel (or in "shunt" across) the supply to be protected. The connecting cable does not carry the supply current, only the current associated with suppressing the transient overvoltage.

### Mounting

The units should be mounted as close as possible to the panel to be protected. See (page 4) on Connecting Lead lengths. Conduit, preferably metallic, is to be installed from the suppressor to the panel. Drill holes in the ZoneMaster enclosure only in the designated areas as shown in recommended cable dressing illustrations (page 5). Mount the unit in the appropriate location using the mounting holes provided on the enclosure.

#### NOTE

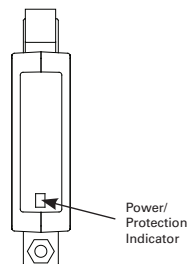
**INCORRECT INSTALLATION WILL IMPAIR THE EFFECTIVENESS OF THE AC PANEL PROTECTORS.**

Particularly important is the length of the connecting leads (see page 4).

### Status indicators

The ZoneMaster PRO units have comprehensive, continuous visual status monitoring present on each module.

Status indicated	Full protection present	Reduced (Standby) protection	No protection	No power to protection	High N-G Voltage*
LED Indicator	Green LED Lit	Red LED Lit	Red LED Lit	Green LED Out	Red & Green LED Lit



### Remote indicators

A remote indication of the reduced protection state is available as a normally open or normally closed dry contact.



#### \*WARNING

**HIGH NEUTRAL TO GROUND VOLTAGE**  
On certain models, if both Red and Green lights are on, consult a qualified electrical contractor to check the integrity of the building wiring.

## ZoneMaster range

October 2016

### Connecting leads

Connect the suppressor as shown in the installation diagram. Refer to page 5 for recommended cable dressing. Connect the terminals within the suppressor to the load side of 60A breakers within the panel.

### Recommended wire gauge

Minimum of 8 AWG

Maximum of 4 AWG ( for ease of dressing)

### Length of connecting leads

The longer the connecting leads between the the ZoneMaster and power panel, the higher the residual transient voltage.

**RECOMMENDED MAXIMUM:** 19" (500MM)

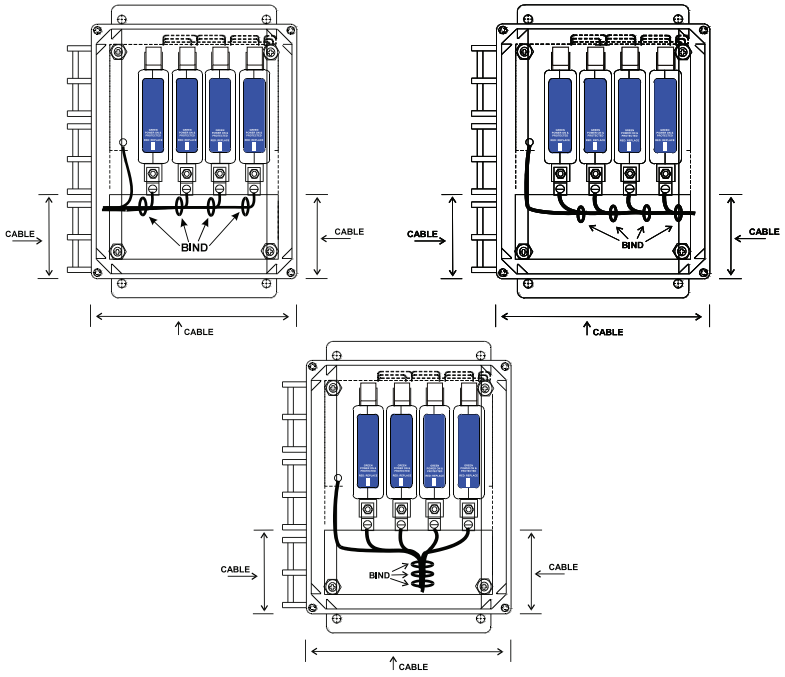
**IDEALLY:** 10" (250MM)

Each 10" (250mm) increase in cable length; increases clamping voltage by 25V per 1000A surge current discharged.

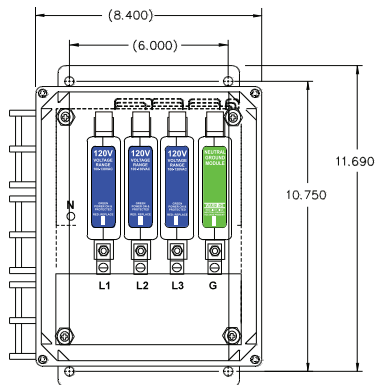
### NOTE

- BIND THE PHASE NEUTRAL AND GROUND CONDUCTORS TIGHTLY, OVER THE ENTIRE RUN FROM THE SUPPRESSOR TO THE SERVICE PANEL.
- ALWAYS USE THE **SHORTEST LENGTH** OF CONNECTING CABLE POSSIBLE.

### Recommended cable dressing

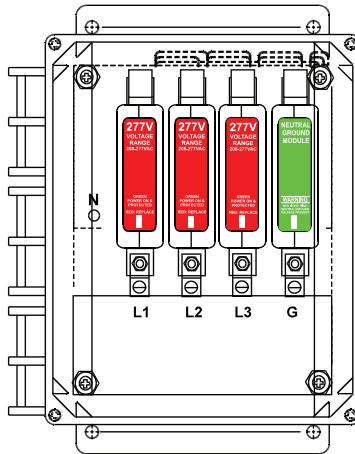
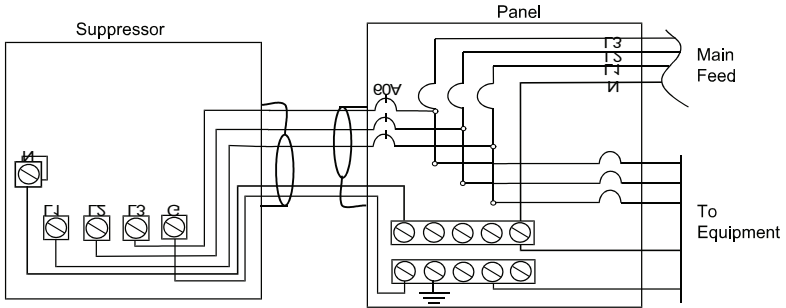


### Dimensions

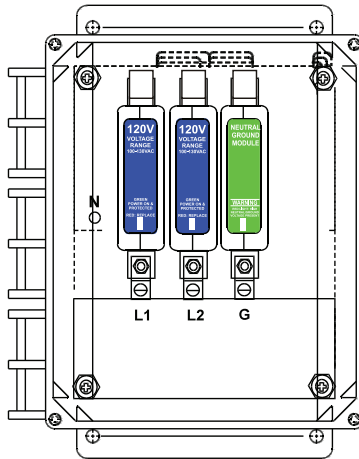
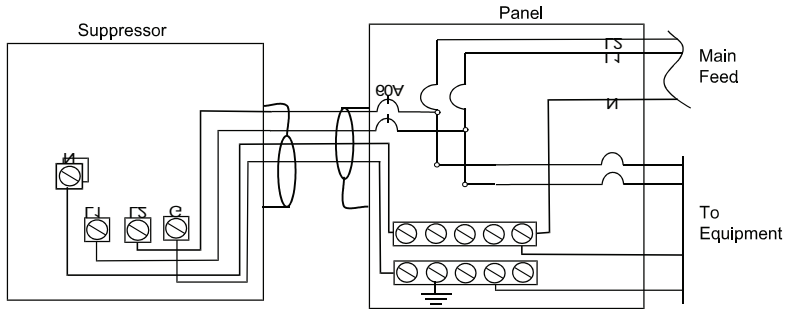


**ZoneMaster Configuration  
and schematic connection diagrams**

**277/480 THREE PHASE 4W WYE  
220/380 THREE PHASE 4W WYE  
240/415 THREE PHASE 4W WYE**



120/240V SPLIT PHASE 3W



### Maintenance

AT INTERVALS NOT EXCEEDING TWO MONTHS, CHECK:

1. STATUS INDICATION LIGHTS
2. CONDITIONS OF CONNECTING CABLES AND TERMINALS

### Module replacement



**WARNING:**  
BEFORE OPENING THE ACCESS PANEL,  
ENSURE THAT THE AC SUPPLY HAS BEEN DISCONNECTED.

Unplug the remote contact connector at the top of the module.  
Remove the mounting nuts at the top and bottom of the module.  
The protection module can now be removed.

THIS PAGE IS LEFT INTENTIONALLY BLANK

**AUSTRALIA**

MTL Instruments Pty Ltd,  
10 Kent Road, Mascot, New South Wales, 2020, Australia  
Tel: +61 1300 308 374 Fax: +61 1300 308 463  
E-mail: mtl-salesanz@eaton.com

**BeNeLux**

MTL Instruments BV  
Ambacht 6, 5301 KW Zaltbommel  
The Netherlands  
Tel: +31 (0) 418 570290 Fax: +31 (0) 418 541044  
E-mail: mtl-benelux@eaton.com

**CHINA**

Cooper Electric (Shanghai) Co. Ltd  
955 Shengli Road, Haigang Industrial Park  
Pudong New Area, Shanghai 201201  
Tel: +86 21 2899 3817 Fax: +86 21 2899 3992  
E-mail: mtl-cn@eaton.com

**FRANCE**

MTL Instruments srl,  
7 rue des Rosières, 69410 Champagne au Mont d'Or  
France  
Tel: +33 (0)4 37 46 16 53 Fax: +33 (0)4 37 46 17 20  
E-mail: mtlfrance@eaton.com

**GERMANY**

MTL Instruments GmbH,  
Heinrich-Hertz-Str. 12, 50170 Kerpen, Germany  
Tel: +49 (0)22 73 98 12-0 Fax: +49 (0)22 73 98 12-2 00  
E-mail: cskkerpen@eaton.com

**INDIA**

MTL India,  
No.36, Nehru Street, Off. Old Mahabalipuram Road  
Sholinganallur, Chennai- 600 119, India  
Tel: +91 (0) 44 24501660 / 24501857 Fax: +91 (0) 44 24501463  
E-mail: mtlindiasales@eaton.com

**ITALY**

MTL Italia srl,  
Via San Bovio, 3, 20090 Segrate, Milano, Italy  
Tel: +39 02 959501 Fax: +39 02 95950759  
E-mail: chminfo@eaton.com

**JAPAN**

Cooper Crouse-Hinds Japan KK,  
MT Building 3F, 2-7-5 Shiba Daimon, Minato-ku,  
Tokyo, Japan 105-0012  
Tel: +81 (0)3 6430 3128 Fax: +81 (0)3 6430 3129  
E-mail: mtl-jp@eaton.com

**NORWAY**

Norex AS  
Fekjan 7c, Postboks 147,  
N-1378 Nesbru, Norway  
Tel: +47 66 77 43 80 Fax: +47 66 84 55 33  
E-mail: info@norex.no

**RUSSIA**

Cooper Industries Russia LLC  
Elektrozavodskaya Str 33  
Building 4  
Moscow 107076, Russia  
Tel: +7 (495) 981 3770 Fax: +7 (495) 981 3771  
E-mail: mtlrussia@eaton.com

**SINGAPORE**

Cooper Crouse-Hinds Pte Ltd  
No 2 Serangoon North Avenue 5, #06-01 Fu Yu Building  
Singapore 554911  
Tel: +65 6 645 9864 / 5 Fax: +65 6 487 7997  
E-mail: sales.mtsing@eaton.com

**SOUTH KOREA**

Cooper Crouse-Hinds Korea  
7F Parkland Building 237-11 Nonhyun-dong Gangnam-gu,  
Seoul 135-546, South Korea  
Tel: +82 6380 4805 Fax: +82 6380 4839  
E-mail: mtl-korea@eaton.com

**UNITED ARAB EMIRATES**

Cooper Industries/Eaton Corporation  
Office 205/206, 2nd Floor SJ Towers, off. Old Airport Road,  
Abu Dhabi, United Arab Emirates  
Tel: +971 2 44 66 840 Fax: +971 2 44 66 841  
E-mail: mtgulf@eaton.com

**UNITED KINGDOM**

Eaton Electric Limited,  
Great Marlings, Butterfield, Luton  
Beds LU2 8DL  
Tel: +44 (0)1582 723633 Fax: +44 (0)1582 422283  
E-mail: mtlenquiry@eaton.com

**AMERICAS**

Cooper Crouse-Hinds MTL Inc.  
3413 N. Sam Houston Parkway W,  
Suite 200, Houston TX 77086, USA  
Tel: +1 281-571-8065 Fax: +1 281-571-8069  
E-mail: mtl-us-info@eaton.com



**Eaton Electric Limited,**  
Great Marlings, Butterfield, Luton  
Beds, LU2 8DL, UK.  
Tel: + 44 (0)1582 723633 Fax: + 44 (0)1582 422283  
E-mail: mtlenquiry@eaton.com  
www.mtl-inst.com  
© 2016 Eaton  
All Rights Reserved  
Publication No. INS 801-482 Rev E 041016  
October 2016

**EUROPE (EMEA):**  
+44 (0)1582 723633  
mtlenquiry@eaton.com  
**THE AMERICAS:**  
+1 800 835 7075  
mtl-us-info@eaton.com  
**ASIA-PACIFIC:**  
+65 6 645 9888  
sales.mtsing@eaton.com

The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.