

## FRS4 Series SPD

SPD type 2–surge arrester, MOV

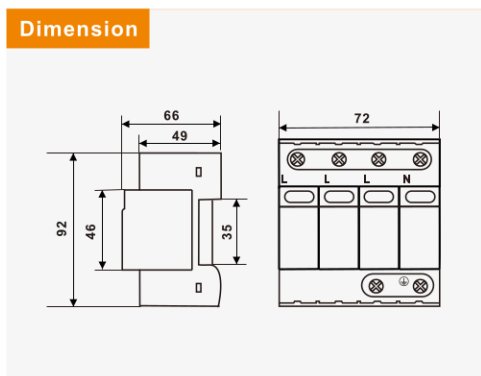
Pluggable module, visual fault signalling

- Varistor surge arrester
- Installation to sub–distribution boards
- For protection of installations and equipments against impact of induced overvoltage during a lightning strike or switching overvoltages.
- Optional remote fault signalling(s)

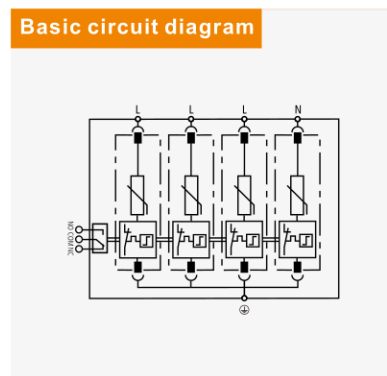
Product



Dimension



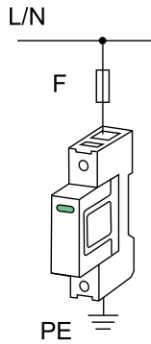
Basic circuit diagram



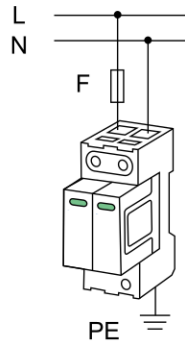
| Parameter/Type                                          |           | FRS4-D20                                                  |          | FRS4-C40 |          | FRS4-B60 |
|---------------------------------------------------------|-----------|-----------------------------------------------------------|----------|----------|----------|----------|
| Nominal volatge                                         | $U_n$     | 230 V AC                                                  |          |          |          |          |
| Maximum operating voltage                               | $U_c$     | 275 V AC                                                  | 320 V AC | 275 V AC | 320 V AC | 275 V AC |
| Nominal discharge current (8/20μs)                      | $I_n$     | 10kA                                                      |          | 20kA     |          | 30kA     |
| Maximum discharge current (8/20μs)                      | $I_{max}$ | 20kA                                                      |          | 40kA     |          | 60kA     |
| Voltage protection level                                | $U_p$     | ≤1,0 KV                                                   | ≤1,2KV   | ≤1,3 KV  | ≤1,5 KV  | ≤1.5 KV  |
| Response time                                           | $t_a$     | < 25ns                                                    |          |          |          |          |
| Cross–section of connected conductors solid(min/max)    |           | 16mm²/35mm²                                               |          |          |          |          |
| Cross–section of connected conductors stranded(min/max) |           | 16mm²/35mm²                                               |          |          |          |          |
| Fault indication                                        |           | red indication field                                      |          |          |          |          |
| Remote indication                                       |           | potential–free change–over contact                        |          |          |          |          |
| remote indication contacts                              |           | 250V/0,5A AC,250V/0,1A DC                                 |          |          |          |          |
| Cross–section of remote indication conductors           |           | 1,5mm²                                                    |          |          |          |          |
| Degree of protection                                    |           | IP20                                                      |          |          |          |          |
| Range of operating temperatures (min/ max)              |           | –40℃~ +85℃                                                |          |          |          |          |
| Humidity range                                          |           | 5%~95%                                                    |          |          |          |          |
| Mounting                                                |           | DIN rail 35 mm                                            |          |          |          |          |
| According to standard                                   |           | EN 61643–11:2012, IEC 61643–11:2011/T2                    |          |          |          |          |
| Remarks                                                 |           | Other $U_c$ can be customized.(420VAC,385VAC,320VAC,etc.) |          |          |          |          |
|                                                         |           |                                                           |          |          |          |          |

## AC SPD Wiring diagram

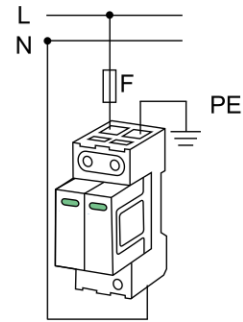
### Single phase system



"1+0"  
Connection

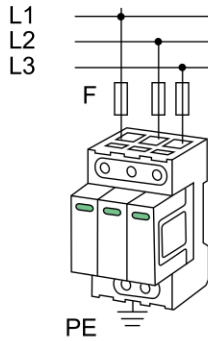


"2+0"  
Connection

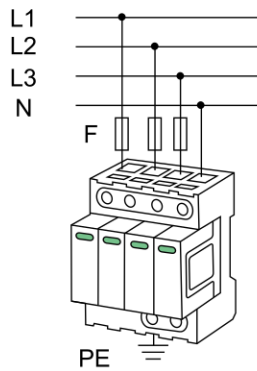


"1+1"  
Connection

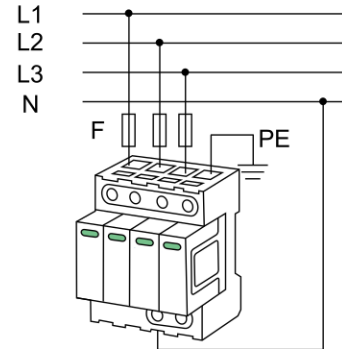
### Three phase system



"3+0"  
Connection

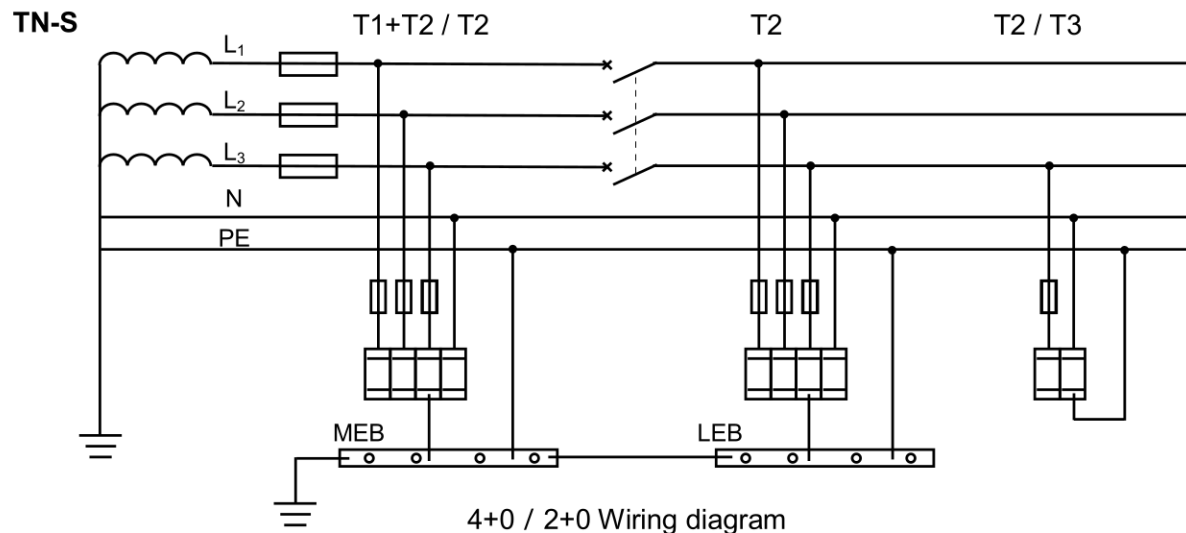


"4+0"  
Connection



"3+1"  
Connection

## Connection of AC SPD in networks



## Connection of AC SPD in networks

