

BSF1253-TN-E panel mount series surge filter

Details

IEC61643-11, Class I & II / UL1449 ed3 Type 1 & 2

Application: Medium to high risk primary circuit protection

Specification and installation instructions

Features

- Panel mounted surge protection and filter
- 150kA primary, 50kA secondary, 200kA total
- 3 phase, 3 stage, 7 mode protection
- Rugged IP20 enclosure
- 125A series current rated
- 4 part led display
- Remote alarm contacts
- Surge counter

Application description

The BSF1253-TN-E surge filter is configured in a 3 stage, 7 protection mode topology. This model is designed to provide primary AND secondary protection to key circuits with multiple loads in accordance with IEC61643-11, Class I & II, medium to high risk primary circuits and should be considered for use with other primary SPD,s where applicable as defined in IEC61643-12, ANSI/IEEE C62.41 or AS/NZS 1768 protection zones guidelines.

This model provides a high degree of protection to dedicated single load devices such as UPS, servers etc which are directly connected to the filter.

Operating description

This model is connected in series with the power system as close as possible to the device to be protected. Excess voltage transients are diverted to mains Neutral and Earth depending on the installation configuration thus limiting damage to the downstream load. Once transients have ceased the unit returns to normal operation. This unit provides 3 stages of protection in 7 modes. Stage 1 provides high kA rated protection across L1,L2,L3-N and N-E. Stage 2 comprises a low pass LC filter network in the Line conductor to reduce or eliminate surge currents passing to the load side as well as offering noise rejection. Stage 3 provides additional load side protection across L1,L2,L3-N to manage any transients that may occur on the load side circuits. Status of the unit is indicated by 4 led indicators on the front face. When all indicators are blue the unit is operating OK. When any indicator is off then the unit has a fault condition. It is recommended to contact the manufacturer in this event.

Warranty

This model is warranted for a period of 24 months from date of purchase. This warranty does not cover neglect, abuse or incorrect installation. The product is designed to REDUCE the likelihood of damage. Some extreme electrical conditions may cause failure of the device and are not covered by this warranty.

Specifications

Specifications	
Model	BSF1253-TN-E
Nominal voltage U_n	200-250Vac, Three-phase, 48-62Hz, TT, TN systems
Ports	2 port
MCOV U_c	350VAC L-N, 255VAC N-E
TOV	440VAC/120min
Protection modes	L1,L2,L3-N, N-E primary L1,L2,L3-N secondary
I_{max} 8/20us	150kA each mode primary 50kA each mode secondary
I_{nom} 8/20us	50kA each mode primary 25kA each mode secondary
SCW (1 sec)	29kA
Vpl L-N@Inom	<1.0kV
L-N@VPR	<0.5kV
N-E@1.2/50	<1.5kV
Service type	Three phase. TT, TN systems
Leakage current	<1.5mA
Enclosure material	Powder coated steel
Max external safety disconnecter	125A AgL fuse, 500V, 50KAIC OR 125A MCB, C curve, 500V, 50KAIC
Surge counter	< 3kA
Topology	Stage 1. L1,L2,L3-N MOV, N-E GDT Stage 2. Low pass LC network Stage 3. L-N MOV/GDT.
Location category	Indoor
Degree of protection	IP20
Filter attenuation	>48dB @ 1MHz
Thermal dissipation	750W @ full load, 3 phase, 125A
Max termination size	Single-strand 35mm ² ; multi-strand 25mm ²
Mounting	Wall mounting
Operating temp	-10 to 70c, 0 to 90% RH (non-condensing)
Dimensions/weight	520mm L x 520mm W x 170mm D @ 34kG
Indicators	4 part display. On OK. Off fault.
Alarms	Dry contact relay. NC/Com/NO. 250Vac/32Vdc, 5A

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Installation procedure

To get the best from your product it is important to follow the below guidelines. If you have any questions please contact the manufacturer for further advice.

Before you start

- Always work safely – disconnect power before making connections.
- Check that this unit is correct for your application.

Installing your SPD

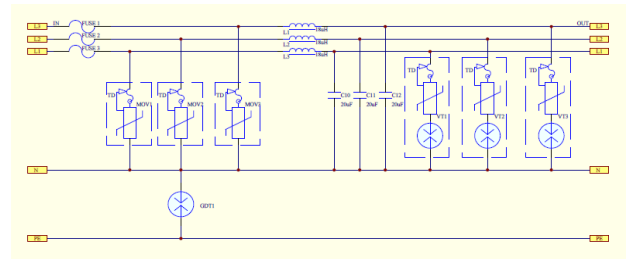
- Locate as close as possible to the device you are trying to protect.
- The unit requires free flowing air for cooling. Do not stack items on top. Ensure adequate ventilation.
- Do not install above any heat generating object or any position exposed to weather.
- Consult wiring diagram supplied with unit.
- Install safety disconnect in accordance with AS/NZS3200 appendix F and manufacturers recommendations.
- A safety disconnecter **MUST** be installed on the input to this device. See tech specs table in this document.

Checking its operation

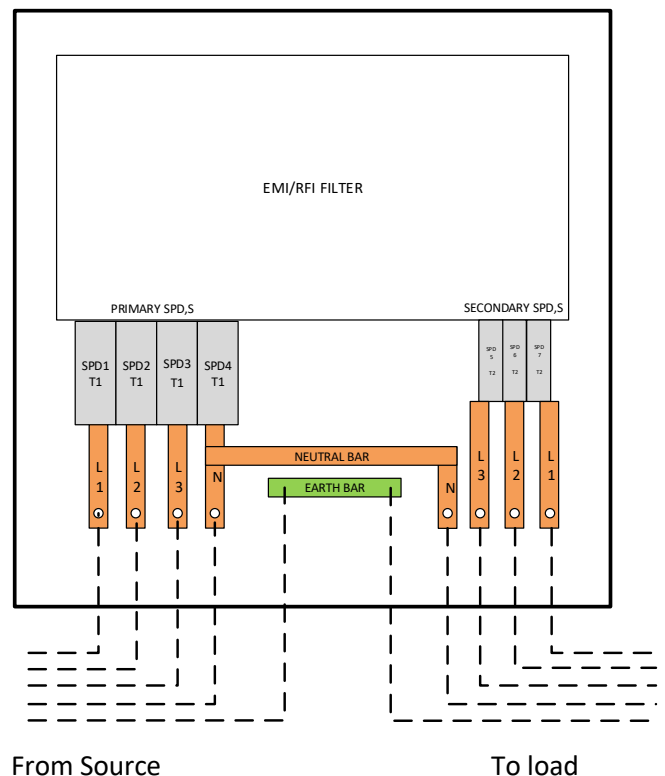
- Once installed and powered up 4 led,s should be on indicating power is applied and the unit is OK. Should any led fail to come on it indicates failure of a protection circuit within. You should contact the manufacturer for advice.
- **Do not megger test this device.** It contains voltage limiting components. Such testing may cause damage to the device. Isolate from circuit before any testing.

Improper operation and damage may result if not installed in accordance with manufacturers recommendation. Warranty is void if incorrectly installed.

SPD circuit diagram



Connection diagram



Dimensions

