

# Surge Diverter

## Shogun Hybrid Surge Diverter



### Features

- All mode protection (L-L, L - N, L - E, N - E)
- Active Tracking and Filtering
- Hybrid technology design for higher safety standards
- Exceptional high surge handling capability
- Staged LED status indication
- Remote monitoring
- Redundant protection segments

### Overview

Ultimate performance in surge suppression for main panels used in industrial, commercial environments in medium to high exposure areas

#### All mode protection

HSD series surge diverters provide state-of- situation, you are the-art protection for main or branch panels using any power distribution systems such as TT, TN-C or TN-S etc. They offer L-L, L-N, L-E and N-E, repeated protection in lightning intense environment by rapidly diverts excess transient surges to ground, away from your sensitive equipment.

#### Active Tracking and Filtering

models with suffix T have the specially designed Active Tracking and Filtering circuit which allows EMI/RFI noise filtering for better protection.

#### Hybrid technology design for higher safety standards

Hybrid MOV and Spark gap technology ensures its continuous protection under highly fluctuated mains voltage and avoids follow on current problems. It has been engineered to the industry's safest criteria for full compliance with IEC61643-11 and ULI1449 Edition3 & 4. Also with its patented thermal and short circuit fusing included, it ensures safe isolation during sustained abnormal over-voltage in metal enclosure .

#### Exceptional high surge handling capability

Up to 200KA per mode, 400KA per phase surge rating makes HSD series protector the ultimate choice for total facility protection.

#### Staged LED status indication

All models have two LED indicators per phase to monitor the integrity of protection. This pre-failure warning indication design means you will never be unprotected.

#### Remote monitoring

All models features voltage free contacts with normal open/ normal close contacts which change state to indicate a fault. It can be interfacing with intelligent building management systems for remote indication. In addition, the RMP signal interface can be connected to optional Remote Monitoring Panel(RMP-05) which offers both visual and audible alarm at remote location

#### Redundant protection segments

Each phase employs two independent fused and thermal overload protection elements to provide back-up protection for continued equipment survival despite a fault condition. This means that in the event of a fault situation, you are never be unprotected.



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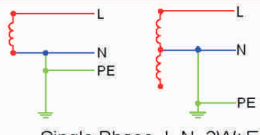
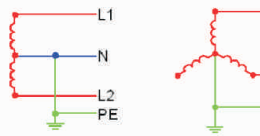
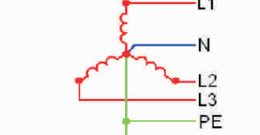
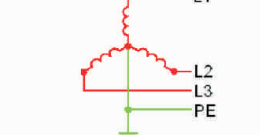
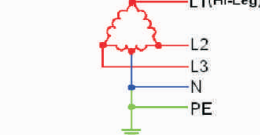
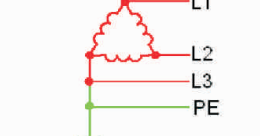
## Shogun Hybrid Surge Diverter

Technical Specification	
SPD class(EN/IEC):	Class I/Type 1
Nominal voltage, Un:	See page 3
Max. working voltage, Uc:	See page 3 \
Operating frequency:	40-60Hz
Earth leakage current:	0 A
Max. discharge current, Imax:	
HSDx-80	80KA/mode, 160KA/phase (8/20 $\mu$ s)
HSDx-140	140KA/mode, 240KA/phase (8/20 $\mu$ s)
Impulse discharge current, Iimp:	
HSDx-80	30KA/phase (10/350 $\mu$ s)
HSDx-140	50KA/phase (10/350 $\mu$ s)
Voltage protection level, Up:	See page 3
RFI filtering (@98KHz):	-40dB ---(models with suffix T only)
Protection mode:	L-N, (L-E, N-E models with suffix N only)
Response time, tA:	<5ns
Short circuit current rating, Isc:	200KA <sub>rms</sub>
Overcurrent & thermal disconnect:	Built-in
Standards compliance:	BS6651-1999 cat.A.B.C, AS1768-2003 cat.A.B.C, IEEE C62.41 cat.A.B.C, CP33-1999 cat.A.B.C, IEC 61643-11 class I UL1449 3rd & 4th edition
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 <sup>2</sup>
Conductor size:	16mm <sup>2</sup>
Case material:	Galvanized steel alloy
Mounting:	35mm DIN rail (DIN 43880) or panel screw mount
Options:	Neutral-Earth protection (add "/N" ) IP66 enclosure (add "/E" ) Active tracking & (Add the respective options letter) filtering--ATN(add"/T ")Surge counter(add "/C" )
Operating temperature, Tu:	-40-85°C
Humidity:	0-95%(R.H.)
Altitude:	0-3650m

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XX = 80, 140 (KA)

Power Source Configurations	Model Voltage Code	Nominal System Voltage (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>	HSD1-xxL	100	-----	100	150(L-N)	0.7KV
		110	-----	110		
		120	-----	120		
	HSD1-xxM	220	-----	220	275(L-N)	1KV
		230	-----	230		
		240	-----	240		
	HSD1-xxH	277	-----	277	350(L-N)	1.2KV
		305	-----	305		
	HSD1-xxU	347	-----	347	460(L-N)	1.4KV
		380	-----	380		
 <p>Split Phase, 3W+E</p>	HSD3-xxL/S	100	173-200	100	150(L-N)	0.7KV
		110	190-220	110		
		120	208-240	120		
	HSD3-xxM/S	220	380-440	220	275(L-N)	1KV
		230	400-460	230		
		240	415-480	240		
	HSD3-xxH/S	277	480-554	277	350(L-N)	1.2KV
		305	525	305		
	HSD3-xxU/S	347	600	347	460(L-N)	1.4KV
		380	657	380		
 <p>Three Phase Wye, 4W+E</p>	HSD3-xxL	100	173	100	150(L-N)	0.7KV
		110	190	110		
		120	208	120		
	HSD3-xxM	220	380	220	275(L-N)	1KV
		230	400	230		
		240	415	240		
	HSD3-xxH	277	480	277	350(L-N)	1.2KV
		305	525	305		
	HSD3-xxU	347	600	347	460(L-N)	1.4KV
		380	657	380		
 <p>Three Phase Wye, 3W+E</p>	HSD3-xxL/Y	-----	173	100	150(L-E)	0.7KV
		-----	190	110		
		-----	208	120		
	HSD3-xxM/Y	-----	380	220	275(L-E)	1KV
		-----	400	230		
		-----	415	240		
	HSD3-xxH/Y	-----	480	277	350(L-E)	1.2KV
		-----	525	305		
	HSD3-xxU/Y	-----	600	347	460(L-E)	1.4KV
		-----	657	380		
 <p>Three Phase Delta Hi Leg, 4W+E</p>	HSD3-xxL/H	120	240	120	150(L-N)	0.7KV
 <p>Three Phase Delta, 3W+E</p>	HSD3-xxM/D	-----	200	200	275(L-E)	1KV
		-----	208	208		
		-----	220	220		
		-----	230	230		
		-----	240	240		
	HSD3-xxE/D	-----	380	380	575V(L-E)	1.8KV
		-----	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