



# CITEL

## Surge protector for LED lighting system Class 1

### MLP1-230L-W



Specially developed spd with combined protection for 2-phase power supply (control phase):

- Many variants available depending on application
- With screw terminals or cable wiring
- IP65 versions
- For protection class I or II application
- Developed for Uoc: 10 kV and I<sub>max</sub>: 10 kA for highest outdoor requirements according to IEEE & ANSI
- Optical error signalling



	<b>Electrical Characteristics</b>																																								
<p>V : Varistor Ft: Thermal fuse GSG: Specific gas tube LED: Status indicator t*: Thermal system disconnection</p>	<table border="1"> <tr><td>SPD type</td><td>2+3</td></tr> <tr><td>Network</td><td>220-240 V Single-phase</td></tr> <tr><td>AC system</td><td>TT-TN</td></tr> <tr><td>Nominal line voltage</td><td>U<sub>n</sub> 230-277 Vac</td></tr> <tr><td>Max. AC operating voltage</td><td>U<sub>c</sub> 305 Vac</td></tr> <tr><td>Max. frequency</td><td>f max. 10 MHz</td></tr> <tr><td>Max. load current @25°C</td><td>IL 2.5 A</td></tr> <tr><td>Temporary Over Voltage (TOV) Characteristics - 5 sec. Without disconnection</td><td>UT 335 Vac withstand</td></tr> <tr><td>Temporary Over Voltage (TOV) Characteristics - 120 mn Without disconnection or with safety disconnection</td><td>UT 440 Vac disconnection</td></tr> <tr><td>Residual Current Leakage current to Ground</td><td>I<sub>pe</sub> None</td></tr> <tr><td>Follow current</td><td>I<sub>f</sub> None</td></tr> <tr><td>Nominal discharge current 15 x 8/20 μs impulses</td><td>I<sub>n</sub> 5 kA</td></tr> <tr><td>Max. discharge current max. withstand @ 8/20 μs by pole</td><td>I<sub>max</sub> 10 kA</td></tr> <tr><td>Total Maximum discharge current max. total withstand @ 8/20 μs</td><td>I<sub>max</sub> Total 20 kA</td></tr> <tr><td>Withstand on Combination waveform IEC 61643-11 Class III test: 1.2/50μs - 8/20μs</td><td>U<sub>oc</sub> 10 kV / 5 kA</td></tr> <tr><td>Withstand on overvoltages IEEE C62.41.1</td><td>10 kV / 10 kA</td></tr> <tr><td>Protection mode(s)</td><td>Common/Differential mode</td></tr> <tr><td>Protection level L/N @ I<sub>n</sub> (8/20μs)</td><td>U<sub>p</sub> L/N 1.5 kV</td></tr> <tr><td>Protection level L/PE @ I<sub>n</sub> (8/20μs)</td><td>U<sub>p</sub> L/PE 1.5 kV</td></tr> <tr><td>Admissible short-circuit current</td><td>I<sub>scr</sub> 10 000 A</td></tr> </table>	SPD type	2+3	Network	220-240 V Single-phase	AC system	TT-TN	Nominal line voltage	U <sub>n</sub> 230-277 Vac	Max. AC operating voltage	U <sub>c</sub> 305 Vac	Max. frequency	f max. 10 MHz	Max. load current @25°C	IL 2.5 A	Temporary Over Voltage (TOV) Characteristics - 5 sec. Without disconnection	UT 335 Vac withstand	Temporary Over Voltage (TOV) Characteristics - 120 mn Without disconnection or with safety disconnection	UT 440 Vac disconnection	Residual Current Leakage current to Ground	I <sub>pe</sub> None	Follow current	I <sub>f</sub> None	Nominal discharge current 15 x 8/20 μs impulses	I <sub>n</sub> 5 kA	Max. discharge current max. withstand @ 8/20 μs by pole	I <sub>max</sub> 10 kA	Total Maximum discharge current max. total withstand @ 8/20 μs	I <sub>max</sub> Total 20 kA	Withstand on Combination waveform IEC 61643-11 Class III test: 1.2/50μs - 8/20μs	U <sub>oc</sub> 10 kV / 5 kA	Withstand on overvoltages IEEE C62.41.1	10 kV / 10 kA	Protection mode(s)	Common/Differential mode	Protection level L/N @ I <sub>n</sub> (8/20μs)	U <sub>p</sub> L/N 1.5 kV	Protection level L/PE @ I <sub>n</sub> (8/20μs)	U <sub>p</sub> L/PE 1.5 kV	Admissible short-circuit current	I <sub>scr</sub> 10 000 A
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