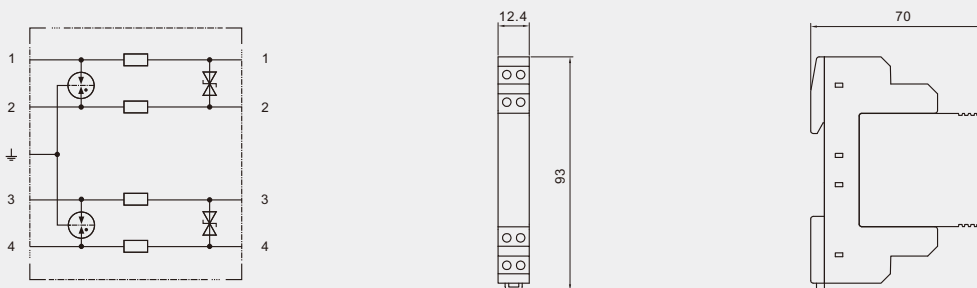


## SPDs for general information (plug-in) BR BD 4L



|  |    | BR BD 4L-6       | BR BD 4L-12   | BR BD 4L-24   | BR BD 4L-48   | BR BD 4L-60   | BR BD 4L-180  |
|--|----|------------------|---------------|---------------|---------------|---------------|---------------|
| Test standards                                   |    | IEC 61643-21     | IEC 61643-21  | IEC 61643-21  | IEC 61643-21  | IEC 61643-21  | IEC 61643-21  |
| SPD class  |    | TYPE2 P1         | TYPE2 P1      | TYPE2 P1      | TYPE2 P1      | TYPE2 P1      | TYPE2 P1      |
| Nominal voltage                                  | Un | 5V               | 12V           | 24V           | 48V           | 60V           | 180V          |
| Max. continuous operating d.c. voltage           | Uc | 6.0V             | 15V           | 33V           | 54V           | 70V           | 180V          |
| Max. continuous operating a.c. voltage           | Uc | 4.2V             | 10.6V         | 23.3V         | 38.1V         | 49.5V         | 127V          |
| Nominal current at 45°C                          | IL | 1A               | 1A            | 1A            | 1A            | 1A            | 0.75A         |
| C2 Total nominal discharge current (8/20µs)      | In | 20kA             | 20kA          | 20kA          | 20kA          | 20kA          | 20kA          |
| C2 Nominal discharge current (8/20µs) per line   | In | 10kA             | 10kA          | 10kA          | 10kA          | 10kA          | 10kA          |
| Voltage protection level line–line for In C2     | Up | ≤15V             | ≤27V          | ≤55V          | ≤85V          | ≤110V         | ≤270V         |
| Voltage protection level line–PG for In C2       | Up | ≤600V            | ≤600V         | ≤600V         | ≤600V         | ≤600V         | ≤600V         |
| Voltage protection level line–line at 1 kV/µs C3 | Up | ≤9V              | ≤19V          | ≤45V          | ≤70V          | ≤90V          | ≤250V         |
| Voltage protection level line–PG at 1 kV/µs C3   | Up | ≤550V            | ≤550V         | ≤550V         | ≤550V         | ≤550V         | ≤550V         |
| Series impedance per line                        |    | 1 Ohm            | 1 Ohm         | 1 Ohm         | 1 Ohm         | 1 Ohm         | 1.8 Ohm       |
| Cut-off frequency line–PG                        | fG | 1.0 MHz          | 2.8 MHz       | 7.8 MHz       | 8.7 MHz       | 11.0 MHz      | 25.0 MHz      |
| Capacitance line–line                            | C  | ≤5.4 nF          | ≤2.0 nF       | ≤1.0 nF       | ≤0.7nF        | ≤500pF        | ≤240pF        |
| capacitance line–PG                              | C  | ≤16 pF           | ≤16 pF        | ≤16 pF        | ≤16 pF        | ≤16 pF        | ≤16 pF        |
| Operating temperature range                      | Tu | -40°C...+80°C    | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C |
| Enclosure material                               |    | polyamide PA 6.6 |               |               |               |               |               |
| Degree of protection (plugged-in)                |    | IP 20            | IP 20         | IP 20         | IP 20         | IP 20         | IP 20         |
| Order Code                                       |    | D9110            | D9111         | D9112         | D9113         | D9114         | D9115         |