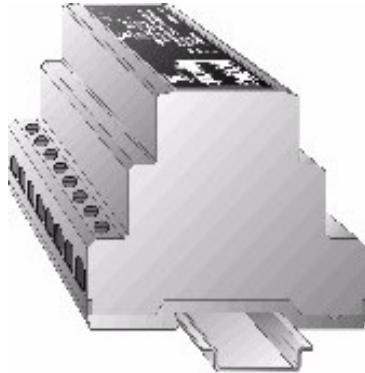


**INSTALLATION INSTRUCTIONS**


<b>MODEL NUMBER</b> <b>DSF-6A-30V</b> <b>DSF-6A-75V</b> <b>DSF-6A-150V</b> <b>DSF-6A-275V</b> <b>DSF-10A-150V</b> <b>DSF-20A-150V</b> <b>DSF-10A-275V</b> <b>DSF-20A-275V</b>
---

**1. PREPARATION**


**DANGER:** *Electrical shock or burn hazard. Installation of this DINLINE Surge Filter should only be made by qualified personnel. Failure to lockout electrical power during installation or maintenance can result in fatal electrocution or severe burns. Before making any connections to the electrical panel be sure that power has been removed from all associated wiring, electrical panels, and other electrical equipment.*


**CAUTION NOTES:**

1. Check to make sure line voltage does not exceed Surge Filter voltage requirement.
2. Prior to installation ensure that the DSF is of the correct voltage, current, and frequency rating for your application.
3. The earth terminal must be connected to a low impedance earth (< 10 ohms) for correct operation.
4. Do not perform a "Flash Test" or use a Mega-Ohm Meter (Megger) to test circuits that are protected with DSF modules. Damage may occur to the DSF modules.
5. Follow all instructions to ensure correct and safe operation.
6. Do not attempt to open or tamper with the DSF units in any way as this may compromise performance and will void warranty.

**2. INTRODUCTION**

Dinline Surge Filters (DSF) are packaged in "DIN 43 880" profile enclosures for simple installation onto 35mm DIN rails. They can be selected for use on distribution systems with maximum RMS voltages of 30V, 75V, 150V or 275V at frequencies of 50/60Hz. For applications where the voltage regulation on site is poor, refer to the Transient Discriminating Filter (TDF) product range.

**3. QUICK INSTALLATION OVERVIEW**

Install in the following manner:

1. Ensure that power is removed from the area and the circuits that will be connected.
2. Snap lock the DSF module to the DIN rail.
3. Install the appropriate upstream overcurrent protection (refer to Section 8)
4. Connect wiring to the indicated input and output terminals.
5. Apply power and observe correct operation of the Status Indication LED.

**4. PROTECTION CONCEPTS**

To optimise effectiveness of the DSF protection, the unprotected and protected wiring should be separated. Wiring from the exposed transient source to the DSF should be considered unprotected and kept approximately 300mm from all other wiring wherever possible. Wiring on the equipment side of the DSF should be considered protected.

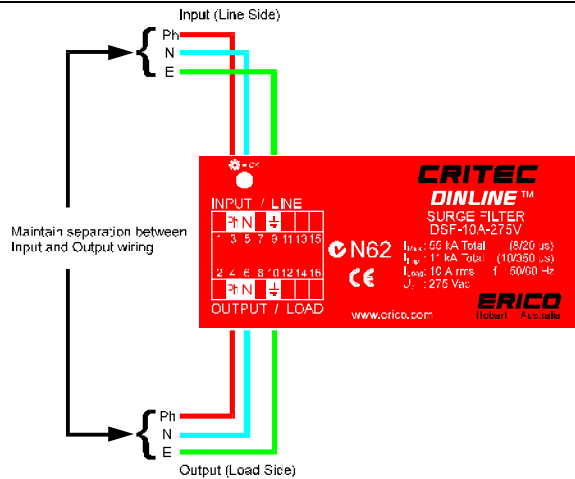
The separation of protected and unprotected wiring is recommended to minimize the risk that transients conducted on unprotected wiring may cross couple onto protected circuits, and diminish the level of protection available from the DSF module.

The terminals on the DSF module are labeled "INPUT/LINE" (unprotected side) and "OUTPUT/LOAD" (protected side) assuming that the source of the transients is on the input side of the DSF module.

For applications where the transient source is on the load side of the DSF module, the DSF should be reverse connected with the INPUT/LINE terminals connected to the load side, toward the source of the transients.

**NOTE:** *The terminals on the DSF-6A modules are labeled "L1", "L2" (unprotected side) and "E1", "E2" (protected side). For DC systems the polarity of L1/E1 connections may be either positive or negative with respect to L2/E2. For single phase AC systems with neutral it is recommended to use L1/E1 for the "hot"/phase/line conductors and L2/E2 terminals for the neutral conductors.*

# INSTALLATION INSTRUCTIONS



MAX FUSE SIZES:	DSF RATING	FUSE RATING
	6A	6A
	10A	10A
	20A	20A

## 5. MOUNTING

DSF's are designed to clip to 35mm DIN rails (standard EN50022). Unless otherwise mechanically restrained, use horizontal DIN rails with the DSF module spring clips to the bottom and the label text the correct way up.

**NOTE:** DSF's must be installed in an enclosure or panel that:

- prevents the DSF unit temperature from exceeding 60°C
- provides adequate electrical and safety protection
- prevents the ingress of moisture and water
- allows DSF status indicators to be inspected

## 6. RESIDUAL CURRENT DEVICES

Where RCD's/ELCB's protectors are used, it is preferable that the DSF modules be installed prior to these devices (i.e. upstream). If this is not done, nuisance tripping of the RCD's/ELCB's may occur during transient activity.

## 7. CONDUCTOR TERMINATION

Each DSF terminal is designed to accept wire sizes from 1.5mm<sup>2</sup> to 6mm<sup>2</sup> solid or stranded conductor. The wire insulation should be stripped back 8mm before terminating into the tunnel terminal.

**NOTE:** Do not use greater than 1Nm of torque when tightening the terminals. Where two wires may need to be terminated into one terminal, the permissible wire size is 4mm<sup>2</sup> each.

## 8. FUSING AND ISOLATION

Overcurrent protection must be installed in the upstream circuit of every DSF to provide protection to the unit itself, the load and the wiring in case of fault situations. The current rating of the breaker or fuse used should be determined according to below. However, the current rating should be less than the rating of the wiring. For example, if a 20A DSF were installed in a circuit with wiring that can carry 16A, then a 16A overcurrent device must be installed upstream to protect both the DSF and wiring from overload.

## 9. STATUS INDICATION

DSF modules have a single Status Indicator LED on the front panel. When power is applied and full surge capacity is available, the Status Indicator will be illuminated. Should power be applied and the indicator fail to illuminate, the DSF should be replaced, as optimum protection is no longer provided.

## 10. MAINTENANCE & TESTING

Before removing a DSF module from service, ensure that the power has been removed from the module. Replacement of a DSF module should only be undertaken by qualified personnel.

**NOTE:** DSF units should be inspected periodically, and also following any periods of lightning or transient voltage activity. Check the Status Indicator and replace the module if it is not illuminated as detailed in Section 9 STATUS INDICATION.

## 11. EXTENDED WARRANTY

This product has a limited warranty to be free from defects in materials and workmanship for a period of five (5) years from the date of dispatch from the Manufacturer. The Purchaser acknowledges that lightning is a natural event with statistical variation in behaviour and energy levels which may exceed the product ratings, and 100 % protection is not offered and cannot be provided for. Therefore the Manufacturer's liability is limited to the repair or replacement of the product (at the Manufacturer's sole option) which in its judgement has not been abused, misused, interfered with by any person not authorised by the Manufacturer, or exposed to energy or transient levels exceeding the Manufacturer's specification for the product. The product must be installed and earthed (where applicable) in strict accordance with the Manufacturer's specification and all relevant Electricity and Safety Standards. The Manufacturer and Purchaser mutually acknowledge that the product, by its nature, may be subject to degradation as a consequence of the number and severity of surges and transients that it experiences in normal use, and that this warranty excludes such gradual or sudden degradation. This warranty does not indemnify the Purchaser of the product for consequential claim for the damages or loss of operations or service or profits. Customers should contact their nearest ERICO Lightning Technologies agent to obtain a Product Repair Authorisation Number prior to making any claim under this warranty. This is only a summary of the warranty given by the Manufacturer. The full text of the warranty is set out in the Manufacturer's Conditions of Quotation and Sale. The above limited warranty additional to the rights which arise in respect of the sale of industrial and technical products and services to knowledgeable buyers under the Australian Trade Practices Act 1974 as amended.