

# Transient Voltage Surge Suppression (TVSS) TDA 10KA11 Din Rail/Chassis Mount Series 230V 50 and/or 60Hz Installation and Operation Document

## 1. Installation

- ◆ A qualified electrician should carry out Installation and connection of these devices.
- ◆ Not designed as stand alone, these units must be fitted inside a distribution unit or suitable enclosure.
- ◆ These units must be earthed.

### 1.1 Introduction

The TDA10kA series of StrikeSafe transient voltage surge suppression units are designed to be installed inside distribution units or OEM enclosures at any point on the distribution system where low to medium transients are likely to occur. They can either be mounted on standard top hat din rail or fixed directly to a chassis. These StrikeSafe modules use SAD (Silicon Avalanche Diodes) or MOVs (Metal Oxide Varistors). They have visual and remote alarm indication and both thermal and wire fuse protection. For maximum protection the units should be used in pairs to provide an SAD/MOV combination.

This document covers the following models:

TDA 10kA11/01	MOV, with remote indication.
TDA 10kA11/02	SAD (6kA), with remote indication.
TDA 10kA11/03	SAD (10kA), with remote indication.
TDA 10kA11/04	MOV only, no remote indication.
TDA 10kA11/05	SAD (6kA), no remote indication.
TDA 10kA11/06	SAD (10kA), no remote indication.
TDAE 10kA11	SAD/MOV enclosed with N/E protection (MOV) & isolator.
TDAE 10kA11/01	MOV enclosed with N/E protection (MOV) & isolator.
TDAE 10kA11/02	SAD enclosed with N/E protection (MOV) & isolator.

### 1.2 Mounting

These units can either be clipped to standard top hat din rails as an MCB. For chassis mounting pull the locking clips outwards until they lock. This will provide 4mm dia. fixing holes 94mm apart.

TDAE versions are in a wall mountable enclosure and should be fixed to a smooth flat surface.

### 1.3 Connecting

NOTE: Ensure that the circuit is isolated from the mains before installing the TVSS device

The method of connecting any TVSS device can have a dramatic effect on its ability to protect against transient voltage transients. Ideally the TDA should be in line with the supply cables. If this is not feasible the feed cable must be kept as straight and short as possible. With the TDA wired as 'A' or 'B' in Fig 1 the longer the connecting wires the less effective the TDA will be in suppressing transients. Diagrams 'C' & 'D' (fig.1) show the preferred method of connection. If connection is to be made using stranded wire fit correctly sized bootlace ferrules before terminating.

Two live and two neutral connectors are provided for ease of series connection in the supply or for paralleling up multiple modules (E & F). Slacken appropriate clamping screw, insert wire/wires and re-tighten screw. Maximum wire size per terminal 2 x 2.5mm<sup>2</sup>, larger wire sizes can be accommodated by the use of fork crimps. If the TDA is connected as D (fig 1) the maximum current 10A. Connecting as C (fig 1) assumes both conductors are in the same terminal.

If isolation is required it is recommended that a switch is used in preference to an MCB.

For TDAE versions feed cables through appropriate gland and connect to the live to **L**, neutral to **N** and earth to **E**.

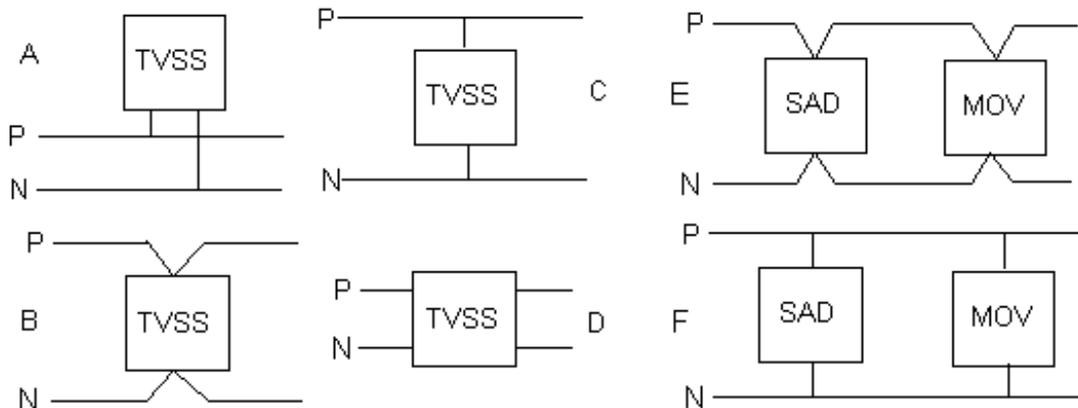


Figure 1

## 2. Operation

Once the installation has been completed and checked turn the supply on. The GREEN should glow and the relay (if fitted) should operate. If this does not happen check that the supply connections are secure and in the correct rotation.

In TDAE versions switch on the isolator, these include a N/E module with a RED led that should not glow and no alarm relay.

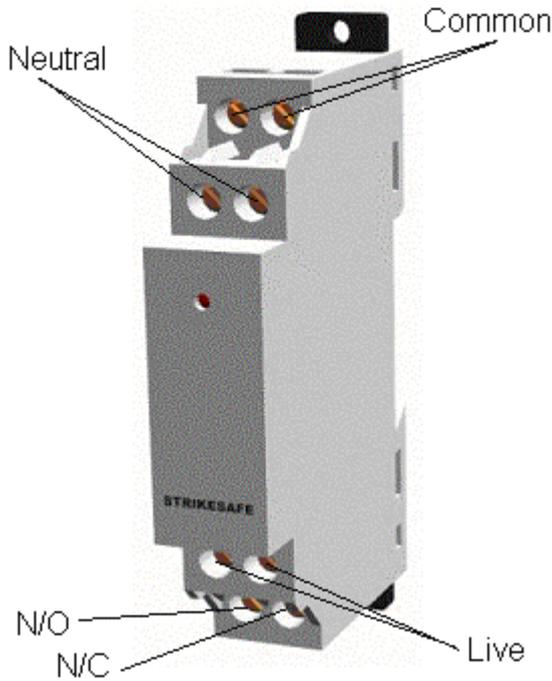
## 3. Alarms

The Green led indicates that the supply is on and being protected. If it is off there is no supply or the protection has failed. Also the volt free contacts will change state.

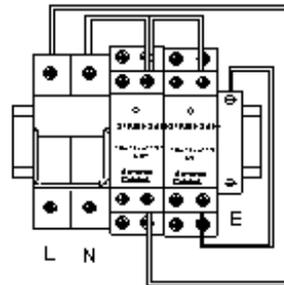
If the RED led on the N/E module glows there is a high neutral earth voltage that could indicate L/N reversal.

#### 4. Connectivity (/04, /05 & /06 versions)

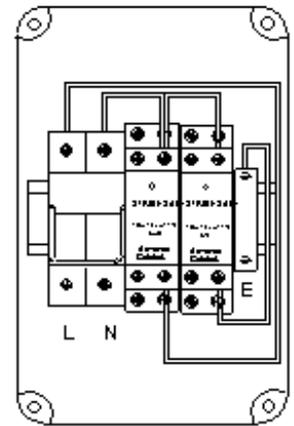
There are three terminals marked NO, NC & COM. (a,b and c,d ) connected to volt free relay contacts (8mm creepage & clearance). The NO (normally open) and NC (normally closed) relate to normal alarm free operation. In the event of a fault the relay will change state. Slacken appropriate clamping screw, insert wire/wires and re-tighten screw. (See Fig 2)  
 Maximum switching for the volt free contacts 230Vac at 5Amps.  
 Maximum wire size 2.5mm<sup>2</sup> (solid).



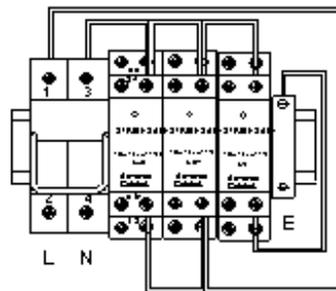
TDAE 10KA11/01



TDAE 10KA11/02



TDAE 10KA11



#### 5. Specification

	TDA 10kA11/01 & /04	TDA 10kA11/02 & /05	TDA 10kA11/03 & /06	TDA 10kA11/07
Nominal Clamping Voltage	460Vpk	401Vpk	401Vpk	460Vpk
Maximum Clamping Voltage	710Vpk	560Vpk	560Vpk0Vpk	710Vpk
Peak pulse current (8x20 S) per ph.	13kA	6kA	10kA	13kA Neutral/Earth
Protection:	Internal thermal and wire fuses.			
Fixing:	Chassis mounting, screw/nut & bolt fixing.			
Nett dimensions:	W18x59Dx89.5L mm			
Nett weight:	0.05kg			
Local indicators:	LEDs, Green (see section 3).			
Remote indication:	Single pole change over volt free contacts.			
Contact rating:	230Vac, 5Amps			
Operating voltage:	230Vac per phase (phase to neutral)			
Complies with:	EN61000-4, EN60950, EN60335-1, EN50081-1 & -2, EN50082-1 & -2			