

MAINS SURGE FILTER



Unsurpassed performance in surges and transients filtering ensures a clean, filtered supply of electricity is provided to all the equipment connected at the output

- ◆ All mode protection
- ◆ Highest safety standard design
- ◆ Multi-stage protection for surges suppression and filtering
- ◆ Exceptional high surge handling capability
- ◆ Redundant protection and staged LED status indication
- ◆ Remote monitoring



All mode protection - MSF series surge filters provide unsurpassed surges and transients filtering for main or branch panels as well as critical loads using any power distribution systems such as TT, TN-C, TN-S etc. They offer all mode (L-N, L-E and N-E) and repeated protection in lightning intense environment.

Highest safety standard design - It has been engineered to the industry's safest criteria for full compliance with IEC 61643 and ULI1449 Edition 2 & 3. Also with its patented thermal and short circuit fusing included, it ensures safe isolation during sustained abnormal over-voltage events and component failure. A MCB is also included to ensure safety isolation under overloaded condition.

Multi-stage protection for surges suppression and filtering - No single technology can provide overall protection, so MSF surge filter utilizes multi-stage design. The first stage rapidly diverts excess transient surges to ground. The second stage uses low pass filter to discriminate the noise, harmonics and remaining surges from the normal supply. The

third stage ensures the impulses generated by the connected load will not return to the supply.

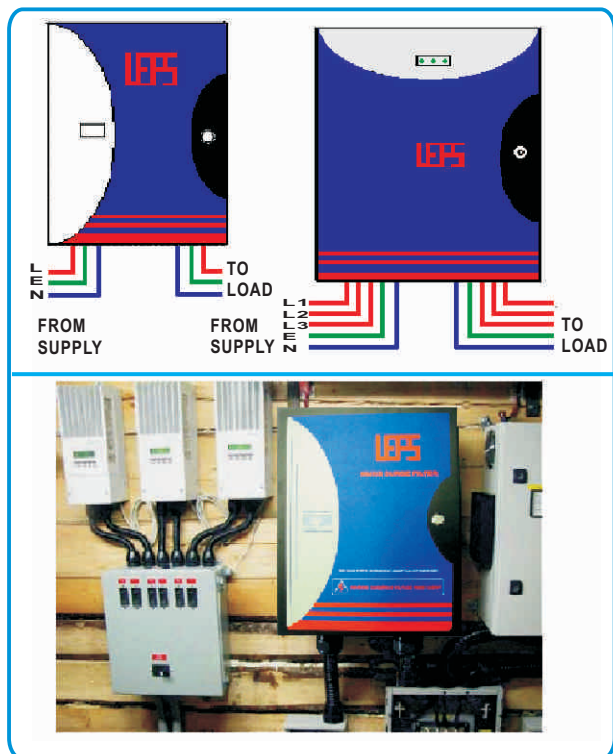
Exceptional high surge handling capability up to 140KA per line - Its 250KA to 1120KA unit total unparalleled surge handling capability makes MSF series protector the ultimate choice for total facility protection.

Redundant protection and staged LED status indication - Each phase employs two redundant and independent fused and thermal overload protection elements to provide back-up protection for continued equipment survival. There are two LED indicators per phase to monitor the integrity of the protection. This pre-failure warning indication design means you will never be unprotected.

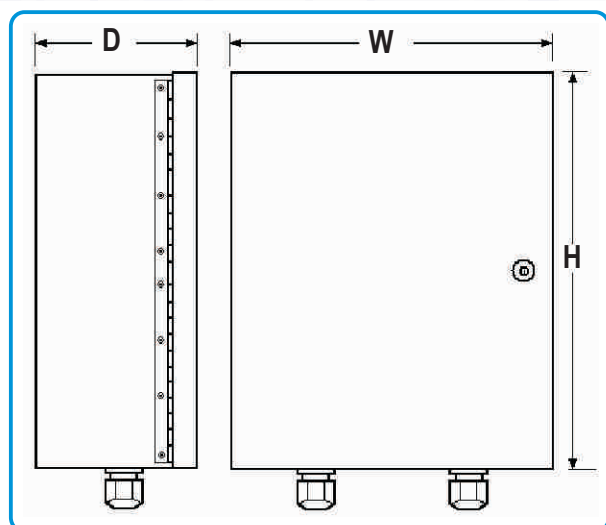
Remote monitoring - All models features NO/NC voltage free contacts which change state to indicate a fault. An optional Remote Monitoring Panel can also be chosen which offers both visual and audible alarm at remote location from the protector.

Installation

The filters are connected in series with the protected system (load) as illustrated below:



Dimensions & weight



MODEL	WEIGHT	D	H	W
MSF140	~9.3kg	125	405	300
MSF163	~9.7kg	125	405	300
MSF180	~9.8kg	125	405	300
MSF1100	~9.9kg	125	405	300
MSF1125	~10kg	125	405	300
MSF340	~22kg	200	500	400
MSF363	~22.8kg	200	500	400
MSF380	~23kg	200	500	400
MSF3100	~23.5kg	200	500	400
MSF3125	~24kg	200	500	400

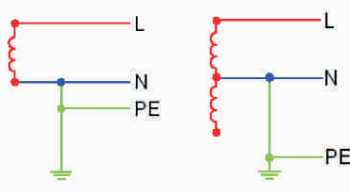
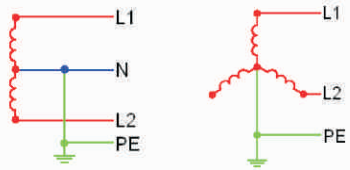
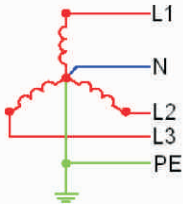
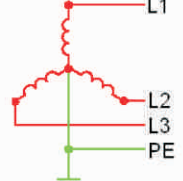
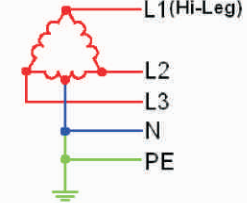
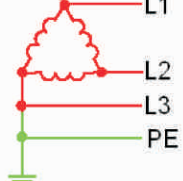
General Specifications

SPD class(EN/IEC):	Class I+II/Type 1+2
Nominal voltage, U_n:	See page 3
Max. working voltage, U_c:	See page 3
Operating frequency:	40-60Hz
Connection type:	Series
Protection stage:	First stage - by MSF surge diverter Second stage - by LC filtering circuit Third stage - by MDD surge diverter
Max. discharge current, I_{max}:	
MSFx-50	100KA(8/20 μ s)/phase - First stage
MSFx-80	160KA(8/20 μ s)/phase - First stage
MSFx-140	280KA(8/20 μ s)/phase - First stage
Impulse discharge current, I_{imp}:	
MSFx-50	20KA(10/350 μ s)/phase - First stage
MSFx-80	30KA(10/350 μ s)/phase - First stage
MSFx-140	50KA(10/350 μ s)/phase - First stage
Voltage protection level, U_p:	See page 3
Overload/short circuit protection:	MCB
Protection mode:	L-N, L-E, N-E
Response time, t_A:	<5ns
Efficiency:	99%
Frequency response:	3dB (at 800Hz)
Standards compliance:	BS EN/IEC61643-11 AS1768-2007 cat.A.B.C IEEE C62.41 cat.A.B.C CP33-1999 cat.A.B.C UL1449 2nd & 3rd edition
EMC compliance:	BS EN 60950: 2001 BS EN 61000-6-7: 2015
Alarm isolation:	4KV
Status indicator:	LED (Green=OK)
Optional RMP remote alarm:	Siren sound, OK and FAIL LED
Alarm(volt free contact):	N/O, N/C(2A @250Vac)
Alarm conductor size:	2.5mm ²
Wiring terminals:	35mm ²
Case material:	Galvanized steel alloy(powder coated)
Mounting:	Back panel screw mount
IP rating:	IP55
Operating temperature, T_u:	-40-85°C
Humidity:	0-95%(R.H.)
Altitude:	0-3650m

VOLTAGE RATINGS & POWER SOURCE CONFIGURATIONS



XX = 32, 40, 50, 63, 80, 100, 125 (ampere), yy = 50, 80, 140 (KA)

Power Source Configurations	Model Voltage Code	Nominal System Voltage, Un (Vac)			MCOV, Uc (Vac)	Voltage protection level, Up (V) @ 3KA, 8/20µs
		L-N	L-L	L-E		
 <p>Single Phase, L-N, 2W+E</p>	MSF1xx-yyL	100	-----	100	150(L-N)	195
		110	-----	110		
		120	-----	120		
		127	-----	127		
	MSF1xx-yyM	220	-----	220	275(L-N)	350
		230	-----	230		
		240	-----	240		
		277	-----	277		
MSF1xx-yyH	305	-----	305	350(L-N)	455	
	347	-----	347			
MSF1xx-yyU	380	-----	380	460(L-N)	600	
 <p>Split Phase, 3W+E</p>	MSF3xx-yyL/S	100	173-200	100	150(L-N)	195
		110	190-220	110		
		120	208-240	120		
		127	220-254	127		
	MSF3xx-yyM/S	220	380-440	220	275(L-N)	350
		230	400-460	230		
		240	415-480	240		
		277	480-554	277		
MSF3xx-yyH/S	305	525	305	350(L-N)	455	
	347	600	347			
MSF3xx-yyU/S	380	657	380	460(L-N)	600	
 <p>Three Phase Wye, 4W+E</p>	MSF3xx-yyL	100	173	100	150(L-N)	195
		110	190	110		
		120	208	120		
		127	220	127		
	MSF3xx-yyM	220	380	220	275(L-N)	350
		230	400	230		
		240	415	240		
		277	480	277		
MSF3xx-yyH	305	525	305	350(L-N)	455	
	347	600	347			
MSF3xx-yyU	380	657	380	460(L-N)	600	
 <p>Three Phase Wye, 3W+E</p>	MSF3xx-yyL/Y	-----	173	100	150(L-E)	195
		-----	190	110		
		-----	208	120		
		-----	220	127		
	MSF3xx-yyM/Y	-----	380	220	275(L-E)	350
		-----	400	230		
		-----	415	240		
		-----	480	277		
MSF3xx-yyH/Y	-----	480	277	350(L-E)	455	
	-----	525	305			
MSF3xx-yyU/Y	-----	600	347	460(L-E)	600	
	-----	657	380			
 <p>Three Phase Delta Hi Leg, 4W+E</p>	MSF3xx-yyL/H	120	240	120	150(L-N)	195
 <p>Three Phase Delta, 3W+E</p>	MSF3xx-yyM/D	-----	200	200	275(L-E)	350
		-----	208	208		
		-----	220	220		
		-----	230	230		
	MSF3xx-yyE/D	-----	240	240	575V(L-E)	750
		-----	380	380		
		-----	400	400		
		-----	415	415		
		-----	440	440		
		-----	480	480		

Notes:

- (1) For other voltages or source configurations, consult LEPS
- (2) Ensure the model selected is compatible with the voltage level and source configuration in use
- (3) MCOV = Maximum Continuous Operating Voltage

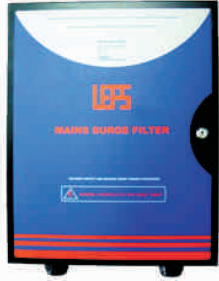


ORDERING INFORMATION

MODEL	DESCRIPTION	PHOTO/DRAWING
MAINS SURGE FILTERS-POWERLINE PROTECTION		
Main Switch Board (MSB) & Distribution Board (DB) – 40kA – 200kA per mode, Medium Load Current, 277/305V(L-N), 480/525V(L-L)		
MSF363-50H/Y	Mains Surge Filter, active tracking & filtering, 63A, 3ph for 3W+E of Y system, 277/305V(L-E), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF363-80H/Y	Mains Surge Filter, active tracking & filtering, 63A, 3ph for 3W+E of Y system, 277/305V(L-E), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF363-140H/Y	Mains Surge Filter, active tracking & filtering, 63A, 3ph for 3W+E of Y system, 277/305V(L-E), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF380-50H/Y	Mains Surge Filter, active tracking & filtering, 80A, 3ph for 3W+E of Y system, 277/305V(L-E), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF380-80H/Y	Mains Surge Filter, active tracking & filtering, 80A, 3ph for 3W+E of Y system, 277/305V(L-E), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF380-140H/Y	Mains Surge Filter, active tracking & filtering, 80A, 3ph for 3W+E of Y system, 277/305V(L-E), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3100-50H/Y	Mains Surge Filter, active tracking & filtering, 100A, 3ph for 3W+E of Y system, 277/305V(L-E), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3100-80H/Y	Mains Surge Filter, active tracking & filtering, 100A, 3ph for 3W+E of Y system, 277/305V(L-E), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3100-140H/Y	Mains Surge Filter, active tracking & filtering, 100A, 3ph for 3W+E of Y system, 277/305V(L-E), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3125-50H/Y	Mains Surge Filter, active tracking & filtering, 125A, 3ph for 3W+E of Y system, 277/305V(L-E), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3125-80H/Y	Mains Surge Filter, active tracking & filtering, 125A, 3ph for 3W+E of Y system, 277/305V(L-E), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3125-140H/Y	Mains Surge Filter, active tracking & filtering, 125A, 3ph for 3W+E of Y system, 277/305V(L-E), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MAINS SURGE FILTERS-POWERLINE PROTECTION		
Main Switch Board (MSB) & Distribution Board (DB) - 40kA - 200kA per mode, Medium Load Current, 347/380V(L-N), 600/657V(L-L)		
MSF132-50U	Mains Surge Filter, active tracking & filtering, 32A, 1ph, 347/380V(L-N), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF132-80U	Mains Surge Filter, active tracking & filtering, 32A, 1ph, 347/380V(L-N), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF132-140U	Mains Surge Filter, active tracking & filtering, 32A, 1ph, 347/380V(L-N), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF140-50U	Mains Surge Filter, active tracking & filtering, 40A, 1ph, 347/380V(L-N), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF140-80U	Mains Surge Filter, active tracking & filtering, 40A, 1ph, 347/380V(L-N), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF140-140U	Mains Surge Filter, active tracking & filtering, 40A, 1ph, 347/380V(L-N), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF150-50U	Mains Surge Filter, active tracking & filtering, 50A, 1ph, 347/380V(L-N), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF150-80U	Mains Surge Filter, active tracking & filtering, 50A, 1ph, 347/380V(L-N), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF150-140U	Mains Surge Filter, active tracking & filtering, 50A, 1ph, 347/380V(L-N), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF163-50U	Mains Surge Filter, active tracking & filtering, 63A, 1ph, 347/380V(L-N), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF163-80U	Mains Surge Filter, active tracking & filtering, 63A, 1ph, 347/380V(L-N), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF163-140U	Mains Surge Filter, active tracking & filtering, 63A, 1ph, 347/380V(L-N), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF180-50U	Mains Surge Filter, active tracking & filtering, 80A, 1ph, 347/380V(L-N), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF180-80U	Mains Surge Filter, active tracking & filtering, 80A, 1ph, 347/380V(L-N), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF180-140U	Mains Surge Filter, active tracking & filtering, 80A, 1ph, 347/380V(L-N), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF1100-50U	Mains Surge Filter, active tracking & filtering, 100A, 1ph, 347/380V(L-N), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF1100-80U	Mains Surge Filter, active tracking & filtering, 100A, 1ph, 347/380V(L-N), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF1100-140U	Mains Surge Filter, active tracking & filtering, 100A, 1ph, 347/380V(L-N), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF1125-50U	Mains Surge Filter, active tracking & filtering, 125A, 1ph, 347/380V(L-N), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF1125-80U	Mains Surge Filter, active tracking & filtering, 125A, 1ph, 347/380V(L-N), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF1125-140U	Mains Surge Filter, active tracking & filtering, 125A, 1ph, 347/380V(L-N), 140KA, with circuit breaker, metal enclosure and watertight cable gland	

ORDERING INFORMATION



MODEL	DESCRIPTION	PHOTO/DRAWING
MAINS SURGE FILTERS-POWERLINE PROTECTION-FOR 3W+E OF DELTA SYSTEM		
Main Switch Board (MSB) & Distribution Board (DB) - 40kA - 200kA per mode, Medium Load Current, 380/400/415/440/480V(L-E)		
MSF350-50E/D	Mains Surge Filter, active tracking & filtering, 50A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF350-80E/D	Mains Surge Filter, active tracking & filtering, 50A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF350-140E/D	Mains Surge Filter, active tracking & filtering, 50A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF363-50E/D	Mains Surge Filter, active tracking & filtering, 63A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF363-80E/D	Mains Surge Filter, active tracking & filtering, 63A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF363-140E/D	Mains Surge Filter, active tracking & filtering, 63A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF380-50E/D	Mains Surge Filter, active tracking & filtering, 80A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF380-80E/D	Mains Surge Filter, active tracking & filtering, 80A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF380-140E/D	Mains Surge Filter, active tracking & filtering, 80A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3100-50E/D	Mains Surge Filter, active tracking & filtering, 100A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3100-80E/D	Mains Surge Filter, active tracking & filtering, 100A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3100-140E/D	Mains Surge Filter, active tracking & filtering, 100A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3125-50E/D	Mains Surge Filter, active tracking & filtering, 125A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 50KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3125-80E/D	Mains Surge Filter, active tracking & filtering, 125A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 80KA, with circuit breaker, metal enclosure and watertight cable gland	
MSF3125-140E/D	Mains Surge Filter, active tracking & filtering, 125A, 3ph for 3W+E of Y system, 380/400/415/440/480V(L-E), 140KA, with circuit breaker, metal enclosure and watertight cable gland	
* Other surge ratings (40KA, 60KA, 100KA, 120KA, 160KA, 200KA) are available on request		



LEPS Technologies Ltd.
<http://www.lepstech.com>
 Email: sales@lepstech.com