

CPS NANO

Range of transient voltage surge suppressors designed according to the new UL standards. The CPS Nano range complements the CPS Block range with a very compact and easy-to-install solution. CPS NANO is an SPD which offers a most efficient solution implementing advanced technology. Maximum surge current ratings: 40kA/phase to 120kA/phase.



Features

- According to the new UL1449 3rd Edition.
- Also according to UL1449 2nd Edition, IEEE C.62.41.2 2002, and IEC61643
- MDS (Multi-Discharge System) technology
- Voltage indication LED
- Protection-status indication LED
- Thermal and short-circuit fusing for each MOV (maximum security)
- Common & differential protection for each cable
- High maximum and nominal currents
- Very low voltage protection rate (VPR).
- Easy installation: wall or flush mounting.

Specification Data

CPS NANO, compact hardwired device for all-mode protection (L-G, N-G, L-N, L-L) against transient surges according to UL1449 3rd Edition, UL1449 2nd Edition, IEEE C.62.41.2 2002 and IEC. Models available for all network configurations and voltage ratings with a max. surge current protection ranging from 40kA to 120kA per phase. Models are equipped with following technologies: MDS Multi-Discharge System (thermal and shortcircuit disconnection of the MOVs, each one individually fused), NEMA 12 rated enclosure, resin encapsulation of the suppression circuits, LED protection-status indication and LED voltage indication.

Product Specifications

| Performance | Standards |
|--|-----------------------------|
| 40kA/phase | UL 1449 3rd edition |
| 60kA/phase | IEEE C62.41.1-2002 |
| 80kA/phase | IEEE C62.41.2-2002 |
| 120kA/phase | UL 1449 2nd edition |
| | IEC 61643 |
| Standard features | Mechanical description |
| Multi-Discharge System (MDS) | Dimensions (LxWxH) [mm] |
| All mode protection (L-G, L-N, G-N, L-L) | Dimensions (LxWxH) [inches] |
| Thermal and Short-circuit disconnection | Weight [kg] |
| High nominal and maximum currents | Weight [Lbs] |
| | Operating Temperature |
| | Operating Humidity |
| | Altitude |
| | Connecting Wire Size |
| | Internal fusing |
| | Enclosure |
| | Connection type |
| Warranty | |
| 5 years | |
| CE marked | |
| Diagnostics | |
| Protection status LED | |
| Voltage LED | |

Quality
Components
Inside

Redundant - MDS Technology

Thanks to the MDS (Multi-Discharge System), CPS NANO disconnects only that varistor that achieves its end-of-life. This protects against short-circuit overcurrent hazard without disconnecting the entire module. Its main advantage over standard redundant technology (one disconnecter for all varistors) is that the rest of varistors keep protecting the loads downstream from transients. It does thus extend the protection's lifetime, efficiently using the available resources.

All Mode Protection

All CPS NANO models have been designed to assure that all transient possible and probable paths are covered, protecting the wires both in common and differential mode. As opposite to other TVSS systems, does the usage of 7 surge protection modules (in 3 phase networks) or 3 surge protection modules (in 1 phase networks) provide a relatively better clamping and transient attenuation, i.e. residual voltage compatible with the loads downstream.

Diagnostic LEDs

The CPS Nano comes standard with 2 green diagnostic LEDs. The protection status LED is ON if all modes are protected and the system is powered. This protection LED turns OFF if any protection mode reaches its end-of-life.

The voltage LED is ON when the system is powered.



MDS technology offering "common and differential mode" protection

All suppression circuits are actually resin-encapsulated (not shown in this picture). Encapsulation provides protection from environment and vibrations.

Protection-status LED and Voltage LED

VPR values according to UL 1449, 3rd edition

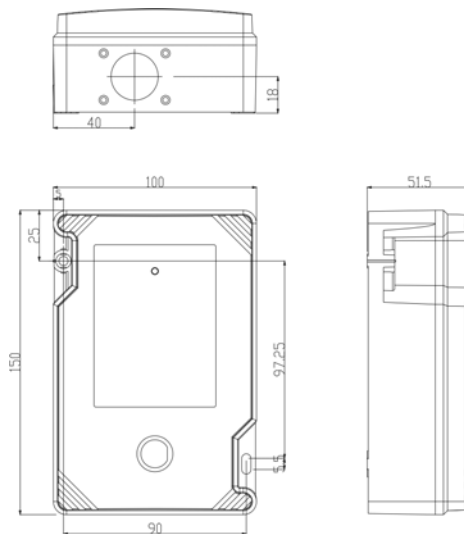
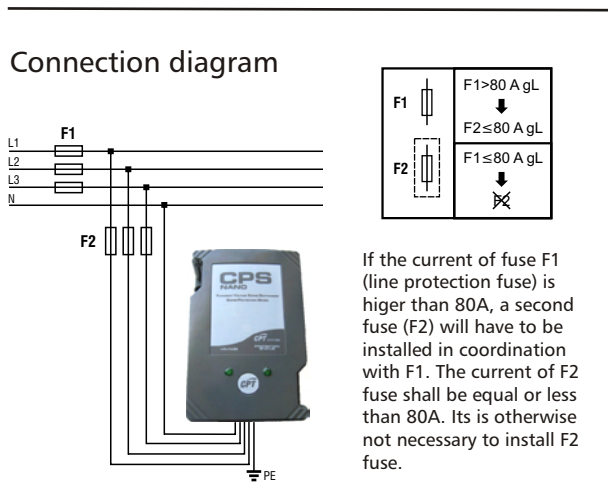
The new standard UL 1449 3rd Edition has come into effect in 2009. One of the most significant differences is the definition of the let through voltage of the Surge Protective Device - SPD (formerly referred to as TVSS). These clamping voltages are now called Voltage Protection Rates (VPRs) and they are defined under a 6kV/3kA wave test, now compulsory.

| VOLTAGE PROTECTION RATES (V) | | | | | | |
|------------------------------|-----------------------|---------------------|------|------|------|------|
| V (L-N) | I _{max} (kA) | I _n (kA) | L-N | L-G | N-G | L-L |
| 120V | 40 | 10 | 500 | 500 | 500 | 1000 |
| | 60 | 10 | 500 | 500 | 500 | 1000 |
| | 80 | 10 | 500 | 500 | 500 | 1000 |
| | 120 | 20 | 500 | 500 | 500 | 1000 |
| 230-277V | 40 | 10 | 1000 | 1000 | 1000 | 2000 |
| | 60 | 10 | 1000 | 1000 | 1000 | 2000 |
| | 80 | 10 | 1000 | 1000 | 1000 | 2000 |
| | 120 | 20 | 1000 | 1000 | 1000 | 2000 |

Mechanical Features

Weight: 990 gr+-5%
2,180 lbs +-5%

Dimensional drawing



Ordering guideline

In order to specify the appropriate model, please compose your **CPS Nano** reference number 777976YZ defining the right values for the Y, Z parameters following these tables.

Code: 777976 Y Z

| Y | I _{max} /phase |
|---|-------------------------|
| 1 | 40 kA |
| 2 | 60 kA |
| 3 | 80 kA |
| 4 | 120 kA |

| Z | Network | V (L-N) |
|---|----------------|---------|
| 1 | 1 phase | 120 V |
| 2 | 1 phase | 230 V |
| 3 | Split phase | 120 V |
| 4 | 3 Phase WYE | 120 V |
| 5 | 3 Phase WYE | 230 V |
| 6 | 3 Phase WYE | 277 V |
| 0 | High Leg Delta | 120 V |