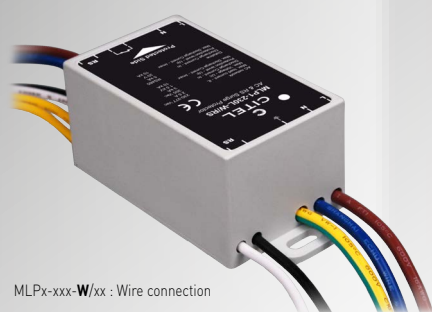
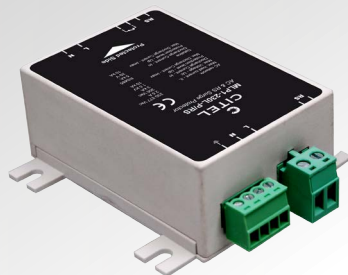


## LED street lighting Surge Protector MLP range



MLPx-xxx-W/xx : Wire connection

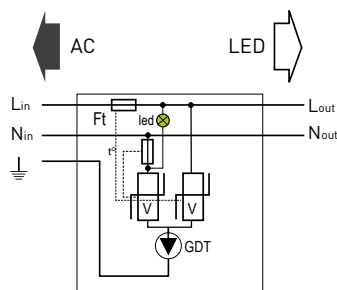
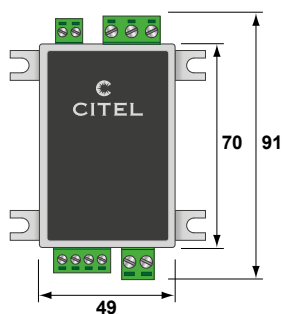
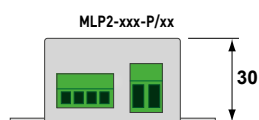
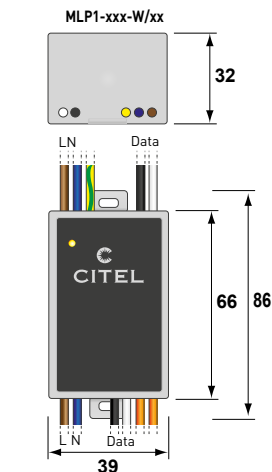


MLPx-xxx-P/xx : Pluggable screw terminal connection

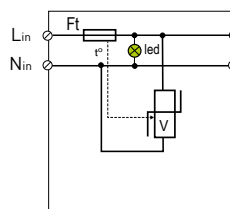
- Type 2 (or 3) surge protector
- Class I or Class II configurations
- Comprehensive range for all configurations
- Very compact dimensions
- IP65 version
- Combined AC/Dateline version
- Wire or Screw connection
- Max. discharge current 10 kA
- Remote signaling (option)
- IEC 61643-11 and EN 61643-11 compliance

### MLP1-230L-W/RS

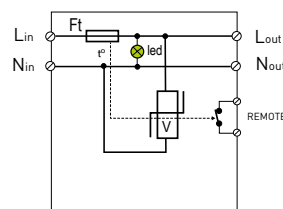
- : No dataline surge protection
- RS : RS485 dataline surge protection
- DL : Dali transmission surge protection
- W : Wire connection
- P : Pluggable screw terminal connection
- L : Line disconnection failure mode without remote signal
- LS : Line disconnection failure mode with remote signal
- S : Parallel disconnection failure mode with remote signal
- : Parallel disconnection failure mode without remote signal
- 230 : 230-277 Vac voltage
- 120 : 110-120 Vac voltage
- 1 : Class I equipment
- 2 : Class II equipment



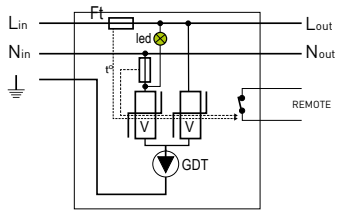
MLP1-230L-W



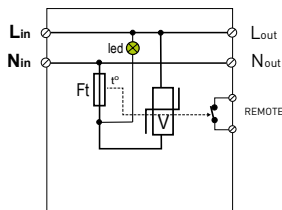
MLP2-230L-P



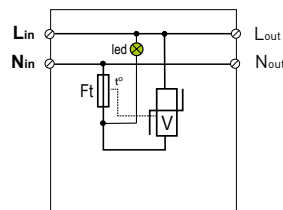
MLP2-230LS-P



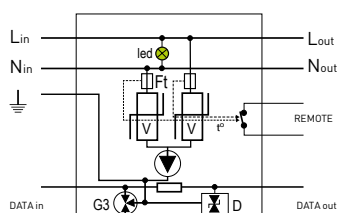
MLP1-230LS-W



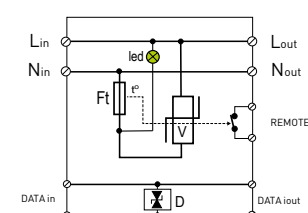
MLP2-230S-P



MLP2-230-P



MLP1-230-W/RS



MLP2-230-P/RS

Ft Thermal fuse  
led Status indicator  
V MOV  
GDT Gas tube  
G3 3-pole gas tube  
D Clamping diode network  
Remote Remote  
Dry contact for remote signaling

## Characteristics

| CITEL Model                                                          | MLP*-120*                                                      | MLP*-230*              | MLP*/RS                                          | MLP*/DL |
|----------------------------------------------------------------------|----------------------------------------------------------------|------------------------|--------------------------------------------------|---------|
|                                                                      | AC voltage specifications                                      |                        | Dateline specifications                          |         |
| Network                                                              | 110-120 V single phase                                         | 230-277 V single phase | RS485 or 0-10V                                   | DALI    |
| Protection mode(s)                                                   | CM/DM                                                          | CM/DM                  | CM/DM                                            | CM/DM   |
| Max. AC operating voltage                                            | Uc 180 Vac                                                     | 305 Vac                | 15 V                                             | 28 V    |
| Max. Load current                                                    | IL 2.5 A                                                       | 2,5 A                  | 300mA                                            | 300mA   |
| Residual current - Leakage current at Uc                             | Ipe None                                                       | None                   | None                                             | None    |
| Nominal discharge current - 15 x 8/20 $\mu$ s impulses               | In 5 kA                                                        | 5 kA                   | 5 kA                                             | 5 kA    |
| Max. discharge current - max. withstand @ 8/20 $\mu$ s by pole       | I <sub>max</sub> 10 kA                                         | 10 kA                  | 10 kA                                            | 10 kA   |
| Total lightning current - max. total withstand @ 8/20 $\mu$ s        | I <sub>total</sub> 20 kA                                       | 20 kA                  | 20 kA                                            | 20 kA   |
| Withstand on Combination waveform - Class III test                   | Uoc 10 kV/5 kA                                                 | 10 kV/5 kA             | -                                                | -       |
| Withstand on overvoltages IEEE C62.41.1                              | 10 kV/10 kA                                                    | 10 kV/10 kA            | -                                                | -       |
| Protection level CM/DM @In (8/20 $\mu$ s) and @ 6kV (1.2/50 $\mu$ s) | Up 1.5 kV/ 1 kV                                                | 1.5 kV/ 1.5 kV         | 30 V                                             | 40 V    |
| Admissible short-circuit current                                     | Iscrr 10000 A                                                  | 10000 A                | -                                                | -       |
| <b>Mechanical characteristics</b>                                    |                                                                |                        |                                                  |         |
| Connection to Network                                                | Screw or spring terminal - 1.5 mm <sup>2</sup> max             |                        | Screw or spring terminal - 1 mm <sup>2</sup> max |         |
| Voltage/operating indicator                                          | Green Led ON                                                   |                        | -                                                |         |
| Failsafe behavior                                                    | Led green OFF and AC network cut-off                           |                        | Short-circuit                                    |         |
| Disconnection indicator                                              | Led green OFF and AC network cut-off or remote signal (option) |                        | Transmission cut-off                             |         |
| Remote signaling of disconnection                                    | Option                                                         |                        | none                                             |         |
| Standards compliance                                                 | IEC 61643-11 / EN 61643-11 / NF EN 61643-11 / UL1449 ed.4      |                        | IEC 61643-21 / EN 61643-21 / UL497A              |         |

CM/DM: Common Mode / Mode Différentiel  
 CM/DM: Common Mode / Differential Mode

## Characteristics for version type

| CITEL Model                                                          | MLP1-230L-W                                               | MLP2-230S-P                                     | MLP1-230L-W/DL                                                                  | MLP2-230S-P/RS                                          |
|----------------------------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------|---------------------------------------------------------------------------------|---------------------------------------------------------|
| Description                                                          | Surge protector for LED lighting system Class 1           | Surge protector for LED lighting system Class 2 | AC/Data surge protector for Led lighting system Class 1                         | AC/Data surge protector for Led lighting system Class 2 |
| <b>AC voltage specifications</b>                                     |                                                           |                                                 |                                                                                 |                                                         |
| Description                                                          | 230-277 V single phase                                    | 230-277 V single phase                          | 230-277 V single phase                                                          | 230-277 V single phase                                  |
| AC system                                                            | TT-TN                                                     | TT-TN                                           | TT-TN                                                                           | TT-TN                                                   |
| Protection mode(s)                                                   | CM/DM                                                     | DM                                              | CM/DM                                                                           | DM                                                      |
| Max. AC operating voltage                                            | Uc 305 Vac                                                | 305 Vac                                         | 305 Vac                                                                         | 12 V                                                    |
| Max. Load current                                                    | IL 2,5 A                                                  | 2,5 A                                           | 2.5 A                                                                           | 2,5 A                                                   |
| Residual current - Leakage current at Uc                             | Ipe None                                                  | None                                            | None                                                                            | None                                                    |
| Temporary Over Voltage (TOV) Characteristics - 5 sec.                | UT 335 Vac withstand                                      | 335 Vac withstand                               | 335 Vac withstand                                                               | 335 Vac withstand                                       |
| Temporary Over Voltage (TOV) Characteristics - 120 mn                | UT 440 Vac disconnection                                  | 440 Vac disconnection                           | 440 Vac disconnection                                                           | 440 Vac disconnection                                   |
| Nominal discharge current - 15 x 8/20 $\mu$ s impulses               | In 5 kA                                                   | 5 kA                                            | 5 kA                                                                            | 5 kA                                                    |
| Max. discharge current - max. withstand @ 8/20 $\mu$ s by pole       | I <sub>max</sub> 10 kA                                    | 10 kA                                           | 10 kA                                                                           | 10 kA                                                   |
| Total lightning current - max. total withstand @ 8/20 $\mu$ s        | I <sub>total</sub> 20 kA                                  | 20 kA                                           | 20 kA                                                                           | 20 kA                                                   |
| Withstand on Combination waveform - Class III test                   | Uoc 10 kV/5 kA                                            | 10 kV/5 kA                                      | 10 kV/5 kA                                                                      | 10 kV/5 kA                                              |
| Withstand on overvoltages IEEE C62.41.1                              | 10 kV/10 kA                                               | 10 kV/10 kA                                     | 10 kV/10 kA                                                                     | 10 kV/10 kA                                             |
| Protection level CM/DM @In (8/20 $\mu$ s) and @ 6kV (1.2/50 $\mu$ s) | Up 1.5 kV/ 1.5 kV                                         | 1.5 kV/ 1.5 kV                                  | 1.5 kV/ 1.5 kV                                                                  | 1.5 kV/ 1.5 kV                                          |
| Admissible short-circuit current                                     | Iscrr 10000 A                                             | 10000 A                                         | 10000 A                                                                         | 10000 A                                                 |
| Connection to Network                                                | wire 1.5mm <sup>2</sup> max                               | screw 1.5mm <sup>2</sup> max                    | wire 1.5mm <sup>2</sup> max                                                     | screw 1.5mm <sup>2</sup> max                            |
| Voltage/operating indicator                                          | Green Led ON                                              | Green Led ON                                    | Green led ON                                                                    | Green Led ON                                            |
| Failsafe behavior                                                    | Disconnection and AC line cut-off                         | Disconnection and AC continuity                 | Disconnection and AC line cut-off                                               | Disconnection, AC continuity and remote signaling       |
| Disconnection indicator                                              | Green Led OFF and line cut-off                            | Green Led off                                   | Green Led OFF and line cut-off                                                  | Green Led off                                           |
| Remote signaling of disconnection                                    | none                                                      | yes : output on contact NO                      | nont                                                                            | yes : output on contact NO                              |
| Associated disconnectors                                             |                                                           |                                                 |                                                                                 |                                                         |
| Thermal disconnector                                                 | internal                                                  | internal                                        | internal                                                                        | internal                                                |
| Installation ground fault breaker                                    | Type «S» or delayed                                       | Type «S» or delayed                             | Type «S» or delayed                                                             | Type «S» or delayed                                     |
| <b>Dateline specifications</b>                                       |                                                           |                                                 |                                                                                 |                                                         |
| Network                                                              | -                                                         | -                                               | DALI                                                                            | RS485 or 0-10V                                          |
| Nominal line voltage                                                 | Un -                                                      | -                                               | 24 V                                                                            | 12 V                                                    |
| Max. DC operating voltage                                            | Uc -                                                      | -                                               | 28 V                                                                            | 15 V                                                    |
| Max. Load current                                                    | IL -                                                      | -                                               | 300mA                                                                           | 300mA                                                   |
| Max. frequency                                                       | f max -                                                   | -                                               | 10 MHz                                                                          | 10 MHz                                                  |
| Insertion loss                                                       | -                                                         | -                                               | < 1dB                                                                           | < 1dB                                                   |
| Nominal discharge current - 15 x 8/20 $\mu$ s impulses               | In -                                                      | -                                               | 5 kA                                                                            | 5 kA                                                    |
| Max. discharge current - max. withstand @ 8/20 $\mu$ s by pole       | I <sub>max</sub> -                                        | -                                               | 10 kA                                                                           | 10 kA                                                   |
| Protection level                                                     | Up -                                                      | -                                               | 40 V                                                                            | 30 V                                                    |
| Connection to Network                                                | -                                                         | -                                               | wire 1 mm <sup>2</sup> max                                                      | wire 1 mm <sup>2</sup> max                              |
| Disconnection indicator                                              | -                                                         | -                                               | Transmission cut-off                                                            | Transmission cut-off                                    |
| <b>Mechanical characteristics</b>                                    |                                                           |                                                 |                                                                                 |                                                         |
| Dimensions                                                           | see diagram                                               |                                                 | see diagram                                                                     |                                                         |
| Mounting                                                             | on plate                                                  |                                                 | on plate                                                                        |                                                         |
| Operating temperature                                                | -40/+85°C                                                 |                                                 | -40/+85°C                                                                       |                                                         |
| Protection rating                                                    | IP65                                                      |                                                 | IP20                                                                            |                                                         |
| Housing material                                                     | Thermoplastic UL94-V0                                     |                                                 | Thermoplastic UL94-V0                                                           |                                                         |
| Standards compliance                                                 | IEC 61643-11 / EN 61643-11 / NF EN 61643-11 / UL1449 ed.4 |                                                 | IEC 61643-11 / EN 61643-11 / UL1449 ed.4<br>IEC 61643-21 / EN 61643-21 / UL497A |                                                         |
| Part number                                                          | 711211                                                    | 721202                                          | 711231                                                                          | 721242                                                  |