

TRANSIENT SURGE FILTER



The nVent ERICO Critec Transient Surge Filter (TSF) product family is a UL registered, IEC compliant, compact, serviceable solution for protection of PLC controllers, SCADA systems, motor control centers and other process control systems.

CERTIFICATIONS



FEATURES

Compact, space saving design

Replaceable surge module reduces down time and unprotected time during maintenance

Compliance to the latest UL 1449 Edition 4 and IEC 61643-11 surge standards and UL 1283 Electromagnetic Interference Filters (EMI) standard

Low let-through voltages on the critical line to neutral mode

Transient Discriminating (TD) Technology provides increased service life

SPECIFICATIONS

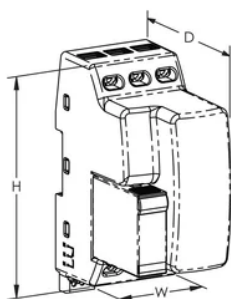
Catalog Number	TSF20A120V	TSF20A240V	TSF6A120V	TSF6A240V	TSF6A24V
Nominal System Voltage (Un)	120 V	240 V	120 V	240 V	24 V
Rated Load Current (IL)	20A	20A	6A	6A	6A
Stand-off Voltage	230	440	230	440	
Max Continuous Operating Voltage (Uc)	170 V	275 V	170 V	275 V	30 VAC/38 VDC
Frequency	0 - 100 Hz	0 - 100 Hz	0 - 100 Hz	0 - 100 Hz	0 - 100 Hz
Max Discharge Current (Imax), L-N	20kA 8/20 μ s	20kA 8/20 μ s	20kA 8/20 μ s	20kA 8/20 μ s	20kA 8/20 μ s

CatalogNumber	TSF20A120V	TSF20A240V	TSF6A120V	TSF6A240V	TSF6A24V
Max Discharge Current (I _{max}), L-PE	20kA 8/20 μs	20kA 8/20 μs	20kA 8/20 μs	20kA 8/20 μs	20kA 8/20 μs
Max Discharge Current (I _{max}), N-PE	20kA 8/20 μs	20kA 8/20 μs	20kA 8/20 μs	20kA 8/20 μs	20kA 8/20 μs
Filtering	-50 dB @ 100 kHz	-50 dB @ 100 kHz	-65 dB @ 100 kHz	-65 dB @ 100 kHz	-65 dB @ 100 kHz
Protection Modes	L-N L-PE N-PE	L-N L-PE N-PE	L-N L-PE N-PE	L-N L-PE N-PE	L-N L-PE N-PE
Distribution System	1Ph 2W+G	1Ph 2W+G	1Ph 2W+G	1Ph 2W+G	1Ph 2W+G
Mounting	35 mm top hat DIN rail	35 mm top hat DIN rail	35 mm top hat DIN rail	35 mm top hat DIN rail	35 mm top hat DIN rail
Status Indication	Mechanical flag Remote Contacts	Mechanical flag Remote Contacts	Mechanical flag Remote Contacts	Mechanical flag Remote Contacts	Mechanical flag Remote Contacts
Connection, Solid	2.00 - 5.25 mm ²	2.00 - 5.25 mm ²	2.00 - 5.25 mm ²	2.00 - 5.25 mm ²	2.00 - 5.25 mm ²
Connection, Stranded	2.00 - 5.25 mm ²	2.00 - 5.25 mm ²	2.00 - 5.25 mm ²	2.00 - 5.25 mm ²	2.00 - 5.25 mm ²
Enclosure Rating	IP 20	IP 20	IP 20	IP 20	IP 20
Enclosure Material	UL® 94V-0 Thermoplastic	UL® 94V-0 Thermoplastic	UL® 94V-0 Thermoplastic	UL® 94V-0 Thermoplastic	UL® 94V-0 Thermoplastic
Temperature	-35 to 40 °C	-35 to 40 °C	-35 to 40 °C	-35 to 40 °C	-35 to 40 °C
Module Width	3 M	3 M	3 M	3 M	3 M
Depth (D)	95.2 mm	95.2 mm	95.2 mm	95.2 mm	95.2 mm
Width (W)	54 mm	54 mm	54 mm	54 mm	54 mm
Height (H)	122.7 mm	122.7 mm	122.7 mm	122.7 mm	122.7 mm
Unit Weight	507 g	507 g	507 g	507 g	507 g
Replacement Module	TSF120MTDS	TSF240MTDS	TSF120MTDS	TSF240MTDS	TSF24MDSD
Certifications	cUR, UR, CE, ERICO TSF	cUR, UR, CE, ERICO TSF	cUR, UR, CE, ERICO TSF	cUR, UR, CE, ERICO TSF	CE, ERICO TSF

UL 1449 Edition 4 / UL 1283 Edition 5 Ratings					
Part Number	TSF6A24V	TSF6A120V	TSF20A120V	TSF6A240V	TSF20A240V
Max Continuous Operating Voltage (Uc)	-	170 V		275 V	
Rated Load Current (IL)	-	6 A	20 A	6 A	20 A
Nominal Discharge Current (In), L-N	-	3 kA 8/20 μs			
Nominal Discharge Current (In), L-PE	-	3 kA 8/20 μs			
Nominal Discharge Current (In), N-PE	-	3 kA 8/20 μs			
Voltage Protection Rating (VPR), L-N	-	330 V	400 V	-	-
Voltage Protection Rating (VPR), L-PE	-	900 V	800 V	-	-
Voltage Protection Rating (VPR), N-PE	-	700 V	700 V	-	-
Measured Limiting Voltage (MLV), L-N	-	-	-	620 V	680 V
Measured Limiting Voltage (MLV), L-PE	-	-	-	1450 V	1360 V
Measured Limiting Voltage (MLV), N-PE	-	-	-	1220 V	1330 V
Overcurrent Protection Fuse	-	Bussmann FNQ-R-7-1/2	Mersen ATMR25	Bussmann FNQ-R-7-1/2	Mersen ATMR25
Certification Details	-	UL® 1449 Edition 4 Type 2CA, 3 kA Mode		UL® 1449 Edition 4 Type 4CA, 3 kA Mode	
		UL® 1283 Edition 5 EMI Filter			

IEC 61643-11 Ratings					
Part Number	TSF6A24V	TSF6A120V	TSF20A120V	TSF6A240V	TSF20A240V
Max Continuous Operating Voltage (Uc)	30 V	170 V		275 V	
Rated Load Current (IL)	6 A		16 A	6 A	16 A
Nominal Discharge Current (In), L-N	3 kA 8/20 μ s				
Nominal Discharge Current (In), L-PE	3 kA 8/20 μ s				
Nominal Discharge Current (In), N-PE	3 kA 8/20 μ s				
Voltage Protection Level (Up), L-N	330 V	330 V	330 V	800 V	850 V
Voltage Protection Level (Up), L-PE	500 V	1050 V	1050 V	1800 V	1900 V
Voltage Protection Level (Up), N-PE	500 V	1050 V	1050 V	1800 V	1900 V
Overcurrent Protection Circuit Breaker	Clipsal 4CB106/10		Clipsal 4CB116/10	Clipsal 4CB106/10	Clipsal 4CB116/10
Complies With	IEC® 61643-11 Class II				

DIAGRAMS



WARNING

nVent products shall be installed and used only as indicated in nVent's product instruction sheets and training materials. Instruction sheets are available at www.nvent.com and from your nVent customer service representative. Improper installation, misuse, misapplication or other failure to completely follow nVent's instructions and warnings may cause product malfunction, property damage, serious bodily injury and death and/or void your warranty.

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