

DHO 40-385(3+1)-FM

Grade II. Type 2

Location of use: Distribution box

Power supply system: TN-S,TT

Nominal Discharge Current (In): 20 kA(8/20μs) T2

Max. Discharge Current (Imax): 40 kA(8/20μs) T2

Protective Element: High Energy MOV+GDT

Housing Design: Plug-in module and separate base design

Housing Material: PA 66 UL 94 V-0

Certification Marks:



Rated voltage Un

Max. continues operating voltage Uc

Rated operational voltage Uo

Rated operational voltage Ue

Rated frequency f

Residual current(PE) IPE

Short-circuit current tolerance

Current type

Nominal discharge current In (8/20μs)

Max. discharge current Imax (8/20μs)

Protection level Up

L-N At In impuls current

At Imax impuls current

N-PE At 0.1 In impuls current

At 0.2 In impuls current

At 0.5 In impuls current

At In impuls current

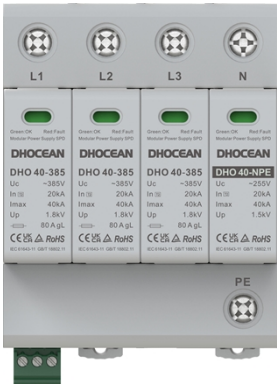
At Imax impuls current

Measured limiting voltage 3kA/6 kV (1.2/50μs) Umax

TOV behaviour

L-N UT:

N-PE (TT) UT:



230 V AC

385 VAC (L-N)

255 VAC (N-PE)

220 V AC

230 V AC

50/60 Hz

≤ 5 μA

300 A

AC

20 kA T2

40 kA T2

≤ 1.62 kV (Noted 1.8)

≤ 2.06 kV

≤ 0.18 kV

≤ 0.21 kV

≤ 0.27 kV

≤ 0.50 kV

≤ 0.93 kV

≤ 0.90 Kv

440 V (120 min )

1200 V (200 ms)



Shanghai DHOCEAN Technology Co., Ltd.

202, Building 22, 1288 Luoning Road, Baoshan ,Shanghai 200949,, P.R. China  
www.dhocean.cn  
info@dhocean.cn

## DHO 40-385(3+1)-FM

|                                                    |                                                 |
|----------------------------------------------------|-------------------------------------------------|
| Mounting connection                                | 35mm DIN rail                                   |
| fine*/-/solid strand                               | For M5 biconnect terminal blocks                |
|                                                    | 0.5-25 mm <sup>2</sup> / 0.5-35 mm <sup>2</sup> |
| Terminal Screw Torque                              | 2.0 N.m                                         |
| Test force                                         | ≥ 100N                                          |
| * fine strand wires must furnish with ferrules     |                                                 |
| Strip length                                       | 14.5mm                                          |
| PE connection M5 2.0N.m                            |                                                 |
| Remote warning contact (only -FM case)             | single-pole change-over contact                 |
|                                                    | plugable MC 1,5/3 ST                            |
| Fine-/solid strand                                 | 1,5/1,5 mm <sup>2</sup> / AWG 26-16             |
| Spec/torque/dimension                              | M2 / 0,25 N.m / 7 mm                            |
| Max. operating voltage                             | 250 VAC                                         |
| Max. operating current                             | 0.75 A AC                                       |
| Response time tA ( L-N/N-PE)                       | ≤ 25 ns/≤ 100 ns                                |
| Max. required fuse : series wiring/parallel wiring | 80A gL/gG,                                      |
| Temperature range                                  | -40°C...+85°C (100°C pass)                      |
| Type of protection according to IEC 60529          | IP20                                            |
| Clearances and creepage distances according        |                                                 |
| To EN 60664-1:2003                                 | ≥ 6mm                                           |
| Contamination level                                | 2                                               |
| Overvoltage category                               | III                                             |
| Altitude                                           | 4000 m                                          |
| And IEC / EN 61643-11                              |                                                 |
| Test class EN/IEC                                  | T1/I&T2/ II                                     |
| Insulating material                                |                                                 |
| Housing                                            | PA 66                                           |
| Inflammability class in acc. To UL 94              | V0                                              |
| In accordance to test standards                    | IEC 61643-11 GB18802.11                         |
| Verify Certification                               |                                                 |



Type Approved  
Safety  
Regular Production  
Surveillance



www.tuv.com  
ID 1111292069

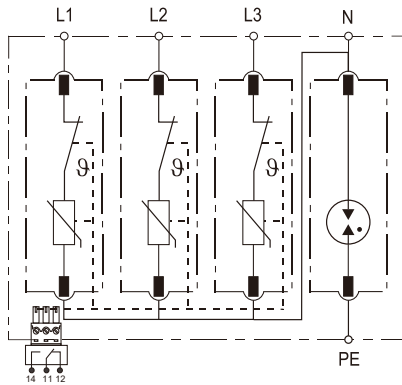


Shanghai DHOCEAN Technology Co., Ltd.

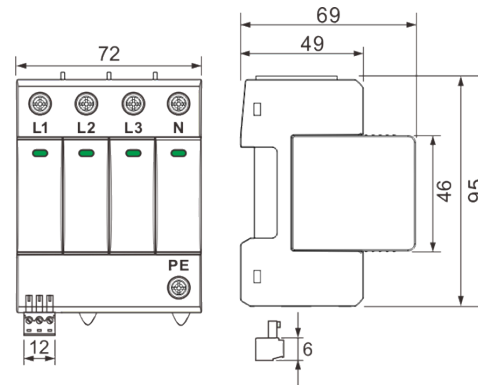
202, Building 22, 1288 Luoning Road, Baoshan, Shanghai 200949, P.R. China  
www.dhocean.cn  
info@dhocean.cn

### DHO 40-385(3+1)-FM

Diagram



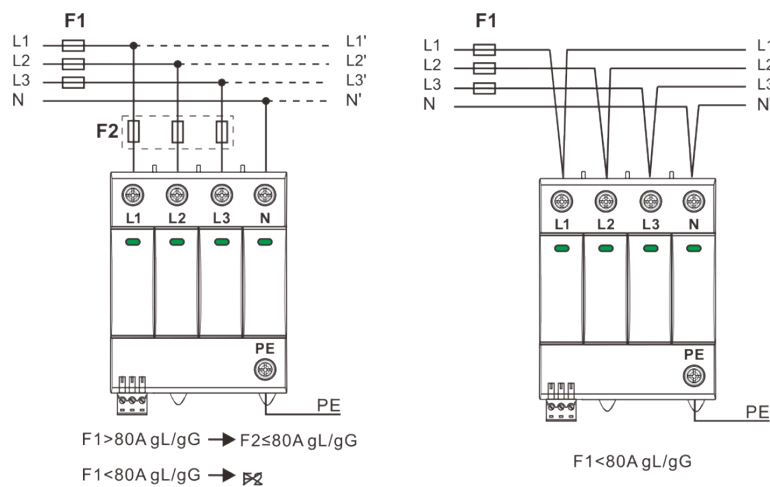
Dimensions



## Direction for Use

- The DC/AC SPD must be installed by an electrically skilled electrician. The installation position can not be directly touched by hands. Installation and connection to service must be done only when the system is de-energized. Check whether the SPD is in good condition, Red light indicates fault and the SPD needs replacement; Green light on in the notice window indicates normal.
- Install according to the wiring diagram and the installation requirements of SPD in GB 16895.22/IEC 60364-5-53, Grounding Conductor Cross-Sectional Area should not be less than 16mm<sup>2</sup>. Consideration shall be given to limit the total wiring length of conductors between connection points of the SPD assembly to a value not greater than 0.5 m.
- Connection of remote warning contact: The SPD of the power module is equipped with a remote warning contact interface (11-12 is normally closed; 11-14 is normally open), can be used for remote centralized monitoring or alarming.
- After the wiring completed, check whether the module is assembled in place (if yes, 11-12 is closed, and 11-14 is disconnected). If No, re-press the module.

## Connection Diagram



## Operation and maintenance

- DHO 40-385(3+1)-FM After the power module SPD fails to work, it is automatically separated from the power supply line through the thermal fuse protection system inside the module, the display window changes from "green" to "red", and 11-12 of the remote contact interface is disconnected; 11- 14 is



Shanghai DHOCEAN Technology Co., Ltd.

202, Building 22, 1288 Luoning Road, Baoshan, Shanghai 200949, P.R. China

www.dhocean.cn

info@dhocean.cn

closed. When the deterioration indication window of the SPD power module is "red" or occurs a remote alarm signal, the SPD should be replaced by professionals immediately.

- **After a thunderstorm, check the SPD's display window on the power module.**

### Packaging transportation and storage

- **Packaging:** Each SPD power module is packaged independently attached Series User Manual.
- **Transportation:** The product should have a covering during transportation, and should be no violent vibration and impact.
- **Storage:** Product storage temperature during  $-40\text{ }^{\circ}\text{C} \sim 85\text{ }^{\circ}\text{C}$ , relative humidity 5% ~ 95%. The warehouse is well ventilated, the floor is dry, and there is no corrosive gas. Products with a storage period of more than a year should be re-inspected before they are qualified for use.

