

# Schneider Electric Surge Protective Device

2015



**Schneider**  
Electric



# > Content



## Product Overview

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- Product family



## Product Introduction

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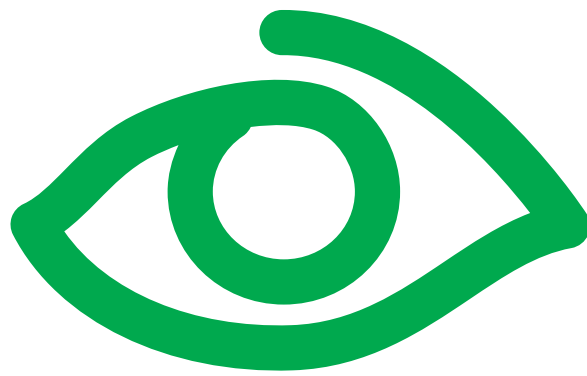
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# Product Overview

- Product family

## > Acti 9

### ☑ Type 1

- iPRD1 20r pluggable Type1 surge protective device
- iPRF1 12.5r voltage limiting type Type1 surge protective device



### ☑ Type 2

- iPRU pluggable surge protective device
- PRU enclosure dedicated surge protective device
- iST monoblock surge protective device



### ☑ Telecom surge protective device

- IPTU pluggable surge protective device for telecom market



### ☑ Photovoltaic surge protective device

- iPRU PV pluggable surge protective device for photovoltaic market



### ☑ Signal surge protective device

- iPRC surge protective device
- iPRI surge protective device



## > Multi 9

### ☑ Signal surge protective device

- > SE antenna surge protective device
- > SE signal surge protective device



## > Easy 9

### ☑ Type 2

- > EA9L monoblock surge protective device



## > iSCB SPD backup circuit breaker

### ☑ For Type I

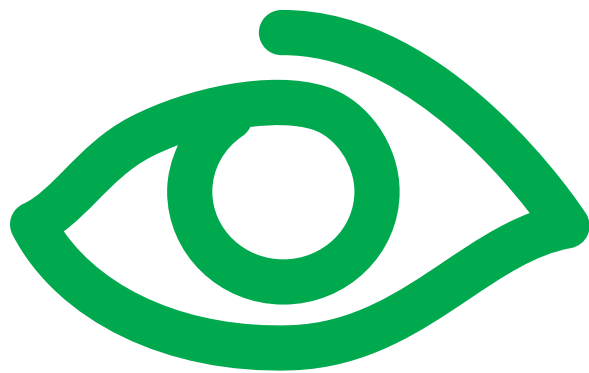
- > iSCB1 SPD backup circuit breaker

### ☑ For Type II

- > iSCB2 SPD backup circuit breaker







# Product Introduction

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- Product introduction

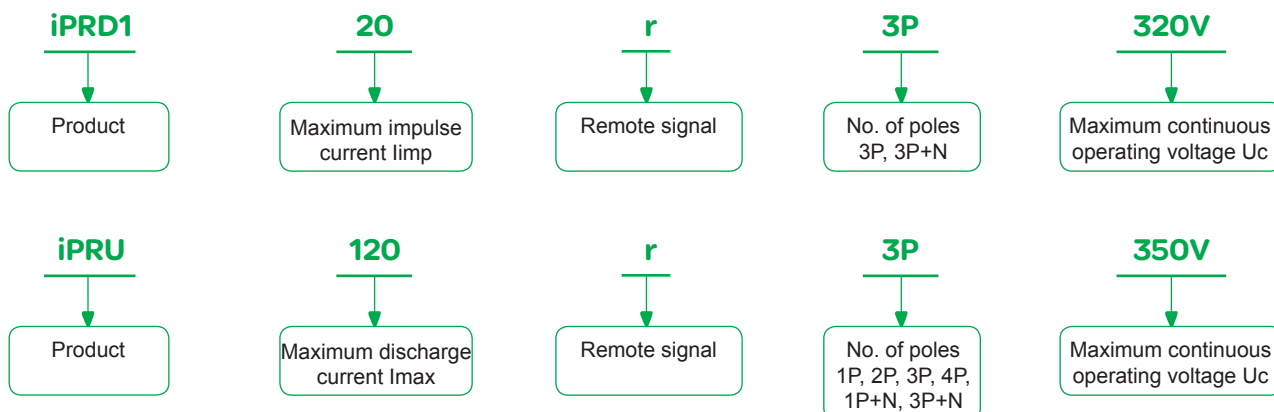
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| <b>A9L010100</b> | iPRU 10 1P.....19      | <b>A9L102551</b> | iSCB1 25L1 1P.....40    | <b>A9L916624</b>    | iST 20 4P.....27                                |
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| <b>A9L010200</b> | iPRU 10 2P.....19      | <b>A9L102554</b> | iSCB1 25L1 4P.....40    | <b>EA9L</b>         |                                                 |
| <b>A9L010300</b> | iPRU 10 3P.....19      | <b>A9L120001</b> | iPRU 120r Gn.....22     | <b>EA9L208F400</b>  | EA9L 20kA 3P+N.....31                           |
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| <b>A9L010500</b> | iPRU 10 1P+N.....20    | <b>A9L120101</b> | iPRU 120r 1P.....21     | <b>EA9L209F230</b>  | EA9L 20kA 1P+N.....33                           |
| <b>A9L010600</b> | iPRU 10 3P+N.....20    | <b>A9L120102</b> | iD120-350.....22        | <b>EA9L408F400</b>  | EA9L 40kA 3P+N.....33                           |
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| <b>A9L020101</b> | iPRU 20r 1P.....19     | <b>A9L16323</b>  | iDgN-255.....15         | <b>EA9L409F230</b>  | EA9L 40kA 1P+N.....33                           |
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| <b>A9L020500</b> | iPRU 20 1P+N.....20    | <b>A9L206542</b> | iSCB2 65H2 2P.....41    | <b>911000</b>       |                                                 |
| <b>A9L020501</b> | iPRU 20r 1P+N.....20   | <b>A9L206543</b> | iSCB2 65H2 3P.....41    | <b>911660</b>       | SETT8-10N-40.....36                             |
| <b>A9L020510</b> | iPTU 20 1P+N.....29    | <b>A9L206544</b> | iSCB2 65H2 4P.....41    | <b>911661</b>       | SETT17-24N-40.....36                            |
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| <b>A9L020601</b> | iPRU 20r 3P+N.....20   | <b>A9L206532</b> | iSCB2 65H1 2P.....41    | <b>911663</b>       | SETT8-25D-60.....36                             |
| <b>A9L020611</b> | iPTU 20r 3P+N.....29   | <b>A9L206533</b> | iSCB2 65H1 3P.....41    | <b>911664</b>       | SEKT25N-10.....36                               |
| <b>A9L020610</b> | iPTU 20 3P+N.....29    | <b>A9L206534</b> | iSCB2 65H1 4P.....41    | <b>911665</b>       | SEKT25T-10M.....36                              |
| <b>A9L040100</b> | iPRU 40 1P.....19      | <b>A9L202021</b> | iSCB2 20N2 1P.....41    | <b>911666</b>       | SEKT25D-10.....36                               |
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| <b>A9L040102</b> | iD40-350.....20        | <b>A9L202023</b> | iSCB2 20N2 3P.....41    | <b>911668</b>       | SEWT10N-20N.....36                              |
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| <b>A9L040200</b> | iPRU 40 2P.....19      | <b>A9L202013</b> | iSCB2 20N1 3P.....41    | <b>911672</b>       | SEKT15FL-10.....36                              |
| <b>A9L040201</b> | iPRU 40r 2P.....19     | <b>A9L202014</b> | iSCB2 20N1 4P.....41    | <b>911673</b>       | SEKT20F-10.....36                               |
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| <b>A9L040500</b> | iPRU 40 1P+N.....20    | <b>A9L212053</b> | iSCB2 120L1 3P.....41   | <b>9116682</b>      | SEXTM-2R-5.....36                               |
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| <b>A9L040510</b> | iPTU 40 1P+N.....29    | <b>A9L916600</b> | iST 65 1P.....27        | <b>9116684</b>      | SEXL-1J-12.....36                               |
| <b>A9L040600</b> | iPRU 40 3P+N.....20    | <b>A9L916603</b> | iST 65 2P.....27        | <b>9116685</b>      | SEXL-1J-24.....36                               |
| <b>A9L040601</b> | iPRU 40r 3P+N.....20   | <b>A9L916604</b> | iST 65 3P.....27        | <b>9116686</b>      | SEXL-1J-110.....36                              |
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| <b>A9L065401</b> | iPRU 65r 4P.....19     | <b>A9L916612</b> | iST 40 2P.....27        | <b>916902</b>       | PRU 10 1P+N.....25                              |
| <b>A9L065501</b> | iPRU 65r 1P+N.....20   | <b>A9L916613</b> | iST 40 3P.....27        | <b>916903</b>       | PRU 6 1P+N.....25                               |
| <b>A9L065601</b> | iPRU 65r 3P+N.....20   | <b>A9L916614</b> | iST 40r 3P+N.....27     |                     |                                                 |
| <b>A9L080001</b> | iPRU 80r Gn.....22     | <b>A9L916615</b> | iST 40 3P+N.....27      |                     |                                                 |
| <b>A9L080002</b> | iDgN 80-350.....22     | <b>A9L916616</b> | iST 40r 4P.....27       |                     |                                                 |
| <b>A9L080101</b> | iPRU 80r 1P.....21     | <b>A9L916617</b> | iST 40 4P.....27        |                     |                                                 |
| <b>A9L080102</b> | iD80-350.....22        | <b>A9L916618</b> | iST 20 1P.....27        |                     |                                                 |
| <b>A9L102561</b> | iSCB1 25L2 1P.....40   | <b>A9L916620</b> | iST 20 1P+N.....27      |                     |                                                 |

## Prescription



|       | Product                                                                                            | Un (V)  | Uc (V)  | Up (kV) | Type (μs) | I <sub>max</sub> (kA)             | In (kA) | Poles                                | End of life indication | Remote signal | Connection capability                                                               |
|-------|----------------------------------------------------------------------------------------------------|---------|---------|---------|-----------|-----------------------------------|---------|--------------------------------------|------------------------|---------------|-------------------------------------------------------------------------------------|
| iPRD1 | <br>iPRD1 20r   | 230/400 | 320     | 1.7     | 10/350    | $I_{imp}=20$ (L/N)<br>80 (N/PE)   | 30      | 3P<br>3P+N                           | Yes                    | Yes           | Flexible cable:<br>2.5~35mm <sup>2</sup> ,<br>Rigid cable:<br>2.5~50mm <sup>2</sup> |
| iPRF1 | <br>iPRF1 12.5r | 230/400 | 350     | 1.5     | 10/350    | $I_{imp}=12.5$ (L/N)<br>50 (N/PE) | 25      | 3P<br>1P+N<br>3P+N                   | Yes                    | Yes           | Flexible cable:<br>10~25mm <sup>2</sup> ,<br>Rigid cable:<br>10~35mm <sup>2</sup>   |
| iPRU  | <br>iPRU 120r   | 230/400 | 350/440 | 3.0     | 8/20      | 120                               | 60      | 1P<br>2P<br>3P<br>4P<br>1P+N<br>3P+N | Yes                    | Yes           | Flexible cable:<br>2.5~25mm <sup>2</sup> ,<br>Rigid cable:<br>2.5~35mm <sup>2</sup> |
|       | <br>iPRU 80r    | 230/400 | 350/440 | 2.2     | 8/20      | 80                                | 40      |                                      | Yes                    | Yes           |                                                                                     |
|       | <br>iPRU 65r    | 230/400 | 350/440 | 1.9     | 8/20      | 65                                | 35      |                                      | Yes                    | Yes           |                                                                                     |

|      | Product                                                                                           | Un (V)  | Uc (V)  | Up (kV) | Type (μs) | I <sub>max</sub> (kA) | I <sub>n</sub> (kA) | Poles                                | End of life indication | Remote signal | Connection capability                                                               |
|------|---------------------------------------------------------------------------------------------------|---------|---------|---------|-----------|-----------------------|---------------------|--------------------------------------|------------------------|---------------|-------------------------------------------------------------------------------------|
| iPRU | <br>iPRU 40r/40  | 230/400 | 350/440 | 1.7     | 8/20      | 40                    | 20                  | 1P<br>2P<br>3P<br>4P<br>1P+N<br>3P+N | Yes                    | Yes/No        | Flexible cable:<br>2.5~25mm <sup>2</sup> ,<br>Rigid cable:<br>2.5~35mm <sup>2</sup> |
|      | <br>iPRU 20r/20  | 230/400 | 350/440 | 1.45    | 8/20      | 20                    | 10                  |                                      | Yes                    | Yes/No        |                                                                                     |
|      | <br>iPRU 10     | 230/400 | 350/440 | 1.2     | 8/20      | 10                    | 5                   |                                      | Yes                    | No            |                                                                                     |
| PRU  | <br>PRU 10     | 230/400 | 320/400 | 1.1     | 8/20      | 10                    | 5                   | 1P+N                                 | Yes                    | No            | Flexible cable:<br>2.5~25mm <sup>2</sup> ,<br>Rigid cable:<br>2.5~35mm <sup>2</sup> |
|      | <br>PRU 6      | 230/400 | 320/400 | 1.0     | 8/20      | 6                     | 3                   |                                      | Yes                    | No            |                                                                                     |
| iST  | <br>iST 65r/65 | 230/400 | 340/440 | 2.0     | 8/20      | 65                    | 35                  | 1P<br>2P<br>3P<br>4P<br>1P+N<br>3P+N | Yes                    | Yes/No        | Flexible cable:<br>2.5~25mm <sup>2</sup> ,<br>Rigid cable:<br>2.5~35mm <sup>2</sup> |
|      | <br>iST 40r/40 | 230/400 | 340/440 | 1.5     | 8/20      | 40                    | 20                  |                                      | Yes                    | Yes/No        |                                                                                     |
|      | <br>iST 20r/20 | 230/400 | 340/440 | 1.2     | 8/20      | 20                    | 10                  |                                      | Yes                    | Yes/No        |                                                                                     |

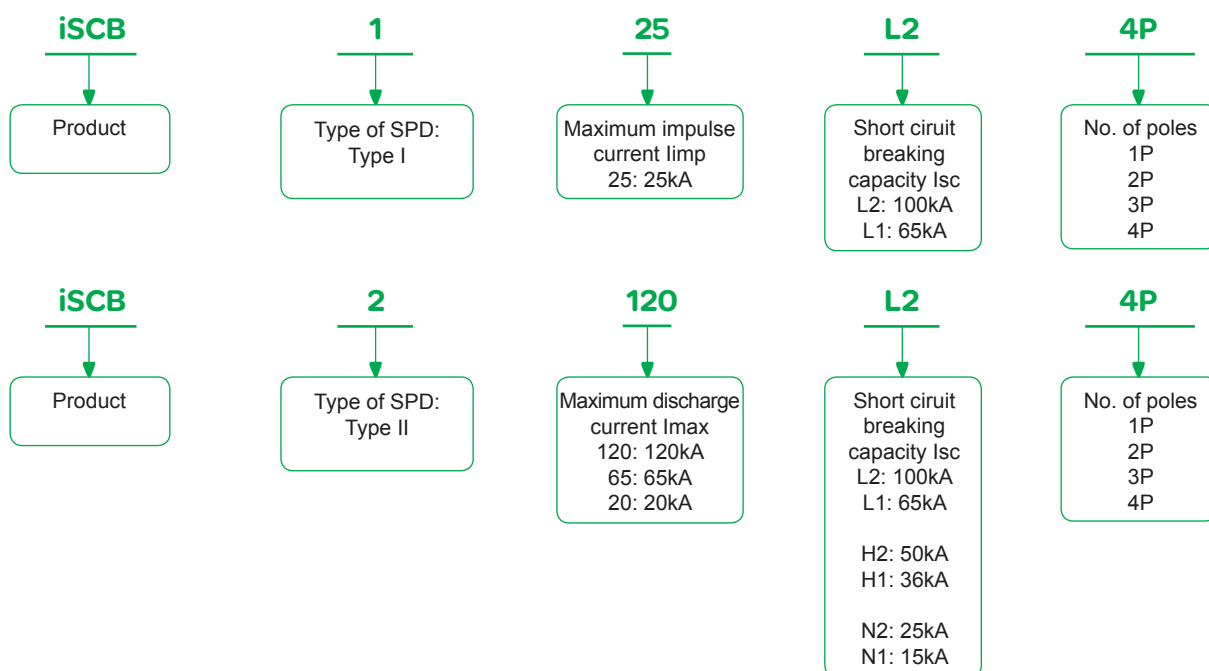
|         | Product                                                                                          | Un (V)    | Uc (V)             | Up (kV)           | Type (μs) | I <sub>max</sub> (kA) | I <sub>n</sub> (kA) | Poles        | End of life indication | Remote signal | Connection capability                                                               |
|---------|--------------------------------------------------------------------------------------------------|-----------|--------------------|-------------------|-----------|-----------------------|---------------------|--------------|------------------------|---------------|-------------------------------------------------------------------------------------|
| IPTU    | <br>IPTU 40r/40 | 230/400   | 385/500            | 1.6               | 8/20      | 40                    | 20                  | 1P+N<br>3P+N | Yes                    | No            | Flexible cable:<br>2.5~25mm <sup>2</sup> ,<br>Rigid cable:<br>2.5~35mm <sup>2</sup> |
|         | <br>IPTU 20r/20 | 230/400   | 385/500            | 1.5               | 8/20      | 20                    | 10                  |              | Yes                    | Yes           |                                                                                     |
| iPRU PV | <br>iPR-DC     | -         | 800/1000           | 3.0<br>3.9        | 8/20      | 40                    | 15                  | -            | Yes                    | Yes           | Flexible cable:<br>2.5~16mm <sup>2</sup> ,<br>Rigid cable:<br>2.5~25mm <sup>2</sup> |
| EA9L    | <br>EA9L      | 230/400   | 340/400            | 2.0<br>1.5<br>1.2 | 8/20      | 65/40/20              | 35/20/10            | 1P+N<br>3P+N | Yes                    | Yes/No        | Flexible cable:<br>2.5~25mm <sup>2</sup> ,<br>Rigid cable:<br>2.5~35mm <sup>2</sup> |
| iPRC    | <br>iPRC      | < 130 VAC | 130 VAC<br>180 VDC | 300V              | 8/20      | 18                    | 10                  | -            | Yes                    | No            | Flexible cable:<br>0.2~2.5mm <sup>2</sup> ,<br>Rigid cable:<br>0.2~4mm <sup>2</sup> |
| iPRI    | <br>iPRI      | 48 VDC    | 37 VAC<br>53 VAC   | 70V               | 8/20      | 10                    | 10                  | -            | Yes                    | No            | Flexible cable:<br>0.2~2.5mm <sup>2</sup> ,<br>Rigid cable:<br>0.2~4mm <sup>2</sup> |

|    | Product                                                                                     | Product type  | Interface | Frequency (MHz) | Power (W) | Up (V) | Dimension (mm) | Weight (g) |
|----|---------------------------------------------------------------------------------------------|---------------|-----------|-----------------|-----------|--------|----------------|------------|
| SE | <br>SETT   | SETT8-10N-40  | N         | 800-960         | 300       | ≤10V   | 33 x 66 x 75   | 210        |
|    |                                                                                             | SETT17-24N-40 |           | 1700-2400       | 150       |        | 30 x 39 x 75   | 190        |
|    |                                                                                             | SETT8-10D-60  | DIN       | 800-960         | 500       |        | 37 x 92 x 101  | 640        |
|    |                                                                                             | SETT8-25D-60  |           | 800-2500        |           |        | 37 x 65 x 90   | 385        |
|    | <br>SEKT  | SEKT25N-10    | N         | DC-2500         | 100       | ≤700V  | 20 x 30 x 76   | 230        |
|    |                                                                                             | SEKT25T-10M   | TNC       |                 |           |        | F20 x 56       | 75         |
|    |                                                                                             | SEKT25D-10    | DIN       |                 |           |        | 35 x 42 x 77   | 270        |
|    |                                                                                             | SEKT15FL-10   | FL        | DC-2050         |           |        | 18.5 x 23 x 50 | 62         |
|    |                                                                                             | SEKT20F-10    | F         |                 |           |        |                |            |
|    | <br>SEWT | SEWT16N-10CN  | N         | 1500-1600       | 60        | ≤100V  | 56 x 25 x 95   | 175        |
|    |                                                                                             | SEWT10N-20N   |           | 700-1000        | 300       |        | 84 x 32 x 73   | 242        |
|    |                                                                                             | SEWT20N-20N   |           | 1700-2000       |           |        |                |            |
|    |                                                                                             | SEWT10D-20N   | DIN       | 700-1000        |           |        |                | 332        |
|    |                                                                                             | SEWT20D-20N   |           | 1700-2000       |           |        |                |            |

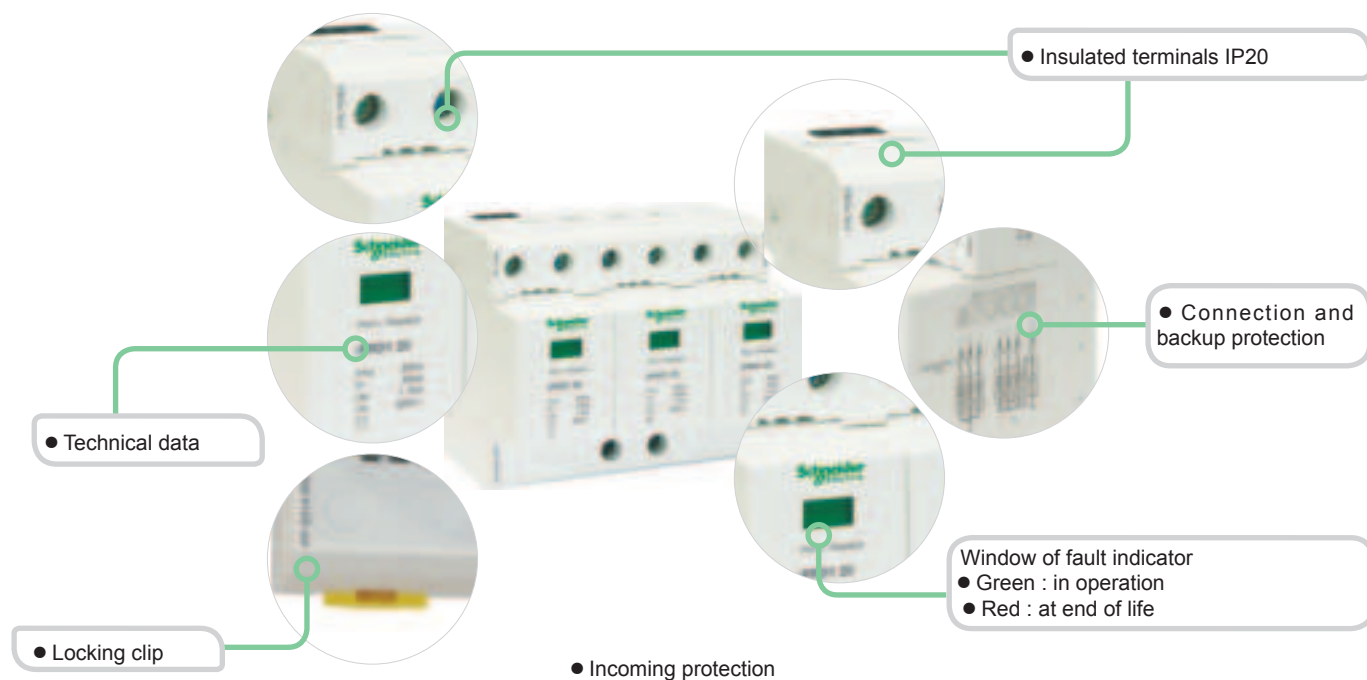
|    | Product                                                                                                    | Product type | Interface                 | Frequency (MHz)       | Power (W) | Up (V) | Dimension (mm) | Weight (g) |
|----|------------------------------------------------------------------------------------------------------------|--------------|---------------------------|-----------------------|-----------|--------|----------------|------------|
| SE | <br>SEXM                  | SEXM-1B-5    | BNC                       |                       | 5         | ≤100V  | 80 x 27 x 25   | 75         |
|    |                                                                                                            | SEXM-1B-24   |                           |                       | 24        |        |                |            |
|    | <br>SEXL(RJ11)            | SEXL-1H-12   | RJ11                      |                       | 12        | ≤100V  | 80 x 27 x 25   | 70         |
|    |                                                                                                            | SEXL-1H-48   |                           |                       | 48        |        |                |            |
|    |                                                                                                            | SEXL-1H-110  |                           |                       | 110       |        |                |            |
|    | <br>SEXM,SEXH             | SEXM-2R-5    | Interface                 | Transmission rate (M) | 5         | ≤100V  | 80 x 27 x 25   | 95         |
|    |                                                                                                            |              | RJ45                      | 10M                   |           |        |                |            |
|    |                                                                                                            | SEXH-2R-5    |                           | 100M                  |           |        |                |            |
|    | <br>SEXL (twisted pair) | SEXL-1J-5    | Number of protected lines |                       | 5         | ≤100V  | 100 x 27 x 25  | 70         |
|    |                                                                                                            | SEXL-1J-12   | A pair of twisted pair    |                       | 12        |        |                |            |
|    |                                                                                                            | SEXL-1J-24   |                           |                       | 24        |        |                |            |
|    |                                                                                                            | SEXL-1J-110  |                           |                       | 110       |        |                |            |
|    |                                                                                                            | SEXL-2J-5    | 2 pairs of twisted pair   |                       | 5         |        | 100 x 47 x 25  | 110        |
|    |                                                                                                            | SEXL-2J-12   |                           |                       | 12        |        |                |            |
|    |                                                                                                            | SEXL-2J-24   |                           |                       | 24        |        |                |            |
|    |                                                                                                            | SEXL-2J-110  |                           |                       | 110       |        |                |            |

## iSCB SPD backup circuit breaker

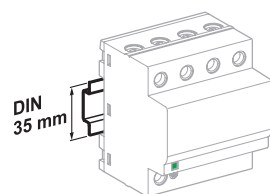
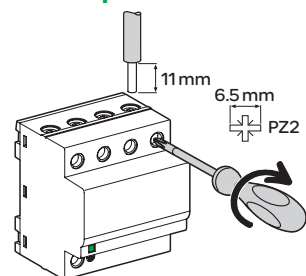
## Prescription



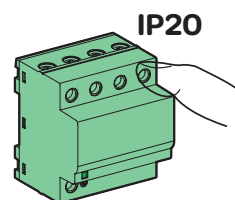
|      | Product                                                                                          | Un (V)  | Type (μs) | Imax (kA) | In (kA) | Maximum short circuit breaking capacity (kA) | Poles                | Connection capability                                                               |
|------|--------------------------------------------------------------------------------------------------|---------|-----------|-----------|---------|----------------------------------------------|----------------------|-------------------------------------------------------------------------------------|
| iSCB | <br>iSCB1 25  | 230/400 | 10/350    | Iimp=25kA | 80      | 100<br>65                                    | 1P<br>2P<br>3P<br>4P | Flexible cable:<br>2.5~25mm <sup>2</sup> ,<br>Rigid cable:<br>2.5~35mm <sup>2</sup> |
|      | <br>iSCB2 120 | 230/400 | 8/20      | 120       | 60      | 100<br>65                                    |                      |                                                                                     |
|      | <br>iSCB2 65  | 230/400 | 8/20      | 65        | 35      | 50<br>36                                     |                      |                                                                                     |
|      | <br>iSCB2 20  | 230/400 | 8/20      | 20        | 10      | 25<br>15                                     |                      |                                                                                     |



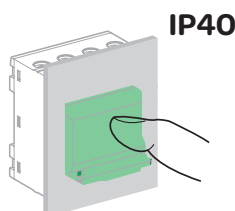
## Description



Installed on the 35 mm DIN rail



IP20



IP40

## Technical data

### Main characteristics

|                                                     |            |
|-----------------------------------------------------|------------|
| Standard                                            | GB 18802.1 |
| Test class                                          | I / T1     |
| Operating frequency                                 | 50/60 Hz   |
| Rated operating voltage U <sub>o</sub>              | 230 V AC   |
| Maximum continuous operating voltage U <sub>c</sub> | 320 V      |
| Maximum impulse current I <sub>imp</sub>            | 20 kA      |
| Nominal discharge current I <sub>n</sub>            | 30 kA      |
| U <sub>p</sub>                                      | 1.7 kV     |
| Poles                                               | 3P, 3P+N   |

### Additional characteristics

|                               |                                                          |
|-------------------------------|----------------------------------------------------------|
| End of life indication        | Indication window                                        |
| Green                         | In operation                                             |
| Red                           | At end of life                                           |
| End of life remote indication | Remote signal                                            |
| Contact                       | 11 common terminal, 12 normally closed, 14 normally open |
| U <sub>c</sub>                | 250 V AC                                                 |
| Maximum switching current     | 1 A                                                      |
| Degree of protection          | Front panel                                              |
| Terminals                     | IP20                                                     |
| Response time                 | 100 ns                                                   |
| Working temperature           | -40°C~+80°C                                              |

## Connection

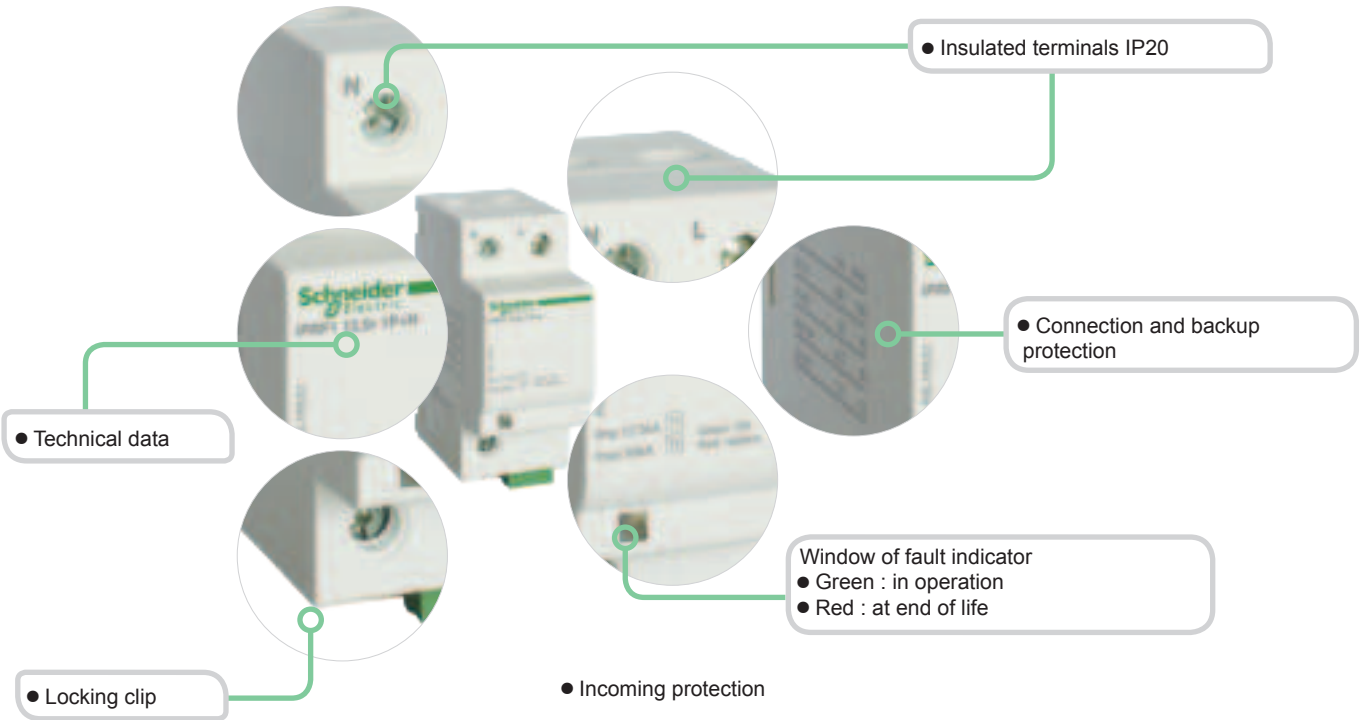
| Type  | Tightening torque | Type of connection terminals | Recommended cables       |                                           |
|-------|-------------------|------------------------------|--------------------------|-------------------------------------------|
|       |                   | Rigid cable                  | Flexible cable           |                                           |
| iPRD1 | 3.5 Nm            | 2.5...50 mm <sup>2</sup>     | 2.5...35 mm <sup>2</sup> | ≥16 mm <sup>2</sup>   ≥16 mm <sup>2</sup> |



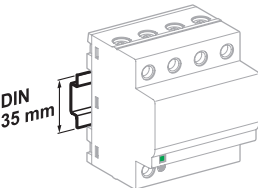
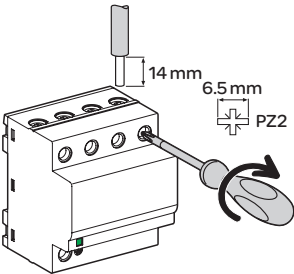
A9L16367

| Type | Product | I <sub>imp</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)<br>differential mode<br>L/N | common mode<br>N/⊥ | L/⊥ | U <sub>n</sub><br>(V) | U <sub>c</sub><br>(V) | Width<br>(In mod. of<br>9 mm) | Reference |
|------|---------|--------------------------|------------------------|-------------------------------------------------|--------------------|-----|-----------------------|-----------------------|-------------------------------|-----------|
| 3P   | iPRD1   | 20                       | 30                     | -                                               | -                  | 1.7 | 230                   | 320                   | 12                            | A9L16366  |
| 3P+N | iPRD1   | 20                       | 30                     | 1.7                                             | 1.5                | -   | 230                   | 320                   | 16                            | A9L16367  |

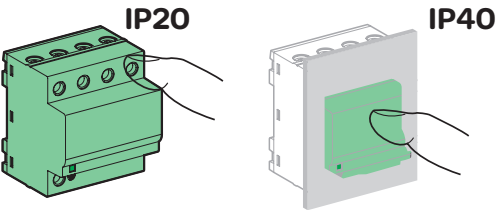
| Type              | Product  | Applied to | Width<br>(In mod. of 9 mm) | Reference |
|-------------------|----------|------------|----------------------------|-----------|
| Pluggable modules | iD20-320 | iPRD1 20r  | 2                          | A9L16322  |
|                   | iDGn-255 | iPRD1 20r  | 2                          | A9L16323  |



Description



Installed on the 35 mm DIN rail



Technical data

| Main characteristics                    |                              |                                                          |
|-----------------------------------------|------------------------------|----------------------------------------------------------|
| Standard                                | GB 18802.1-2011              |                                                          |
| Test class                              | I / T1                       |                                                          |
| Operating frequency                     | 50/60 Hz                     |                                                          |
| Rated operating voltage Uo              | 230 V AC                     |                                                          |
| Maximum continuous operating voltage Uc | 350 V                        |                                                          |
| Maximum impulse current Iimp (L-N)      | 12.5 kA                      |                                                          |
| Maximum impulse current Iimp (N-PE)     | 50 kA                        |                                                          |
| Nominal discharge current In            | 25 kA                        |                                                          |
| Up                                      | 1.5 kV                       |                                                          |
| Poles                                   | 1P+N/3P/3P+N                 |                                                          |
| Earthing system                         | TT, TN                       |                                                          |
| Backup protection                       | According to the appendix    |                                                          |
| Additional characteristics              |                              |                                                          |
| End of life indication                  |                              | Indication light                                         |
|                                         | Green                        | In operation                                             |
|                                         | Red                          | At end of life                                           |
| End of life remote indication           |                              | Remote signal                                            |
|                                         | Contact                      | 11 common terminal, 12 normally closed, 14 normally open |
|                                         | Uc                           | 250 V AC                                                 |
|                                         | Maximum switching current    | 1 A                                                      |
|                                         | Type of connection terminals | 0.5...1.5 mm <sup>2</sup>                                |
|                                         | Degree of protection         |                                                          |
|                                         | Front panel                  | IP40                                                     |
|                                         | Terminals                    | IP20                                                     |
| Response time                           | 25 ns                        |                                                          |
| Working temperature                     | -25°C ~ +60°C                |                                                          |

Connection

| Type        | Tightening torque | Type of connection terminals |                         | Recommended cables  |                     |
|-------------|-------------------|------------------------------|-------------------------|---------------------|---------------------|
|             |                   | Rigid cable                  | Flexible cable          | L/N                 | Earthing cable      |
| iPRF1 12.5r | 2 Nm              | 10...35 mmv                  | 10...25 mm <sup>2</sup> | ≥16 mm <sup>2</sup> | ≥16 mm <sup>2</sup> |

# iPRF1 12.5r surge protective device Type I



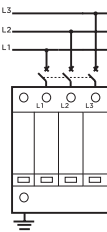
A9L16632

| Type | Product     | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)  |                | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)   |                | Width<br>(In mod. of<br>9 mm) | Reference |     |          |
|------|-------------|--------------------------|------------------------|----------------------|----------------|-----------------------|----------------------|----------------|-------------------------------|-----------|-----|----------|
|      |             |                          |                        | differential<br>mode | common<br>mode |                       | differential<br>mode | common<br>mode |                               |           |     |          |
|      |             |                          |                        | L/N                  | N/⊥            |                       | L/⊥                  | L/N            |                               |           | N/⊥ | L/⊥      |
| 1P+N | iPRF1 12.5r | 12.5                     | 25                     | 1.5                  | 1.5            | 1.6                   | 230/400              | 350            | 255                           | 440       | 4   | A9L16632 |



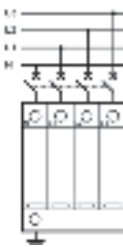
A9L16633

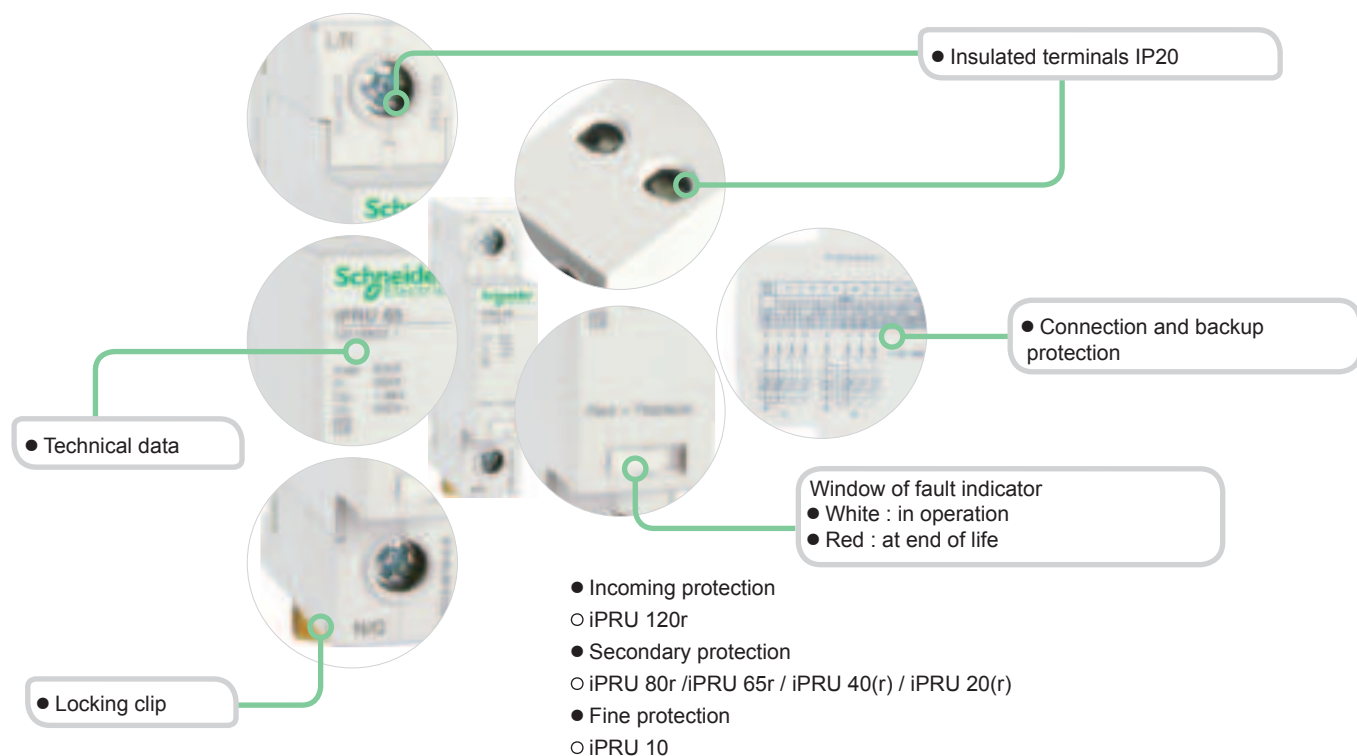
| Type | Product     | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)  |                | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)   |                | Width<br>(In mod. of<br>9 mm) | Reference |   |          |
|------|-------------|--------------------------|------------------------|----------------------|----------------|-----------------------|----------------------|----------------|-------------------------------|-----------|---|----------|
|      |             |                          |                        | differential<br>mode | common<br>mode |                       | differential<br>mode | common<br>mode |                               |           |   |          |
|      |             |                          |                        | L/N                  | N/±            | L/±                   | L/N                  | N/±            | L/±                           |           |   |          |
| 3P   | iPRF1 12.5r | 12.5                     | 25                     | -                    | -              | 1.5                   | 230/400              | -              | -                             | 350       | 8 | A9L16633 |



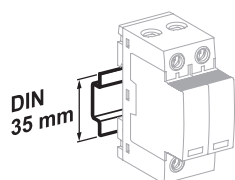
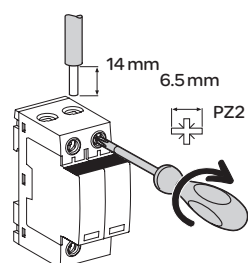
A9L16634

| Type | Product     | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)<br>differential<br>mode<br>L/N | common<br>mode<br>N/± | ±   | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)<br>differential<br>mode<br>L/N | common<br>mode<br>N/± | ±   | Width<br>(in mod. of<br>9 mm) | Reference |
|------|-------------|--------------------------|------------------------|----------------------------------------------------|-----------------------|-----|-----------------------|---------------------------------------------------|-----------------------|-----|-------------------------------|-----------|
| 3P+N | iPRF1 12.5r | 12.5                     | 25                     | 1.5                                                | 1.5                   | 1.6 | 230/400               | 350                                               | 255                   | 440 | 8                             | A9L16634  |

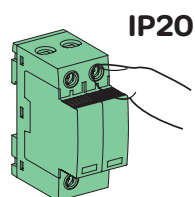




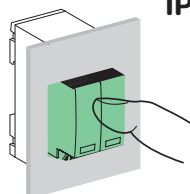
## Description



Installed on the 35 mm DIN rail



IP40



## Technical data

### Main characteristics

|                                               |                             |  |  |
|-----------------------------------------------|-----------------------------|--|--|
| Standard                                      | GB 18802.1-2011             |  |  |
| Test class                                    | II / T2                     |  |  |
| Operating frequency                           | 50/60 Hz                    |  |  |
| Rated operating voltage $U_o$                 | 230 V AC                    |  |  |
| Maximum continuous operating voltage $U_c$    | 350 V                       |  |  |
| Maximum discharge current $I_{max}$ $I_{max}$ | 120/80/65/40/20/10 kA       |  |  |
| Nominal discharge current                     | 60/40/35/20/10/5 kA         |  |  |
| $U_p$                                         | 3.0/2.2/1.9/1.7/1.45/1.2 kV |  |  |
| Poles                                         | 1P/2P/3P/4P/1P+N/3P+N       |  |  |
| Earthing system                               | TT, TN                      |  |  |
| Backup protection                             | According to the appendix   |  |  |

### Additional characteristics

|                               |                              |                                                          |           |          |  |
|-------------------------------|------------------------------|----------------------------------------------------------|-----------|----------|--|
| End of life indication        | Indication window            |                                                          |           |          |  |
|                               | White                        | In operation                                             |           |          |  |
|                               | Red                          | At end of life                                           |           |          |  |
| End of life remote indication | Remote signal                |                                                          |           |          |  |
|                               | Contact                      | 11 common terminal, 12 normally closed, 14 normally open |           |          |  |
|                               | Uc                           | 250 V ~                                                  | 220 V --- | 30 V --- |  |
|                               | Maximum switching current    | 0.25 A                                                   | 0.24 A    | 2 A      |  |
|                               | Type of connection terminals | 0.5...1.5 mm <sup>2</sup>                                |           |          |  |
| Degree of protection          | IP20                         |                                                          |           |          |  |
| Response time                 | 25 ns                        |                                                          |           |          |  |
| Working temperature           | -25°C ~ +60°C                |                                                          |           |          |  |
| Storage temperature           | -40°C ~ +70°C                |                                                          |           |          |  |
| lie (0.75U1mA)                | < 20 μA                      |                                                          |           |          |  |

## Connection

| Maximum discharge current $I_{max}$ | Tightening torque | Type of connection terminals |                          | Recommended cables         |                           |
|-------------------------------------|-------------------|------------------------------|--------------------------|----------------------------|---------------------------|
|                                     |                   | Rigid cable                  | Flexible cable           | L/N                        | Earthing cable            |
| 120 kA                              | 3.5 Nm            | 2.5...35 mm <sup>2</sup>     | 2.5...25 mm <sup>2</sup> | $\geq 6$ mm <sup>2</sup>   | $\geq 10$ mm <sup>2</sup> |
| 80/65/40/20 kA                      |                   |                              |                          | $\geq 4$ mm <sup>2</sup>   | $\geq 6$ mm <sup>2</sup>  |
| 10 kA                               |                   |                              |                          | $\geq 2.5$ mm <sup>2</sup> | $\geq 4$ mm <sup>2</sup>  |



A9L065101

| Type                                                                              | Product  | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)  |                |      | U <sub>n</sub><br>(V) |                | U <sub>c</sub> (V) |     |       | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |
|-----------------------------------------------------------------------------------|----------|--------------------------|------------------------|----------------------|----------------|------|-----------------------|----------------|--------------------|-----|-------|--------------------|-------------------------------|-----------|
|                                                                                   |          |                          |                        | differential<br>mode | common<br>mode |      | differential<br>mode  | common<br>mode |                    |     |       |                    |                               |           |
|                                                                                   |          |                          |                        | L/N                  | N/≐            | L/≐  | L/N                   | N/≐            | L/≐                |     |       |                    |                               |           |
|  | iPRU 65r | 65                       | 35                     | -                    | -              | 1.9  | 230                   | -              | -                  | 350 | TN    | 2                  | A9L065101                     |           |
|                                                                                   | iPRU 40r | 40                       | 20                     | -                    | -              | 1.7  | 230                   | -              | -                  | 350 | TN    | 2                  | A9L040101                     |           |
|                                                                                   | iPRU 40  | 40                       | 20                     | -                    | -              | 1.7  | 230                   | -              | -                  | 350 | TN    | 2                  | A9L040100                     |           |
|                                                                                   | iPRU 20r | 20                       | 10                     | -                    | -              | 1.45 | 230                   | -              | -                  | 350 | TT&TN | 2                  | A9L020101                     |           |
|                                                                                   | iPRU 20  | 20                       | 10                     | -                    | -              | 1.45 | 230                   | -              | -                  | 350 | TT&TN | 2                  | A9L020100                     |           |
|                                                                                   | iPRU 10  | 10                       | 5                      | -                    | -              | 1.2  | 230                   | -              | -                  | 350 | TT&TN | 2                  | A9L010100                     |           |



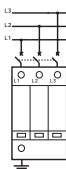
A9L065201

| Type                                                                              | Product  | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)  |                |      | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)   |                |     | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |
|-----------------------------------------------------------------------------------|----------|--------------------------|------------------------|----------------------|----------------|------|-----------------------|----------------------|----------------|-----|--------------------|-------------------------------|-----------|
|                                                                                   |          |                          |                        | differential<br>mode | common<br>mode | L/±  |                       | differential<br>mode | common<br>mode | L/± |                    |                               |           |
|                                                                                   |          |                          |                        |                      |                |      |                       |                      |                |     |                    |                               |           |
|  | iPRU 65r | 65                       | 35                     | -                    | 1.9            | 1.9  | 230                   | -                    | 350            | 350 | TN-S               | 4                             | A9L065201 |
|                                                                                   | iPRU 40r | 40                       | 20                     | -                    | 1.7            | 1.7  | 230                   | -                    | 350            | 350 | TN-S               | 4                             | A9L040201 |
|                                                                                   | iPRU 40  | 40                       | 20                     | -                    | 1.7            | 1.7  | 230                   | -                    | 350            | 350 | TN-S               | 4                             | A9L040200 |
|                                                                                   | iPRU 20r | 20                       | 10                     | -                    | 1.45           | 1.45 | 230                   | -                    | 350            | 350 | TT&TN-S            | 4                             | A9L020201 |
|                                                                                   | iPRU 20  | 20                       | 10                     | -                    | 1.45           | 1.45 | 230                   | -                    | 350            | 350 | TT&TN-S            | 4                             | A9L020200 |
|                                                                                   | iPRU 10  | 10                       | 5                      | -                    | 1.2            | 1.2  | 230                   | -                    | 350            | 350 | TT&TN-S            | 4                             | A9L010200 |



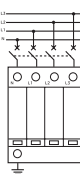
A9L065301

| Type                                                                                                        | Product  | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)  |                |      | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)   |                |     | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |
|-------------------------------------------------------------------------------------------------------------|----------|--------------------------|------------------------|----------------------|----------------|------|-----------------------|----------------------|----------------|-----|--------------------|-------------------------------|-----------|
|                                                                                                             |          |                          |                        | differential<br>mode | common<br>mode | L/±  |                       | differential<br>mode | common<br>mode | L/± |                    |                               |           |
|                                                                                                             |          |                          |                        |                      |                |      |                       |                      |                |     |                    |                               |           |
| <div><div>3P</div></div> | iPRU 65r | 65                       | 35                     | -                    | -              | 1.9  | 230/400               | -                    | -              | 350 | TN-C               | 6                             | A9L065301 |
|                                                                                                             | iPRU 40r | 40                       | 20                     | -                    | -              | 1.7  | 230/400               | -                    | -              | 350 | TN-C               | 6                             | A9L040301 |
|                                                                                                             | iPRU 40  | 40                       | 20                     | -                    | -              | 1.7  | 230/400               | -                    | -              | 350 | TN-C               | 6                             | A9L040300 |
|                                                                                                             | iPRU 20r | 20                       | 10                     | -                    | -              | 1.45 | 230/400               | -                    | -              | 350 | TN-C               | 6                             | A9L020301 |
|                                                                                                             | iPRU 20  | 20                       | 10                     | -                    | -              | 1.45 | 230/400               | -                    | -              | 350 | TN-C               | 6                             | A9L020300 |
|                                                                                                             | iPRU 10  | 10                       | 5                      | -                    | -              | 1.2  | 230/400               | -                    | -              | 350 | TN-C               | 6                             | A9L010300 |



A9L065401

| Type                                                                                | Product  | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | Up(kV)               |                |      | Un<br>(V) | Uc(V)                |                |     | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |
|-------------------------------------------------------------------------------------|----------|--------------------------|------------------------|----------------------|----------------|------|-----------|----------------------|----------------|-----|--------------------|-------------------------------|-----------|
|                                                                                     |          |                          |                        | differential<br>mode | common<br>mode |      |           | differential<br>mode | common<br>mode |     |                    |                               |           |
|                                                                                     |          |                          |                        |                      |                |      |           |                      |                |     |                    |                               |           |
|  | iPRU 65r | 65                       | 35                     | -                    | 1.9            | 1.9  | 230/400   | -                    | 350            | 350 | TN-S               | 8                             | A9L065401 |
|                                                                                     | iPRU 40r | 40                       | 20                     | -                    | 1.7            | 1.7  | 230/400   | -                    | 350            | 350 | TN-S               | 8                             | A9L040401 |
|                                                                                     | iPRU 40  | 40                       | 20                     | -                    | 1.7            | 1.7  | 230/400   | -                    | 350            | 350 | TN-S               | 8                             | A9L040400 |
|                                                                                     | iPRU 20r | 20                       | 10                     | -                    | 1.45           | 1.45 | 230/400   | -                    | 350            | 350 | TT&TN-S            | 8                             | A9L020401 |
|                                                                                     | iPRU 20  | 20                       | 10                     | -                    | 1.45           | 1.45 | 230/400   | -                    | 350            | 350 | TT&TN-S            | 8                             | A9L020400 |
|                                                                                     | iPRU 10  | 10                       | 5                      | -                    | 1.2            | 1.2  | 230/400   | -                    | 350            | 350 | TT&TN-S            | 8                             | A9L010400 |



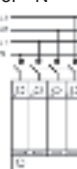


A9L065501

| Type                                                                                      | Product  | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥ | U <sub>n</sub><br>(V)<br>L/⊥ | U <sub>c</sub> (V)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥ | Earthing<br>system<br>L/⊥ | Width<br>(In mod. of<br>9 mm) | Reference |           |
|-------------------------------------------------------------------------------------------|----------|--------------------------|------------------------|----------------------------------------------------|-----------------------|------------------------------|---------------------------------------------------|-----------------------|---------------------------|-------------------------------|-----------|-----------|
| 1P+N<br> | iPRU 65r | 65                       | 35                     | 1.9                                                | 1.5                   | 2.25                         | 230                                               | 350                   | 260                       | 440                           | TT&TN-S 4 | A9L065501 |
|                                                                                           | iPRU 40r | 40                       | 20                     | 1.7                                                | 1.5                   | 1.85                         | 230                                               | 350                   | 260                       | 440                           | TT&TN-S 4 | A9L040501 |
|                                                                                           | iPRU 40  | 40                       | 20                     | 1.7                                                | 1.5                   | 1.85                         | 230                                               | 350                   | 260                       | 440                           | TT&TN-S 4 | A9L040500 |
|                                                                                           | iPRU 20r | 20                       | 10                     | 1.45                                               | 1.5                   | 1.5                          | 230                                               | 350                   | 260                       | 440                           | TT&TN-S 4 | A9L020501 |
|                                                                                           | iPRU 20  | 20                       | 10                     | 1.45                                               | 1.5                   | 1.5                          | 230                                               | 350                   | 260                       | 440                           | TT&TN-S 4 | A9L020500 |
|                                                                                           | iPRU 10  | 10                       | 5                      | 1.2                                                | 1.0                   | 1.2                          | 230                                               | 350                   | 260                       | 440                           | TT&TN-S 4 | A9L010500 |



A9L065601

| Type                                                                              | Product  | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥ | U <sub>n</sub><br>(V)<br>L/⊥ | U <sub>c</sub> (V)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥ | ⊥/⊥ | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |           |
|-----------------------------------------------------------------------------------|----------|--------------------------|------------------------|----------------------------------------------------|-----------------------|------------------------------|---------------------------------------------------|-----------------------|-----|--------------------|-------------------------------|-----------|-----------|
|  | iPRU 65r | 65                       | 35                     | 1.9                                                | 1.5                   | 2.25                         | 230/400                                           | 350                   | 260 | 440                | TT&TN-S                       | 8         | A9L065601 |
|                                                                                   | iPRU 40r | 40                       | 20                     | 1.7                                                | 1.5                   | 1.85                         | 230/400                                           | 350                   | 260 | 440                | TT&TN-S                       | 8         | A9L040601 |
|                                                                                   | iPRU 40  | 40                       | 20                     | 1.7                                                | 1.5                   | 1.85                         | 230/400                                           | 350                   | 260 | 440                | TT&TN-S                       | 8         | A9L040600 |
|                                                                                   | iPRU 20r | 20                       | 10                     | 1.45                                               | 1.5                   | 1.5                          | 230/400                                           | 350                   | 260 | 440                | TT&TN-S                       | 8         | A9L020601 |
|                                                                                   | iPRU 20  | 20                       | 10                     | 1.45                                               | 1.5                   | 1.5                          | 230/400                                           | 350                   | 260 | 440                | TT&TN-S                       | 8         | A9L020600 |
|                                                                                   | iPRU 10  | 10                       | 5                      | 1.2                                                | 1.0                   | 1.2                          | 230/400                                           | 350                   | 260 | 440                | TT&TN-S                       | 8         | A9L010600 |

| Type                 | Product     | Applied to                        | Width<br>(In mod. of 9 mm) | Reference |
|----------------------|-------------|-----------------------------------|----------------------------|-----------|
| Pluggable<br>modules | iD65-350    | iPRU 65r                          | 2                          | A9L065102 |
|                      | iD40-350    | iPRU 40r / 40                     | 2                          | A9L040102 |
|                      | iD20-350    | iPRU 20r / 20                     | 2                          | A9L020102 |
|                      | iD10-350    | iPRU 10                           | 2                          | A9L010102 |
|                      | iDGn-350    | iPRU 65r / 40r / 40 / 20r / 20 Gn | 2                          | A9L000002 |
|                      | iDGn 10-350 | iPRU 10 Gn                        | 2                          | A9L010002 |

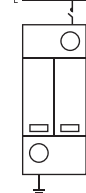


A9L120101

| Type | Product | $I_{\max}$<br>(kA) | $I_n$<br>(kA) | $U_p$ (kV)           |                | $U_n$<br>(V) | $U_c$ (V)            |                | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |
|------|---------|--------------------|---------------|----------------------|----------------|--------------|----------------------|----------------|--------------------|-------------------------------|-----------|
|      |         |                    |               | differential<br>mode | common<br>mode |              | differential<br>mode | common<br>mode |                    |                               |           |
|      |         |                    |               | L/N                  | N/⊥            | L/⊥          | L/N                  | N/⊥            | L/⊥                |                               |           |

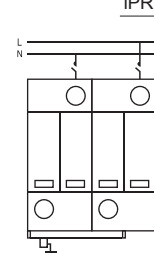
1P

L



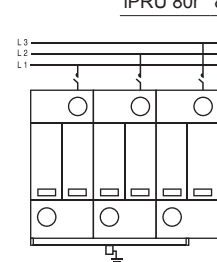
| Type | Product | $I_{\max}$<br>(kA) | $I_n$<br>(kA) | $U_p$ (kV)           |                | $U_n$<br>(V) | $U_c$ (V)            |                | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |
|------|---------|--------------------|---------------|----------------------|----------------|--------------|----------------------|----------------|--------------------|-------------------------------|-----------|
|      |         |                    |               | differential<br>mode | common<br>mode |              | differential<br>mode | common<br>mode |                    |                               |           |
|      |         |                    |               | L/N                  | N/⊥            | L/⊥          | L/N                  | N/⊥            | L/⊥                |                               |           |

2P

L  
N

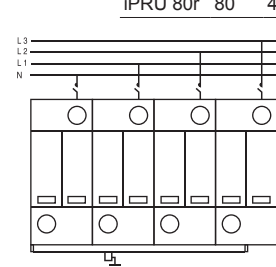
| Type | Product | $I_{\max}$<br>(kA) | $I_n$<br>(kA) | $U_p$ (kV)           |                | $U_n$<br>(V) | $U_c$ (V)            |                | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |
|------|---------|--------------------|---------------|----------------------|----------------|--------------|----------------------|----------------|--------------------|-------------------------------|-----------|
|      |         |                    |               | differential<br>mode | common<br>mode |              | differential<br>mode | common<br>mode |                    |                               |           |
|      |         |                    |               | L/N                  | N/⊥            | L/⊥          | L/N                  | N/⊥            | L/⊥                |                               |           |

3P

L3  
L2  
L1

| Type | Product | $I_{\max}$<br>(kA) | $I_n$<br>(kA) | $U_p$ (kV)           |                | $U_n$<br>(V) | $U_c$ (V)            |                | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |
|------|---------|--------------------|---------------|----------------------|----------------|--------------|----------------------|----------------|--------------------|-------------------------------|-----------|
|      |         |                    |               | differential<br>mode | common<br>mode |              | differential<br>mode | common<br>mode |                    |                               |           |
|      |         |                    |               | L/N                  | N/⊥            | L/⊥          | L/N                  | N/⊥            | L/⊥                |                               |           |

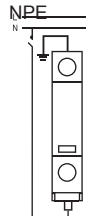
4P

L3  
L2  
L1  
N

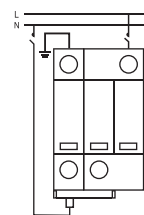


A9L120001

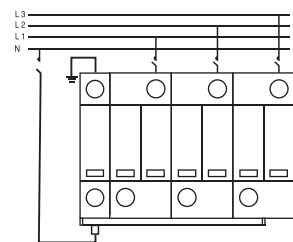
| Type                                                                                                                     | Product      | $I_{\max}$<br>(kA) | $I_n$<br>(kA) | $U_p$ (kV)<br>differential<br>mode<br><br>L/N | common<br>mode<br><br>N/⊥ | $U_n$<br>(V)<br><br>L/⊥ | $U_c$ (V)<br>differential<br>mode<br><br>L/N | common<br>mode<br><br>N/⊥ | $U_c$ (V)<br>common<br>mode<br><br>L/⊥ | Width<br>(In mod. of<br>9 mm) | Reference |           |
|--------------------------------------------------------------------------------------------------------------------------|--------------|--------------------|---------------|-----------------------------------------------|---------------------------|-------------------------|----------------------------------------------|---------------------------|----------------------------------------|-------------------------------|-----------|-----------|
| <div>NPE</div> <div>N</div> <div></div> | iPRU 120r Gn | -                  | -             | -                                             | ≤1.5                      | -                       | -                                            | -                         | 260                                    | -                             | 2         | A9L120001 |
|                                                                                                                          | iPRU 80r Gn  | -                  | -             | -                                             | ≤1.5                      | -                       | -                                            | -                         | 260                                    | -                             | 2         | A9L080001 |



| Type | Product   | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥ |      | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥ |     | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference                         |
|------|-----------|--------------------------|------------------------|----------------------------------------------------|-----------------------|------|-----------------------|---------------------------------------------------|-----------------------|-----|--------------------|-------------------------------|-----------------------------------|
| 1P+N | iPRU 120r | 120                      | 60                     | 3.0                                                | 1.5                   | 3.5  | 230                   | 350                                               | 260                   | 440 | TT&TN-S            | 6                             | 1x A9L120101<br>+<br>1x A9L120001 |
|      | iPRU 80r  | 80                       | 40                     | 2.2                                                | 1.5                   | 2.65 | 230                   | 350                                               | 260                   | 440 | TT&TN-S            | 6                             | 1x A9L080101<br>+<br>1x A9L080001 |



| Type | Product   | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥ |      | U <sub>n</sub><br>(V)<br>230/400 | U <sub>c</sub> (V)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥ |     | Earthing<br>system<br>L/⊥ | Width<br>(In mod. of<br>9 mm) | Reference                         |
|------|-----------|--------------------------|------------------------|----------------------------------------------------|-----------------------|------|----------------------------------|---------------------------------------------------|-----------------------|-----|---------------------------|-------------------------------|-----------------------------------|
| 3P+N | iPRU 120r | 120                      | 60                     | 3.0                                                | 1.5                   | 3.5  | 230/400                          | 350                                               | 260                   | 440 | TT&TN-S                   | 14                            | 3x A9L120101<br>+<br>1x A9L120001 |
|      | iPRU 80r  | 80                       | 40                     | 2.2                                                | 1.5                   | 2.65 | 230/400                          | 350                                               | 260                   | 440 | TT&TN-S                   | 14                            | 3x A9L080101<br>+<br>1x A9L080001 |

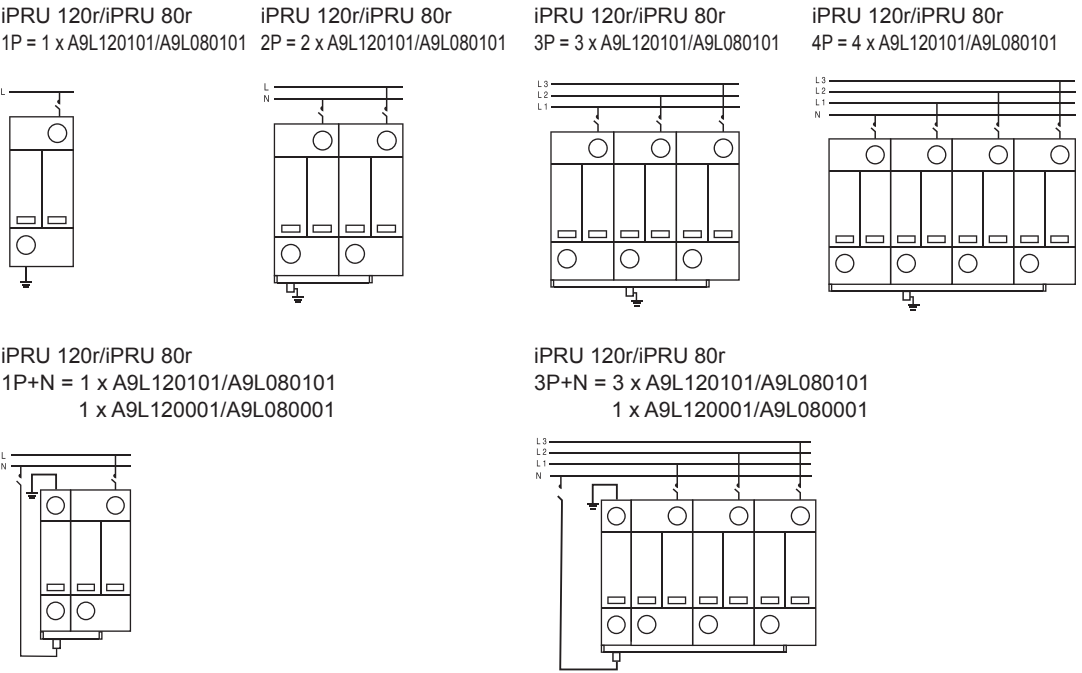


| Type                 | Product      | Applied to   | Width<br>(In mod. of 9 mm) | Reference |
|----------------------|--------------|--------------|----------------------------|-----------|
| Pluggable<br>modules | iD120-350    | iPRU 120r    | 4                          | A9L120102 |
|                      | iDGn 120-350 | iPRU 120r Gn | 2                          | A9L120002 |
|                      | iD80-350     | iPRU 80r     | 4                          | A9L080102 |
|                      | iDGn 80-350  | iPRU 80r Gn  | 2                          | A9L080002 |

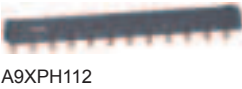
Type

|                                |               |                                  |               |
|--------------------------------|---------------|----------------------------------|---------------|
| ● iPRU 120r/iPRU 80r           |               | ● iPRU 120r/iPRU 80r             |               |
| ○ 1P = 1 x A9L120101/A9L080101 | (Reference)   | ○ 1P+N = 1 x A9L120101/A9L080101 | (Reference)   |
| ○ 2P = 2 x A9L120101/A9L080101 | (Reference)   | 1 x A9L120001/A9L080001          | (Reference)   |
| 1 x A9XPH112                   | (Comb busbar) | 1 x A9XPH112                     | (Comb busbar) |
| 2 x A9XPE110                   | (Side plates) | 2 x A9XPE110                     | (Side plates) |
| ○ 3P = 3 x A9L120101/A9L080101 | (Reference)   | ○ 3P+N = 3 x A9L120101/A9L080101 | (Reference)   |
| 1 x A9XPH112                   | (Comb busbar) | 1 x A9L120001/A9L080001          | (Reference)   |
| 2 x A9XPE110                   | (Side plates) | 1 x A9XPH112                     | (Comb busbar) |
| ○ 4P = 4 x A9L120101/A9L080101 | (Reference)   | 2 x A9XPE110                     | (Side plates) |
| 1 x A9XPH112                   | (Comb busbar) |                                  |               |
| 2 x A9XPE110                   | (Side plates) |                                  |               |

Connection



Accessories

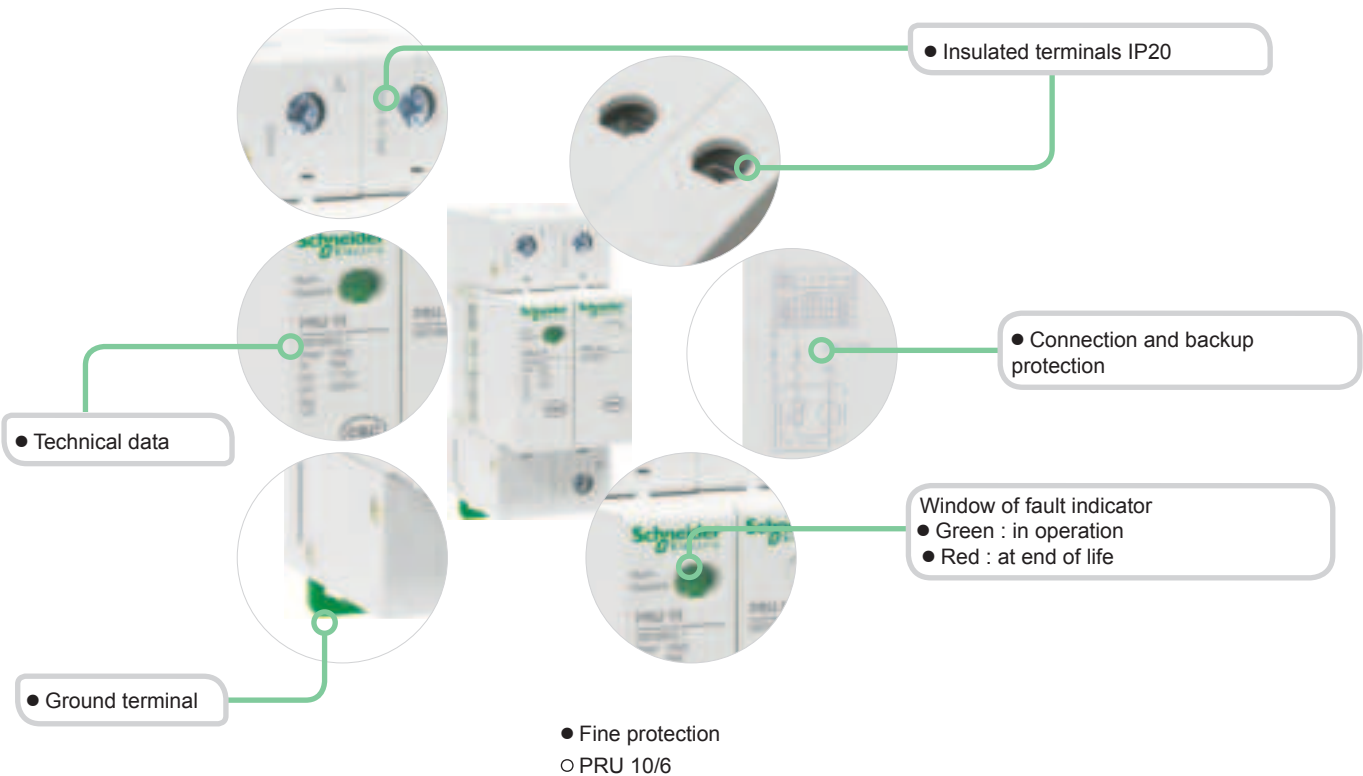


A9XPH112

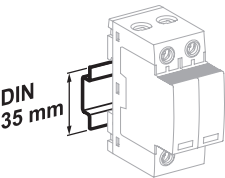
| Type             | Comb busbar root number | Length<br>(In mod. of 18 mm) | Reference |
|------------------|-------------------------|------------------------------|-----------|
| iC65 comb busbar |                         |                              |           |
| 1P               | 1                       | 12                           | A9XPH112  |

| Type      |                           |                        | Reference |
|-----------|---------------------------|------------------------|-----------|
| Accessory |                           |                        |           |
|           | Side plates (a set of 10) | Applied to comb busbar | A9XPE110  |

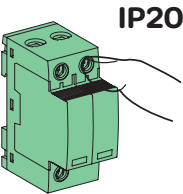
# PRU enclosure dedicated surge protective device



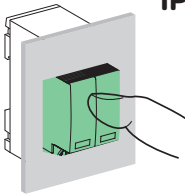
## Description



Installed on the 35 mm DIN rail



IP20



IP40

## Technical data

| Main characteristics                    |                   |                                                                                       |
|-----------------------------------------|-------------------|---------------------------------------------------------------------------------------|
| Standard                                | GB 18802.1        |                                                                                       |
| Test class                              | II / T2           |                                                                                       |
| Operating frequency                     | 50/60 Hz          |                                                                                       |
| Rated operating voltage Uo              | 230 V AC          |                                                                                       |
| Maximum continuous operating voltage Uc | 320 V             |                                                                                       |
| Maximum discharge current Imax          | 10/6 kA           |                                                                                       |
| Nominal discharge current In            | 5/3 kA            |                                                                                       |
| Up                                      | 1.1/1.0 kV        |                                                                                       |
| Poles                                   | 1P+N              |                                                                                       |
| Earthing system                         | TT, TN            |                                                                                       |
| Additional characteristics              |                   |                                                                                       |
| End of life indication                  | Indication window |                                                                                       |
|                                         | Green             | In operation                                                                          |
|                                         | Red               | Try to reset the handle, if success, SPD can keep operating , or else, at end of life |
| Degree of protection                    | IP20              |                                                                                       |
| Response time                           | 25 ns             |                                                                                       |
| Working temperature                     | -5°C ~ +40°C      |                                                                                       |
| Storage temperature                     | -40°C ~ +70°C     |                                                                                       |

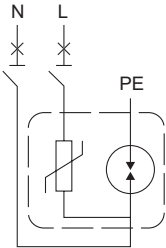
## Connection

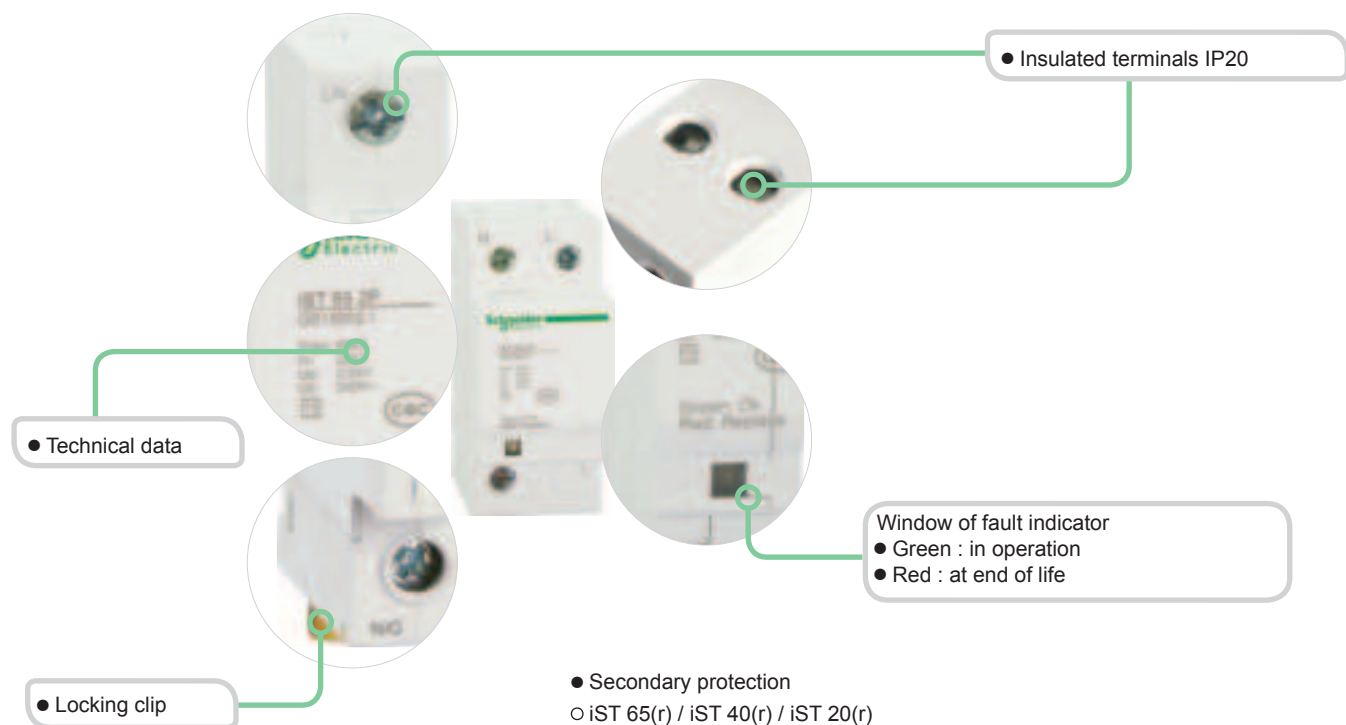
| Maximum discharge current Imax | Tightening torque | Type of connection terminals |                | Recommended cables |                |
|--------------------------------|-------------------|------------------------------|----------------|--------------------|----------------|
|                                |                   | Rigid cable                  | Flexible cable | L/N                | Earthing cable |
| 10/6 kA                        | 2.5 Nm            | 2.5...35 mm²                 | 2.5...25 mm²   | ≥2.5 mm²           | ≥4 mm²         |



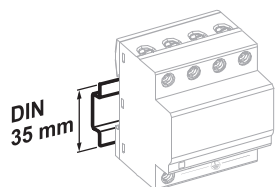
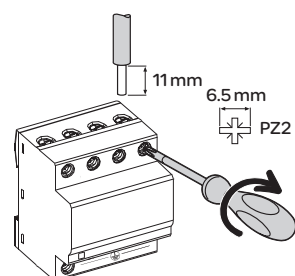
916902

| Type | Product | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)         | common |     | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)          | common |     | Width<br>(In mod. of<br>9 mm) | Reference |
|------|---------|--------------------------|------------------------|-----------------------------|--------|-----|-----------------------|-----------------------------|--------|-----|-------------------------------|-----------|
|      |         |                          |                        | differential<br>mode<br>L/N | N/⊥    | L/⊥ |                       | differential<br>mode<br>L/N | N/⊥    | L/⊥ |                               |           |
| 1P+N | PRU 10  | 10                       | 5                      | 1.1                         | 1.2    | 1.2 | 230                   | 320                         | 255    | 400 | 4                             | 916902    |
|      | PRU 6   | 6                        | 3                      | 1.0                         | 1.2    | 1.2 | 230                   | 320                         | 255    | 400 | 4                             | 916903    |

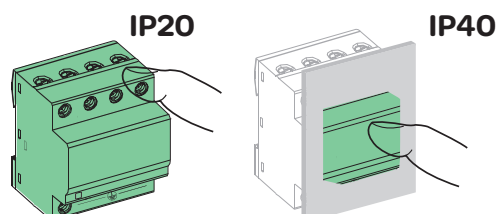




## Description



Installed on the 35 mm DIN rail



## Technical data

### Main characteristics

|                                            |                       |
|--------------------------------------------|-----------------------|
| Standard                                   | GB 18802.1-2011       |
| Test class                                 | II / T2               |
| Operating frequency                        | 50/60 Hz              |
| Rated operating voltage $U_o$              | 230 V AC              |
| Maximum continuous operating voltage $U_c$ | 340 V                 |
| Maximum discharge current $I_{max}$        | 65/40/20 kA           |
| Nominal discharge current $I_n$            | 35/20/10 kA           |
| $U_p$                                      | 2.0/1.5/1.2 kV        |
| Poles                                      | 1P/2P/3P/4P/1P+N/3P+N |
| Earthing system                            | TT, TN                |

### Additional characteristics

|                               |                           |                                                          |
|-------------------------------|---------------------------|----------------------------------------------------------|
| End of life indication        |                           | Indication light                                         |
|                               | Green                     | In operation                                             |
|                               | Red                       | At end of life                                           |
| End of life remote indication |                           | Remote signal                                            |
|                               | Contact                   | 11 common terminal, 12 normally closed, 14 normally open |
|                               | $U_c$                     | 250 V AC                                                 |
|                               | Maximum switching current | 0.25 A                                                   |
|                               | Connection capability     | 0.5...1.5 mm <sup>2</sup>                                |
| Degree of protection          |                           | IP20                                                     |
| Response time                 |                           | 25 ns                                                    |
| Working temperature           |                           | -20°C ~ +60°C                                            |
| Storage temperature           |                           | -40°C ~ +70°C                                            |
| $I_{le}$ (0.75U1mA)           |                           | < 210 $\mu$ A (Without internal auxiliary circuit)       |
|                               |                           | < 760 $\mu$ A (With internal auxiliary circuit)          |

## Connection

| Maximum discharge current $I_{max}$ | Tightening torque | Type of connection terminals |                          | Recommended cables |                    |
|-------------------------------------|-------------------|------------------------------|--------------------------|--------------------|--------------------|
|                                     |                   | Rigid cable                  | Flexible cable           | L/N                | Earthing cable     |
| 65/40/20 kA                         | 3.5 Nm            | 2.5...35 mm <sup>2</sup>     | 2.5...25 mm <sup>2</sup> | ≥4 mm <sup>2</sup> | ≥6 mm <sup>2</sup> |



A9L916600

| Type                                                                              | Product | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)  |                | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)   |                | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |   |           |
|-----------------------------------------------------------------------------------|---------|--------------------------|------------------------|----------------------|----------------|-----------------------|----------------------|----------------|--------------------|-------------------------------|-----------|---|-----------|
|                                                                                   |         |                          |                        | differential<br>mode | common<br>mode |                       | differential<br>mode | common<br>mode |                    |                               |           |   |           |
|                                                                                   |         |                          |                        | L/N                  | N/⊥            |                       | L/⊥                  | N/⊥            |                    |                               |           |   |           |
|  | iST 65  | 65                       | 35                     | -                    | -              | ≤2.0                  | 230                  | -              | -                  | 340                           | TN        | 2 | A9L916600 |
|                                                                                   | iST 40  | 40                       | 20                     | -                    | -              | ≤1.5                  | 230                  | -              | -                  | 340                           | TN        | 2 | A9L916609 |
|                                                                                   | iST 20  | 20                       | 10                     | -                    | -              | ≤1.2                  | 230                  | -              | -                  | 340                           | TT & TN   | 2 | A9L916618 |



A9L916603

| Type                                                                              | Product | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | Up(kV)               |                |      | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)   |                |     | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |
|-----------------------------------------------------------------------------------|---------|--------------------------|------------------------|----------------------|----------------|------|-----------------------|----------------------|----------------|-----|--------------------|-------------------------------|-----------|
|                                                                                   |         |                          |                        | differential<br>mode | common<br>mode | L/N  |                       | differential<br>mode | common<br>mode | L/N |                    |                               |           |
|                                                                                   |         |                          |                        |                      |                |      |                       |                      |                |     |                    |                               |           |
|  | iST 65  | 65                       | 35                     | -                    | ≤2.0           | ≤2.0 | 230                   | -                    | 340            | 340 | TN-S               | 4                             | A9L916603 |
|                                                                                   | iST 40  | 40                       | 20                     | -                    | ≤1.5           | ≤1.5 | 230                   | -                    | 340            | 340 | TN-S               | 4                             | A9L916612 |
|                                                                                   | iST 20  | 20                       | 10                     | -                    | ≤1.2           | ≤1.2 | 230                   | -                    | 340            | 340 | TT & TN-S          | 4                             | A9L916621 |



A9L916604

| Type                                                                                | Product | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | Up(kV)               |                | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)   |                | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |     |           |
|-------------------------------------------------------------------------------------|---------|--------------------------|------------------------|----------------------|----------------|-----------------------|----------------------|----------------|--------------------|-------------------------------|-----------|-----|-----------|
|                                                                                     |         |                          |                        | differential<br>mode | common<br>mode |                       | differential<br>mode | common<br>mode |                    |                               |           |     |           |
|                                                                                     |         |                          |                        | L/N                  | N/⊥            |                       | L/⊥                  | L/N            |                    |                               |           | N/⊥ | L/⊥       |
|  | iST 65  | 65                       | 35                     | -                    | -              | ≤2.0                  | 230/400              | -              | -                  | 340                           | TN-C      | 8   | A9L916604 |
|                                                                                     | iST 40  | 40                       | 20                     | -                    | -              | ≤1.5                  | 230/400              | -              | -                  | 340                           | TN-C      | 8   | A9L916613 |
|                                                                                     | iST 20  | 20                       | 10                     | -                    | -              | ≤1.2                  | 230/400              | -              | -                  | 340                           | TT & TN-C | 8   | A9L916622 |



A9L916607

| Type                                                                                | Product | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | Up(kV)               |                | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)   |                | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |     |           |
|-------------------------------------------------------------------------------------|---------|--------------------------|------------------------|----------------------|----------------|-----------------------|----------------------|----------------|--------------------|-------------------------------|-----------|-----|-----------|
|                                                                                     |         |                          |                        | differential<br>mode | common<br>mode |                       | differential<br>mode | common<br>mode |                    |                               |           |     |           |
|                                                                                     |         |                          |                        | L/N                  | N/⊥            |                       | L/⊥                  | L/N            |                    |                               |           | N/⊥ | L/⊥       |
|  | iST 65r | 65                       | 35                     | -                    | ≤2.0           | ≤2.0                  | 230/400              | -              | 340                | 340                           | TN-S      | 8   | A9L916607 |
|                                                                                     | iST 65  | 65                       | 35                     | -                    | ≤2.0           | ≤2.0                  | 230/400              | -              | 340                | 340                           | TN-S      | 8   | A9L916608 |
|                                                                                     | iST 40r | 40                       | 20                     | -                    | ≤1.5           | ≤1.5                  | 230/400              | -              | 340                | 340                           | TN-S      | 8   | A9L916616 |
|                                                                                     | iST 40  | 40                       | 20                     | -                    | ≤1.5           | ≤1.5                  | 230/400              | -              | 340                | 340                           | TN-S      | 8   | A9L916617 |
|                                                                                     | iST 20  | 20                       | 10                     | -                    | ≤1.2           | ≤1.2                  | 230/400              | -              | 340                | 340                           | TT & TN-S | 8   | A9L916624 |



A9L916611

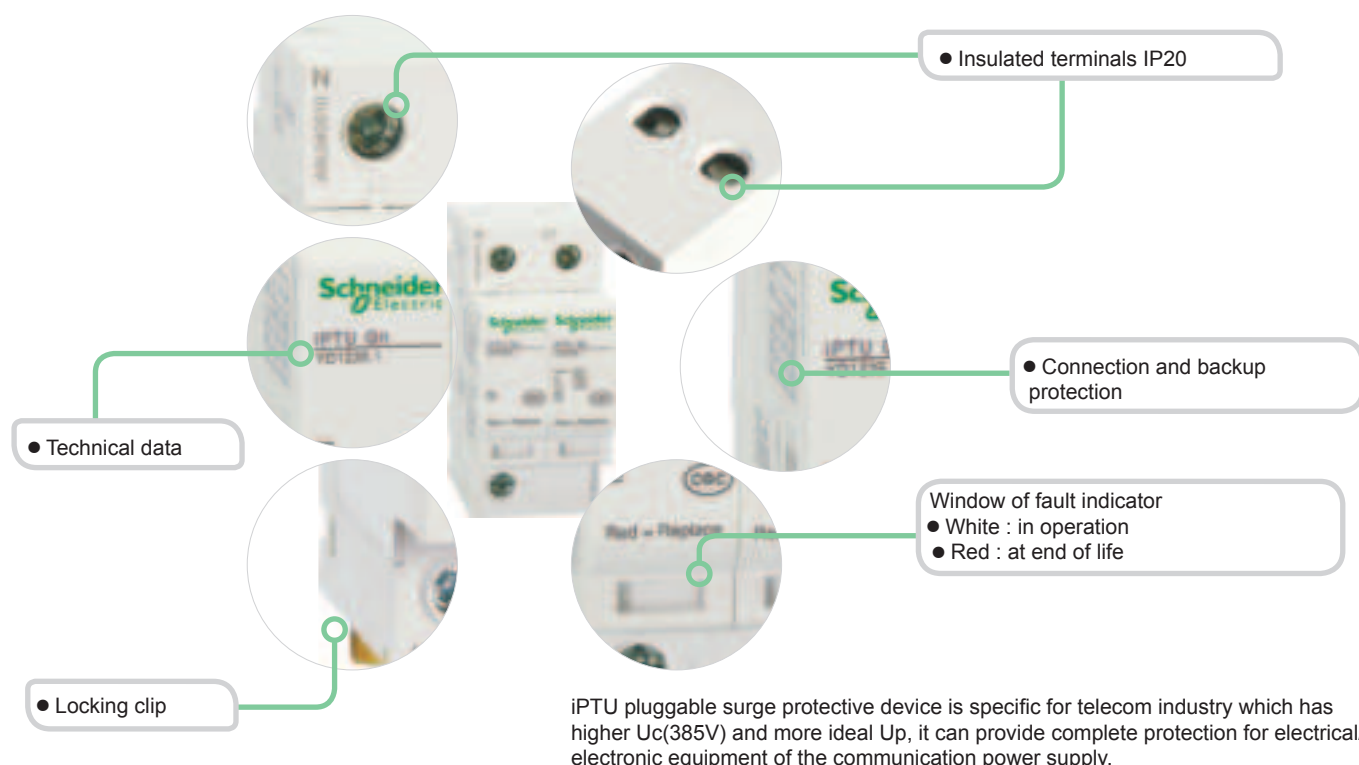
| Type                                                                                     | Product | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)  |                | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)   |                | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference   |           |
|------------------------------------------------------------------------------------------|---------|--------------------------|------------------------|----------------------|----------------|-----------------------|----------------------|----------------|--------------------|-------------------------------|-------------|-----------|
|                                                                                          |         |                          |                        | differential<br>mode | common<br>mode |                       | differential<br>mode | common<br>mode |                    |                               |             |           |
|                                                                                          |         |                          |                        | L/N                  | N/⏏            | L/⏏                   | L/N                  | N/⏏            | L/⏏                |                               |             |           |
|  1P+N | iST 40  | 40                       | 20                     | ≤1.5                 | ≤1.5           | ≤1.7                  | 230                  | 340            | 260                | 440                           | TT & TN-S 4 | A9L916611 |
|                                                                                          | iST 20  | 20                       | 10                     | ≤1.2                 | ≤1.6           | ≤1.5                  | 230                  | 340            | 260                | 440                           | TT & TN-S 4 | A9L916620 |



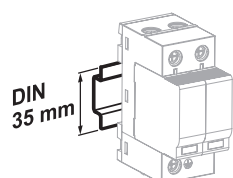
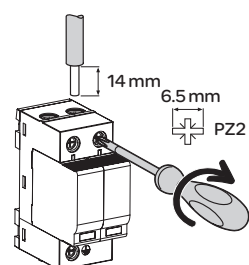
A9L916615

| Type                                                                                | Product | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | Up(kV)               |                | U <sub>n</sub><br>(V) | U <sub>c</sub> (V)   |                | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |     |           |
|-------------------------------------------------------------------------------------|---------|--------------------------|------------------------|----------------------|----------------|-----------------------|----------------------|----------------|--------------------|-------------------------------|-----------|-----|-----------|
|                                                                                     |         |                          |                        | differential<br>mode | common<br>mode |                       | differential<br>mode | common<br>mode |                    |                               |           |     |           |
|                                                                                     |         |                          |                        | L/N                  | N/⊥            |                       | L/⊥                  | L/N            |                    |                               |           | N/⊥ | L/⊥       |
|  | iST 65r | 65                       | 35                     | ≤2.0                 | ≤1.5           | ≤2.1                  | 230/400              | 340            | 260                | 440                           | TT & TN-S | 8   | A9L916605 |
|                                                                                     | iST 65  | 65                       | 35                     | ≤2.0                 | ≤1.5           | ≤2.1                  | 230/400              | 340            | 260                | 440                           | TT & TN-S | 8   | A9L916606 |
|                                                                                     | iST 40r | 40                       | 20                     | ≤1.5                 | ≤1.5           | ≤1.7                  | 230/400              | 340            | 260                | 440                           | TT & TN-S | 8   | A9L916614 |
|                                                                                     | iST 40  | 40                       | 20                     | ≤1.5                 | ≤1.5           | ≤1.7                  | 230/400              | 340            | 260                | 440                           | TT & TN-S | 8   | A9L916615 |
|                                                                                     | iST 20r | 20                       | 10                     | ≤1.2                 | ≤1.6           | ≤1.5                  | 230/400              | 340            | 260                | 440                           | TT & TN-S | 8   | A9L916625 |
|                                                                                     | iST 20  | 20                       | 10                     | ≤1.2                 | ≤1.6           | ≤1.5                  | 230/400              | 340            | 260                | 440                           | TT & TN-S | 8   | A9L916623 |

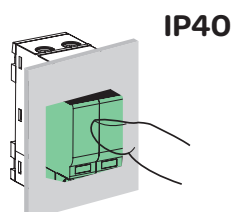
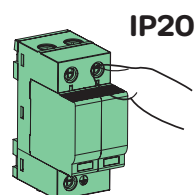




## Description



Installed on the 35 mm DIN rail



## Technical data

### Main characteristics

|                                            |            |
|--------------------------------------------|------------|
| Standard                                   | YD 1235.1  |
| Test class                                 | II / T2    |
| Operating frequency                        | 50/60 Hz   |
| Rated operating voltage $U_o$              | 230 V AC   |
| Maximum continuous operating voltage $U_c$ | 385 V      |
| Maximum discharge current $I_{max}$        | 40/20 kA   |
| Nominal discharge current $I_n$            | 20/10 kA   |
| $U_p$                                      | 1.6/1.5 kV |
| Poles                                      | 1P+N/3P+N  |
| Earthing system                            | TT, TN     |

### Additional characteristics

|                               |                                                          |
|-------------------------------|----------------------------------------------------------|
| End of life indication        | Indication window                                        |
| White                         | In operation                                             |
| Red                           | At end of life                                           |
| End of life remote indication | Remote signal                                            |
| Contact                       | 11 common terminal, 12 normally closed, 14 normally open |
| $U_c$                         | 250 V AC                                                 |
| Maximum switching current     | 1 A                                                      |
| Connection capability         | 0.5...1.5 mm <sup>2</sup>                                |
| Degree of protection          | IP20                                                     |
| Response time                 | 25 ns                                                    |
| Working temperature           | -20°C ~ +60°C                                            |
| Storage temperature           | -40°C ~ +70°C                                            |
| $I_{le}$ (0.75U1mA)           | < 20 $\mu$ A                                             |

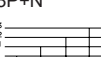
## Connection

| Maximum discharge current $I_{max}$ | Tightening torque | Type of connection terminals |                          | Recommended cables       |                          |
|-------------------------------------|-------------------|------------------------------|--------------------------|--------------------------|--------------------------|
|                                     |                   | Rigid cable                  | Flexible cable           | L/N                      | Earthing cable           |
| 40/20 kA                            | 3.5 Nm            | 2.5...35 mm <sup>2</sup>     | 2.5...25 mm <sup>2</sup> | $\geq 4$ mm <sup>2</sup> | $\geq 6$ mm <sup>2</sup> |



A9L040510

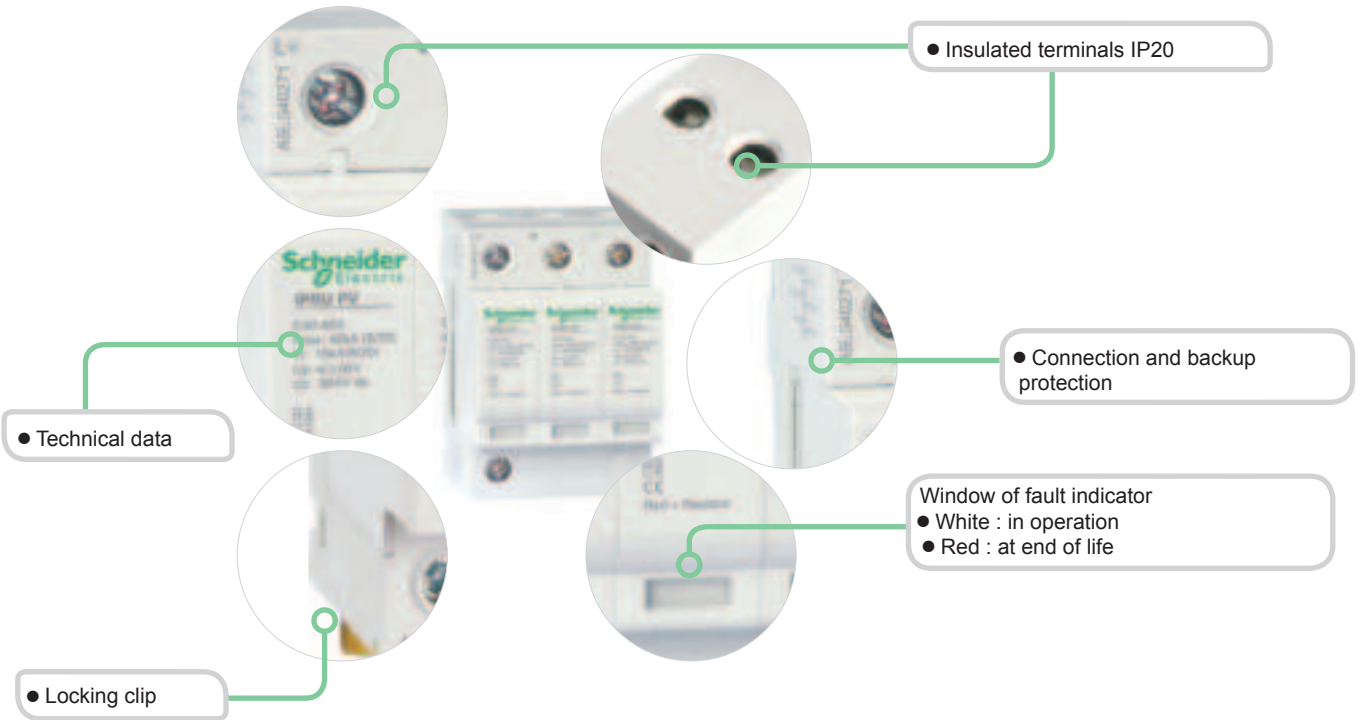
| Type | Product | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥<br>L/⊥ | U <sub>n</sub><br>(V)<br>L/⊥ | U <sub>c</sub> (V)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥<br>L/⊥ | Earthing<br>system<br>L/⊥ | Width<br>(In mod. of<br>9 mm) | Reference |   |           |
|------|---------|--------------------------|------------------------|----------------------------------------------------|------------------------------|------------------------------|---------------------------------------------------|------------------------------|---------------------------|-------------------------------|-----------|---|-----------|
| 1P+N | iPTU 40 | 40                       | 20                     | ≤1.6                                               | ≤1.5                         | ≤1.8                         | 230                                               | 385                          | 260                       | 500                           | TT & TN-S | 4 | A9L040510 |
|      | iPTU 20 | 20                       | 10                     | ≤1.5                                               | ≤1.5                         | ≤1.6                         | 230                                               | 385                          | 260                       | 500                           | TT & TN-S | 4 | A9L020510 |

| Type                                                                                      | Product  | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | U <sub>p</sub> (kV)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥<br>L/⊥ | U <sub>n</sub><br>(V)<br>L/⊥ | U <sub>c</sub> (V)<br>differential<br>mode<br>L/N | common<br>mode<br>N/⊥<br>L/⊥ | Earthing<br>system | Width<br>(In mod. of<br>9 mm) | Reference |   |           |
|-------------------------------------------------------------------------------------------|----------|--------------------------|------------------------|----------------------------------------------------|------------------------------|------------------------------|---------------------------------------------------|------------------------------|--------------------|-------------------------------|-----------|---|-----------|
| 3P+N<br> | iPTU 40r | 40                       | 20                     | ≤1.6                                               | ≤1.5                         | ≤1.8                         | 230/400                                           | 385                          | 260                | 500                           | TT & TN-S | 8 | A9L040611 |
|                                                                                           | iPTU 40  | 40                       | 20                     | ≤1.6                                               | ≤1.5                         | ≤1.8                         | 230/400                                           | 385                          | 260                | 500                           | TT & TN-S | 8 | A9L040610 |
|                                                                                           | iPTU 20r | 20                       | 10                     | ≤1.5                                               | ≤1.5                         | ≤1.6                         | 230/400                                           | 385                          | 260                | 500                           | TT & TN-S | 8 | A9L020611 |
|                                                                                           | iPTU 20  | 20                       | 10                     | ≤1.5                                               | ≤1.5                         | ≤1.6                         | 230/400                                           | 385                          | 260                | 500                           | TT & TN-S | 8 | A9L020610 |
|                                                                                           |          |                          |                        |                                                    |                              |                              |                                                   |                              |                    |                               |           |   |           |



A9L020611

| Type        | Product  | Applied to               | Width<br>(In mod. of 9 mm) | Reference |
|-------------|----------|--------------------------|----------------------------|-----------|
| Replaceable | iD40-385 | iPTU 40r / 40            | 2                          | A9L040112 |
| part        | iD20-385 | iPTU 20r / 20            | 2                          | A9L020112 |
|             | iDGn     | iPTU 40r / 40 / 20r / 20 | 2                          | A9L000012 |



Protect photovoltaic power generation equipment, as well as potential replaceable part of other DC system.

Description

Technical data

| Main characteristics                       |                                                          |
|--------------------------------------------|----------------------------------------------------------|
| Maximum continuous operating voltage $U_c$ | 800/1000 V DC                                            |
| Maximum discharge current $I_{max}$        | 40 kA                                                    |
| Nominal discharge current $I_n$            | 15 kA                                                    |
| $U_p$                                      | 3.0/3.9 kV                                               |
| Additional characteristics                 |                                                          |
| End of life indication                     | Indication window                                        |
| White                                      | In operation                                             |
| Red                                        | At end of life                                           |
| End of life remote indication              | Remote signal                                            |
| Contact                                    | 11 common terminal, 12 normally closed, 14 normally open |
| $U_c$                                      | 250 V AC                                                 |
| Maximum switching current                  | 1 A                                                      |
| Connection capability                      | 0.5...1.5 mm <sup>2</sup>                                |
| Degree of protection                       | IP20                                                     |
| Response time                              | 25 ns                                                    |
| Working temperature                        | -20°C ~ +60°C                                            |
| Storage temperature                        | -40°C ~ +70°C                                            |

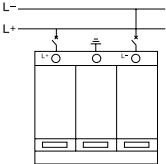
Connection

| Maximum discharge current $I_{max}$ | Tightening torque | Type of connection terminals |                          | Recommended cables |                    |
|-------------------------------------|-------------------|------------------------------|--------------------------|--------------------|--------------------|
|                                     |                   | Rigid cable                  | Flexible cable           | L/N                | Earthing cable     |
| 40 kA                               | 3.5 Nm            | 2.5...35 mm <sup>2</sup>     | 2.5...25 mm <sup>2</sup> | ≥4 mm <sup>2</sup> | ≥6 mm <sup>2</sup> |

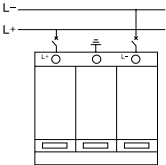


A9L040271

| Type | Product        | I <sub>max</sub> | I <sub>n</sub> | U <sub>p</sub> (kV) |             | U <sub>OCSTC</sub><br>(V) | U <sub>c</sub> (V) |             |             | Width<br>(In mod. of 9 mm) | Reference |           |
|------|----------------|------------------|----------------|---------------------|-------------|---------------------------|--------------------|-------------|-------------|----------------------------|-----------|-----------|
|      |                | (kA)             | (kA)           | L+/ $\perp$         | L-/ $\perp$ |                           | L+/ $\perp$        | L-/ $\perp$ | L+/ $\perp$ |                            |           |           |
| 3MOV | iPRU 40r 800PV | 40               | 15             | 1.6                 | 1.6         | 3.0                       | 600                | 600         | 600         | 840                        | 6         | A9L040271 |

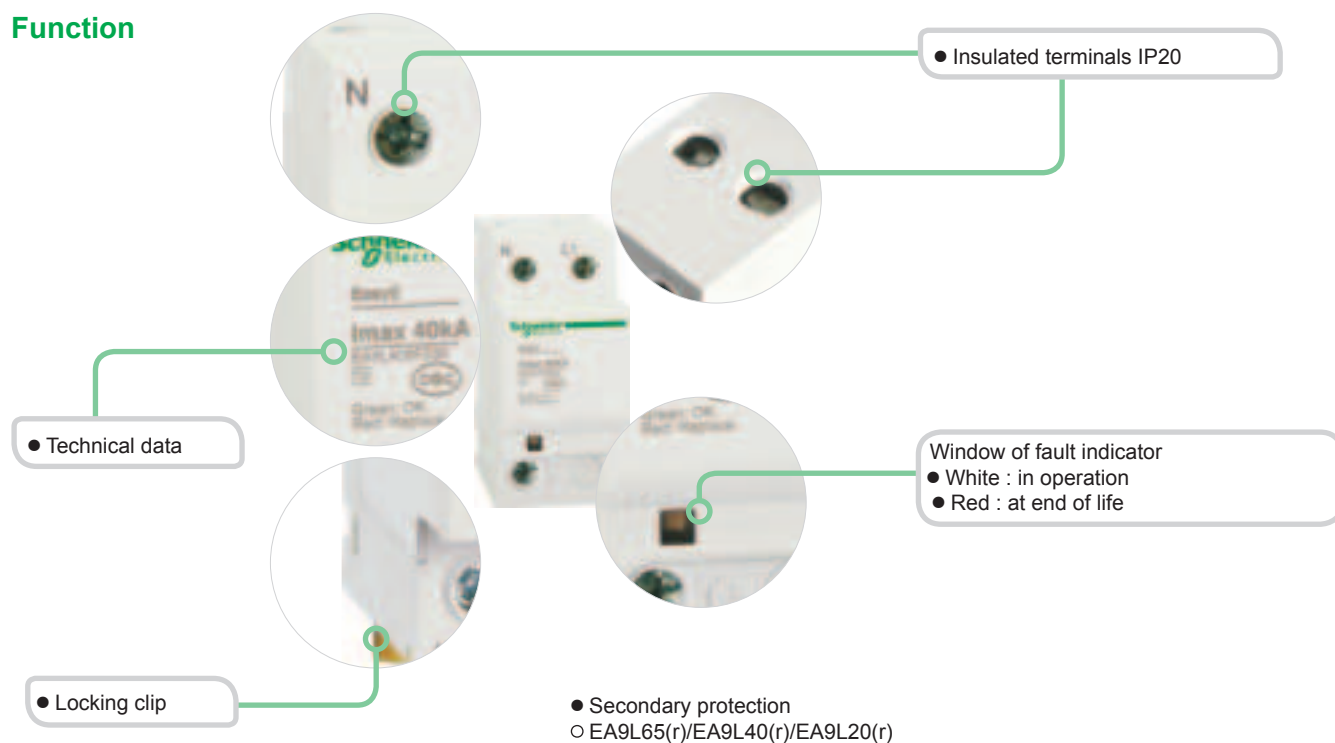


| Type | Product         | I <sub>max</sub> | I <sub>n</sub> | U <sub>p</sub> (kV) |             | U <sub>OCSTC</sub><br>(V) | U <sub>c</sub> (V) |             |             | Width<br>(In mod. of 9 mm) | Reference |           |
|------|-----------------|------------------|----------------|---------------------|-------------|---------------------------|--------------------|-------------|-------------|----------------------------|-----------|-----------|
|      |                 | (kA)             | (kA)           | L+/ $\perp$         | L-/ $\perp$ |                           | L+/-               | L+/ $\perp$ | L-/ $\perp$ |                            |           | L+/-      |
| 3MOV | iPRU 40r 1000PV | 40               | 15             | 3.9                 | 3.9         | 3.9                       | 1000               | 1230        | 1230        | 1230                       | 6         | A9L040281 |

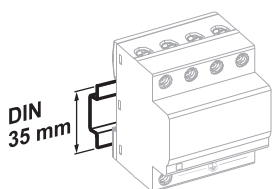
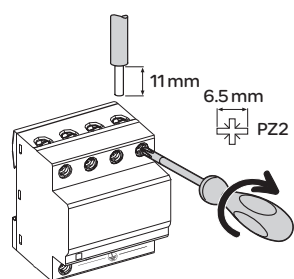


| Type                | Product     | Applied to      | Width<br>(In mod. of 9 mm) | Reference |
|---------------------|-------------|-----------------|----------------------------|-----------|
| Replaceable<br>part | iD40-800PV  | iPRU 40r 800PV  | 2                          | A9L040172 |
|                     | iD40-1000PV | iPRU 40r 1000PV | 2                          | A9L040182 |

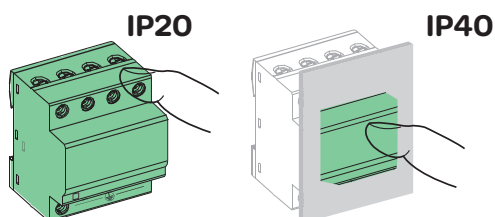
## Function



## Description



Installed on the 35 mm DIN rail



## Technical data

## Main characteristics

|                                            |                 |
|--------------------------------------------|-----------------|
| Standard                                   | GB 18802.1-2011 |
| Test class                                 | II / T2         |
| Operating frequency                        | 50/60 Hz        |
| Rated operating voltage $U_o$              | 230 V AC        |
| Maximum continuous operating voltage $U_c$ | 340 V           |
| Maximum discharge current $I_{max}$        | 65/40/20 kA     |
| Nominal discharge current $I_n$            | 35/20/10 kA     |
| $U_p$                                      | 2.0/1.5/1.2 kV  |
| Poles                                      | 1P+N/3P+N       |
| Earthing system                            | TT, TN          |

## Additional characteristics

|                                  |                                                    |                                                          |
|----------------------------------|----------------------------------------------------|----------------------------------------------------------|
| End of life indication           |                                                    | Indication window                                        |
|                                  | White                                              | In operation                                             |
|                                  | Red                                                | At end of life                                           |
| End of life remote indication    |                                                    | Remote signal                                            |
|                                  | Contact                                            | 11 common terminal, 12 normally closed, 14 normally open |
|                                  | $U_c$                                              | 250 V AC                                                 |
|                                  | Maximum switching current                          | 0.25 A                                                   |
|                                  | Connection capability                              | 0.5...1.5 mm <sup>2</sup>                                |
| Degree of protection             | IP20                                               |                                                          |
| Response time                    | 25 ns                                              |                                                          |
| Working temperature              | -20°C ~ +60°C                                      |                                                          |
| Storage temperature              | -40°C ~ +70°C                                      |                                                          |
| $I_{le}$ (0.75U <sub>1</sub> mA) | < 210 $\mu$ A (Without internal auxiliary circuit) |                                                          |
|                                  | < 760 $\mu$ A (With internal auxiliary circuit)    |                                                          |

## Connection

| Maximum discharge current $I_{max}$ | Tightening torque | Type of connection terminals |                          | Recommended cables |                    |
|-------------------------------------|-------------------|------------------------------|--------------------------|--------------------|--------------------|
|                                     |                   | Rigid cable                  | Flexible cable           | L/N                | Earthing cable     |
| 65/40/20 kA                         | 3.5 Nm            | 2.5...35 mm <sup>2</sup>     | 2.5...25 mm <sup>2</sup> | ≥4 mm <sup>2</sup> | ≥6 mm <sup>2</sup> |

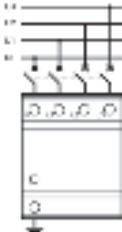


EA9L409F230

| Type                                                                                      | Reference   | Imax<br>(kA) | In<br>(kA) | Up(kV)                      |                              | Un<br>(V) | Uc(V)                       |                              | Earthing<br>system | Width<br>(In mod.<br>of 9 mm) |
|-------------------------------------------------------------------------------------------|-------------|--------------|------------|-----------------------------|------------------------------|-----------|-----------------------------|------------------------------|--------------------|-------------------------------|
|                                                                                           |             |              |            | differential<br>mode<br>L/N | common<br>mode<br>N/⊥<br>L/⊥ |           | differential<br>mode<br>L/N | common<br>mode<br>N/⊥<br>L/⊥ |                    |                               |
| 1P+N<br> | EA9L209F230 | 20           | 10         | 1.2                         | 1.6                          | 1.5       | 230                         | 340                          | 260 440            | TT & TN-S 4                   |
|                                                                                           | EA9L409F230 | 40           | 20         | 1.5                         | 1.5                          | 1.7       | 230                         | 340                          | 260 440            | TT & TN-S 4                   |
|                                                                                           | EA9L659F230 | 65           | 35         | 2.0                         | 1.5                          | 2.1       | 230                         | 340                          | 260 440            | TT & TN-S 4                   |



EA9L408F400

| Type                                                                                       | Reference    | Imax<br>(kA) | In<br>(kA) | Up(kV)                      |                              | Un<br>(V) | Uc(V)                       |                              | Earthing<br>system | Width<br>(In mod.<br>of 9 mm) |
|--------------------------------------------------------------------------------------------|--------------|--------------|------------|-----------------------------|------------------------------|-----------|-----------------------------|------------------------------|--------------------|-------------------------------|
|                                                                                            |              |              |            | differential<br>mode<br>L/N | common<br>mode<br>N/⊥<br>L/⊥ |           | differential<br>mode<br>L/N | common<br>mode<br>N/⊥<br>L/⊥ |                    |                               |
| 3P+N<br> | EA9L208Fr400 | 20           | 10         | 1.2                         | 1.6                          | 1.5       | 230/400                     | 340                          | 260 440            | TT & TN-S 8                   |
|                                                                                            | EA9L208F400  | 20           | 10         | 1.2                         | 1.6                          | 1.5       | 230/400                     | 340                          | 260 440            | TT & TN-S 8                   |
|                                                                                            | EA9L408Fr400 | 40           | 20         | 1.5                         | 1.5                          | 1.7       | 230/400                     | 340                          | 260 440            | TT & TN-S 8                   |
|                                                                                            | EA9L408F400  | 40           | 20         | 1.5                         | 1.5                          | 1.7       | 230/400                     | 340                          | 260 440            | TT & TN-S 8                   |
|                                                                                            | EA9L658Fr400 | 65           | 35         | 2.0                         | 1.5                          | 2.1       | 230/400                     | 340                          | 260 440            | TT & TN-S 8                   |
|                                                                                            | EA9L658F400  | 65           | 35         | 2.0                         | 1.5                          | 2.1       | 230/400                     | 340                          | 260 440            | TT & TN-S 8                   |

iPRC surge protective device is applied to protect sensitive equipment in analogue telephone line. Such as the telephones, the PABX, the modems (including ADSL), etc.

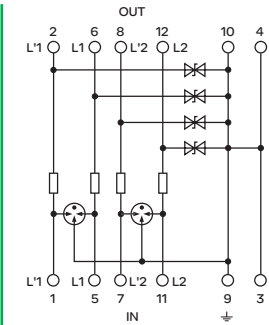
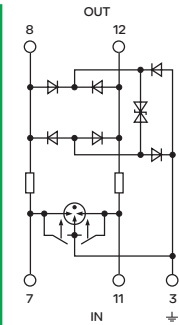
iPRI surge protective device is applied to protect sensitive equipment in digital telephone line .Such as automatic systems, computer networks, data networks, etc.



A9L16337

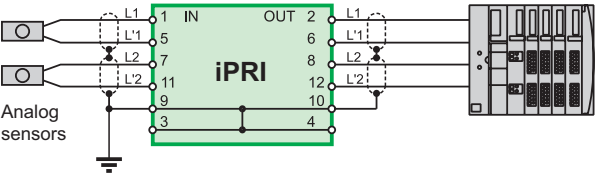
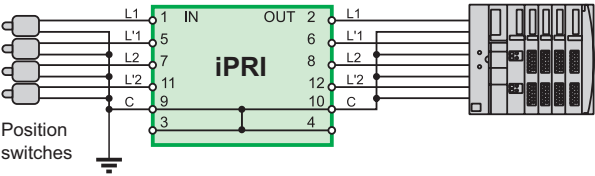
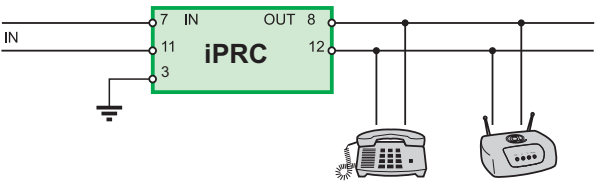


A9L16339

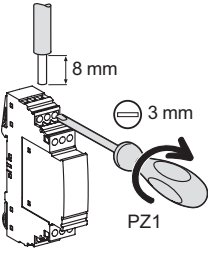


|                                   |                |          |                |
|-----------------------------------|----------------|----------|----------------|
| Line L1                           | 7-8            | Line L1  | 5-6            |
| Line L2                           | 11-12          | Line L2  | 11-12          |
| -                                 | -              | Line L'1 | 1-2            |
| -                                 | -              | Line L'2 | 7-8            |
| ⏏                                 | 3              | ⏏        | 3-4-9-10       |
| IN                                | Line side      | IN       | Line side      |
| OUT                               | Protected side | OUT      | Protected side |
|                                   |                |          |                |
| iPRC                              |                | iPRI     |                |
| Un                                | < 130V AC      |          | 48V DC         |
| Analogue telephone system         | ●              |          | -              |
| Telephone transmitter             | ●              |          | -              |
| Digital telephone system          | -              |          | ●              |
| Automation network                | -              |          | ●              |
| VLV load power supply (12...48 V) | -              |          | ●              |
| xDSL compatibility                | ●              |          | -              |
| Reference                         | A9L16337       |          | A9L16339       |
| Width (in mod. of 9 mm )          | 2              |          | 2              |

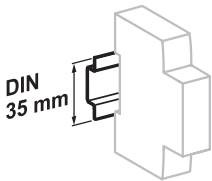
iPRC



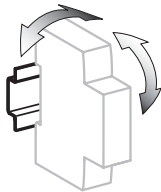
Type of connection terminals



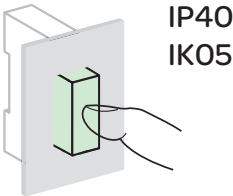
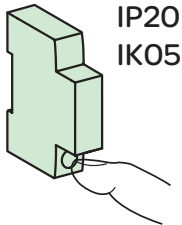
| Tightening torque | Copper cables                                                                                               |                                                                                                               |
|-------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
|                   | Rigid                                                                                                       | Flexible or ferrule                                                                                           |
| 0.8N.m            | <br>0.2-4mm <sup>2</sup> | <br>0.2-2.5mm <sup>2</sup> |



Installed on the 35 mm DIN rail



Fit to different direction of installation



Technical data

|                                              | iPRC                 | iPRI                 |
|----------------------------------------------|----------------------|----------------------|
| Standard                                     | GB 18802.21          |                      |
| The number of protected incoming lines       | 2                    | 2                    |
| Maximum continuous operating voltage (Uc)    | 180 V DC, 130 V AC   | 53 V DC, 37 V AC     |
| Up                                           | 300 V                | 70 V                 |
| Nominal discharge current (8/20)(In)         | 10 kA                | 10 kA                |
| Maximum discharge current Imax (8/20) (Imax) | 18 kA                | 10 kA                |
| Response time                                | < 500 ns             | ≤1 ns                |
| Nominal impulse current                      | 100 A                | 70 A                 |
| Rated current (IN)                           | 450 mA (under 45 °C) | 300 mA (under 45 °C) |
| Series resistance                            | 2.2 Ω                | 4.7 Ω                |
| End of life indication                       | No dial tone         | No transmission      |
| Degree of protection                         | Front panel          | IP20                 |
|                                              | Terminals            | IP40                 |
| IK                                           | 05                   | 05                   |
| Working temperature                          | -25 °C ~ +60 °C      | -25 °C ~ +60 °C      |
| Storage temperature                          | -40 °C ~ +85 °C      | -40 °C ~ +85 °C      |

Weight (g)

| Type | iPRC | iPRI |
|------|------|------|
|      | 25   | 65   |

## Function

SE antenna surge protective device is applied to protect all kinds of mobile communication base station, such as GPS positioning system, cable TV system, remote education system, and other high power communication equipment.

## Description

ETT antenna surge protective device can undertake narrowband or broadband design according to the principle of  $\lambda/4$ , and because lightning current has low frequency, it can be removed from the operating signal.

SETK antenna surge protective device uses coaxial gas discharge tube, it has better transmission characteristics and can obtain higher transmission frequency.

SEWT surge protective device interior is innovatively designed with passive, reciprocity work which makes the thunder electric wave and operating signal wave go through different channels and achieves the aim of shunt.

### Common technical data

- Standing wave ratio:  $\leq 1.2$  ( $\leq 1.5$ , F interface)
- Insertion loss:  $< 0.2$  dB
- $KT \leq 0.3$  dB
- British system F joint  $\leq 0.5$  dB
- Metric system FL joint  $\leq 1.0$  dB
- Maximum discharge current  $I_{max}$  (8/20 $\mu$ s): 60/40/20/10 kA
- nominal discharge current  $I_n$  (8/20 $\mu$ s): 40/20/10/5 kA
- Interface: Male/Female
- Characteristic impedance: 50  $\Omega$
- Third order intermodulation: Better than -160dBc
- Environmental temperature: -40  $^{\circ}$ C  $\sim$  +80  $^{\circ}$ C

### Standard

- GB/T 18802.21



911663

### SETT series $\lambda/4$ antenna surge protective device

| Product       | Interface | Frequency MHz | Power W | Up V (10/700 $\mu$ s) | Dimension mm  | Weight g | Reference |
|---------------|-----------|---------------|---------|-----------------------|---------------|----------|-----------|
| SETT8-10N-40  | N         | 800-960       | 300     | $\leq 10V$            | 33 x 66 x 75  | 210      | 911660    |
| SETT17-24N-40 | N         | 1700-2400     | 150     | $\leq 10V$            | 30 x 39 x 75  | 190      | 911661    |
| SETT8-10D-60  | DIN       | 800-960       | 500     | $\leq 10V$            | 37 x 92 x 101 | 640      | 911662    |
| SETT8-25D-60  | DIN       | 800-2500      | 500     | $\leq 10V$            | 37 x 65 x 90  | 385      | 911663    |



911666

### SEKT series discharge tube type antenna surge protective device

| Product     | Interface | Frequency MHz | Power W | Up V (10/700 $\mu$ s) | Dimension mm   | Weight g | Reference |
|-------------|-----------|---------------|---------|-----------------------|----------------|----------|-----------|
| SEKT25N-10  | N         | DC-2500       | 100     | $\leq 700V$           | 20 x 30 x 76   | 230      | 911664    |
| SEKT25T-10M | TNC       | DC-2500       | 100     | $\leq 700V$           | F20 x 56       | 75       | 911665    |
| SEKT25D-10  | DIN       | DC-2500       | 100     | $\leq 700V$           | 35 x 42 x 77   | 270      | 911666    |
| SEKT15FL-10 | FL        | DC-2050       | 100     | $\leq 700V$           | 18.5 x 23 x 50 | 62       | 911672    |
| SEKT20F-10  | F         | DC-2050       | 100     | $\leq 700V$           | 18.5 x 23 x 50 | 62       | 911673    |

note: SEKT15FL-10: metric thread.



911668

### SEWT series microstrip type antenna surge protective device

| Product      | Interface | Frequency MHz | Power W | Up V (10/700 $\mu$ s) | Dimension mm | Weight g | Reference |
|--------------|-----------|---------------|---------|-----------------------|--------------|----------|-----------|
| SEWT16N-10CN | N         | 1500-1600     | 60      | $\leq 100V$           | 56 x 25 x 95 | 175      | 911667    |
| SEWT10N-20N  | N         | 700-1000      | 300     | $\leq 100V$           | 84 x 32 x 73 | 242      | 911668    |
| SEWT20N-20N  | N         | 1700-2000     | 300     | $\leq 100V$           | 84 x 32 x 73 | 242      | 911669    |
| SEWT10D-20N  | DIN       | 700-1000      | 300     | $\leq 100V$           | 84 x 32 x 73 | 332      | 911670    |
| SEWT20D-20N  | DIN       | 1700-2000     | 300     | $\leq 100V$           | 84 x 32 x 73 | 332      | 911671    |

## Function

SE signal surge protective device uses high-quality transient voltage suppression diode, solid discharge tube and gas discharge tube. The product family has differential mode and common mode protection products, the equilibrium and non-equilibrium circuit products, low speed circuit and high speed circuit products, fine protection and composite protection products.

## Application

Applied to surge protection for computer network, data lines, SPC exchange, various types of fire monitoring equipment, RS422/485 interface, current loop, automatic control and instrumentation line.

## Function

SEXM protects the monitoring system such as camera, matrix controller, etc.

## Description

### Technical data

- Characteristic impedance: 75  $\Omega$
- $U_c$ : 5/24V
- Transmission rate: 10 M
- Nominal discharge current: 5 kA
- $U_p$ :  $\leq 100$  V (Composite wave with 1.2/50 $\mu$ s and 8/20 $\mu$ s)
- Insertion loss:  $\leq 0.3$  dB
- Interface: Male/Female
- Working temperature: -40  $^{\circ}$ C ~ +80  $^{\circ}$ C

### Standard

- GB/T 18802.21



9116676

| Product    | Interface | Up<br>V      | Dimension<br>mm | Weight<br>g | Reference      |
|------------|-----------|--------------|-----------------|-------------|----------------|
| SEXM-1B-5  | BNC       | $\leq 100$ V | 80 x 27 x 25    | 75          | <b>9116676</b> |
| SEXM-1B-24 | BNC       | $\leq 100$ V | 80 x 27 x 25    | 75          | <b>9116677</b> |

## Function

SEXL (RJ11) protects DDN line ,dialup line, FAX.

## Description

### Technical data

- $U_c$ : 12/48/110 V
- Number of protected lines: 3,4
- Transmission rate: 2 M
- Nominal discharge current: 2 kA
- $U_p$ :  $\leq 100$  V (Composite wave with 1.2/50 $\mu$ s and 8/20 $\mu$ s)
- Insertion loss:  $\leq 0.5$  dB
- Working temperature: -40  $^{\circ}$ C ~ +80  $^{\circ}$ C

### Standard

- GB/T 18802.21



9116678

| Product     | Interface | Up<br>V      | Dimension<br>mm | Weight<br>g | Reference      |
|-------------|-----------|--------------|-----------------|-------------|----------------|
| SEXL-1H-12  | RJ11      | $\leq 100$ V | 80 x 27 x 25    | 70          | <b>9116678</b> |
| SEXL-1H-48  | RJ11      | $\leq 100$ V | 80 x 27 x 25    | 70          | <b>9116679</b> |
| SEXL-1H-110 | RJ11      | $\leq 100$ V | 80 x 27 x 25    | 70          | <b>9116680</b> |

Function

SEXM, SEXH protects hubs, network switches and other network equipment.

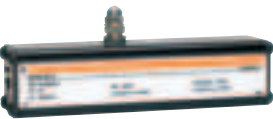
Description

Technical data

- Uc: 5 V
- Number of protected lines: 1,2,3,6
- Transmission rate: 10/100 M
- Nominal discharge current: 5 (shielded line to earth) / 2 (core wire to shielded line) kA
- Up: ≤100 V (Composite wave with 1.2/50μs and 8/20μs)
- Insertion loss: ≤1 dB
- Working temperature: -40 °C ~ +80 °C

Standard

- GB/T 18802.21



9116681

| Product   | Interface | Transmission rate<br>M | Up<br>V | Dimension<br>mm | Weight<br>g | Reference |
|-----------|-----------|------------------------|---------|-----------------|-------------|-----------|
| SEXM-2R-5 | RJ45      | 10M                    | ≤100V   | 80 x 27 x 25    | 95          | 9116681   |
| SEXH-2R-5 | RJ45      | 100M                   | ≤100V   | 80 x 27 x 25    | 95          | 9116682   |

Function

SEXL (twisted-pair) protects industrial control Internet,RS422/485 interface, automatic control instrument circuit ,data cable and telephone equipment, as well as protects sensors in current loop and the secondary instrument.

Description

Technical data

- Uc: 5/12/24/110 V
- Number of protected lines: SEXL-1J/SEXL-2J: line 1 / line 2
- Transmission rate: 2 M
- Nominal discharge current: 5 kA
- Up: ≤ 100 V (Composite wave with 1.2/50μs and 8/20μs)
- Insertion loss: ≤ 0.5 dB
- Working temperature: -40 °C ~ +80 °C

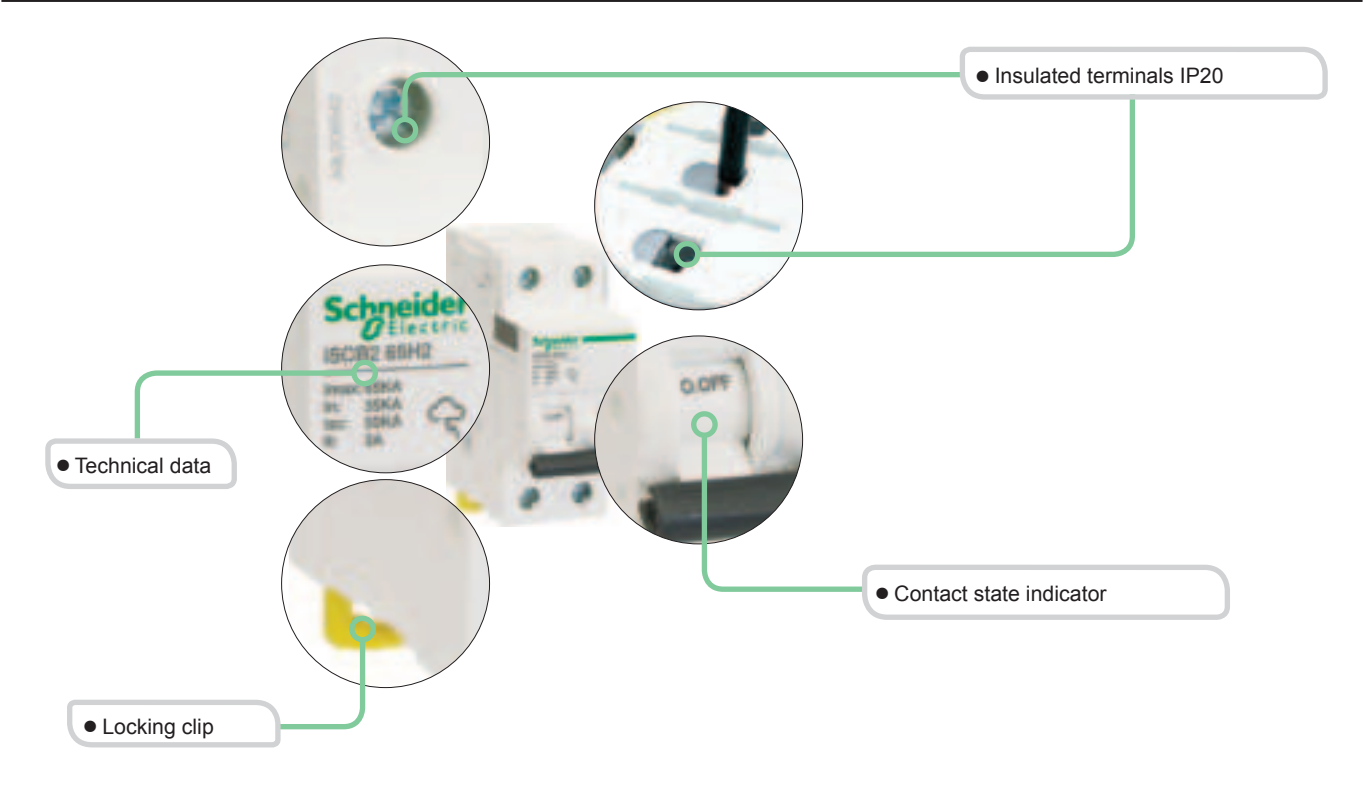
Standard

- GB/T 18802.21

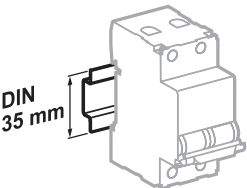
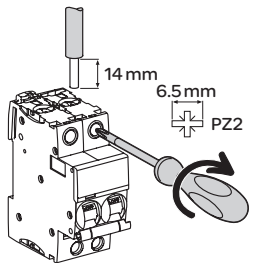


9116688

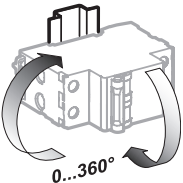
| Product     | Number of<br>protected lines | Up<br>V | dimension<br>mm | weight<br>g | Reference |
|-------------|------------------------------|---------|-----------------|-------------|-----------|
| SEXL-1J-5   | 1 pair of twisted pair       | ≤100V   | 100 x 27 x 25   | 70          | 9116683   |
| SEXL-1J-12  | 1 pair of twisted pair       | ≤100V   | 100 x 27 x 25   | 70          | 9116684   |
| SEXL-1J-24  | 1 pair of twisted pair       | ≤100V   | 100 x 27 x 25   | 70          | 9116685   |
| SEXL-1J-110 | 1 pair of twisted pair       | ≤100V   | 100 x 27 x 25   | 70          | 9116686   |
| SEXL-2J-5   | 2 pairs of twisted pair      | ≤100V   | 100 x 47 x 25   | 110         | 9116687   |
| SEXL-2J-12  | 2 pairs of twisted pair      | ≤100V   | 100 x 47 x 25   | 110         | 9116688   |
| SEXL-2J-24  | 2 pairs of twisted pair      | ≤100V   | 100 x 47 x 25   | 110         | 9116689   |
| SEXL-2J-110 | 2 pairs of twisted pair      | ≤100V   | 100 x 47 x 25   | 110         | 9116690   |



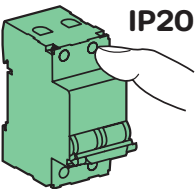
Description



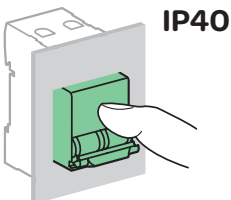
Installed on the 35 mm DIN rail



Flexible installation direction



IP20



IP40

Technical data

| Main characteristics                        |            |                       |
|---------------------------------------------|------------|-----------------------|
| Test class of SPD                           |            | T1/T2                 |
| Rated operating voltage                     |            | 230/400 VAC           |
| Working frequency                           |            | 50/60 Hz              |
| Maximum impulse current Iimp                |            | 25 kA                 |
| Maximum discharge current Imax              |            | 120/65/20 kA          |
| Nominal discharge current In                |            | 60/35/10 kA           |
| Maximum short circuit breaking capacity Isc |            | 100/65/50/36/25/15 kA |
| Poles                                       |            | 1P, 2P, 3P, 4P        |
| Low shore circuit operating current         |            | 3 A                   |
| Additional characteristics                  |            |                       |
| Local indication                            |            | Contact state         |
| Remote indication                           |            | Remote signal         |
| Degree of protection                        | Front pane | IP40                  |
|                                             | Terminals  | IP20                  |

Connection

| Iimp | Tightening torque | Connection capability    |                          | Recommended cables |
|------|-------------------|--------------------------|--------------------------|--------------------|
|      |                   | Rigid cable              | Flexible cable           |                    |
| 25kA | 3.5 N·m           | 2.5...35 mm <sup>2</sup> | 2.5...25 mm <sup>2</sup> | 16 mm <sup>2</sup> |

| Imax  | Tightening torque | Connection capability    |                          | Recommended cables  |
|-------|-------------------|--------------------------|--------------------------|---------------------|
|       |                   | Rigid cable              | Flexible cable           | L/N                 |
|       |                   | 2.5...35 mm <sup>2</sup> | 2.5...25 mm <sup>2</sup> | ≥ 6 mm <sup>2</sup> |
|       |                   |                          |                          | ≥ 4 mm <sup>2</sup> |
| 120kA | 3.5 N·m           |                          |                          | ≥ 4 mm <sup>2</sup> |
| 65kA  |                   |                          |                          | ≥ 4 mm <sup>2</sup> |
| 20kA  |                   |                          |                          | ≥ 4 mm <sup>2</sup> |

# iSCB SPD backup circuit breaker For Type I SPD



A9L102551

| SPD applied to           | Product       | $I_{imp}$<br>(kA) | $I_n$<br>(kA) | $I_{sc}$<br>(kA) | $I_t$<br>(A) | Poles | Width<br>(In mod. of<br>9 mm) | Reference        |
|--------------------------|---------------|-------------------|---------------|------------------|--------------|-------|-------------------------------|------------------|
| iPRD1 20r<br>iPRF1 12.5r | iSCB1 25L2 1P | 25                | 80            | 100              | 3            | 1P    | 4                             | <b>A9L102561</b> |
|                          | iSCB1 25L1 1P | 25                | 80            | 65               | 3            | 1P    | 4                             | <b>A9L102551</b> |
|                          | iSCB1 25L2 2P | 25                | 80            | 100              | 3            | 2P    | 8                             | <b>A9L102562</b> |
|                          | iSCB1 25L1 2P | 25                | 80            | 65               | 3            | 2P    | 8                             | <b>A9L102552</b> |
|                          | iSCB1 25L2 3P | 25                | 80            | 100              | 3            | 3P    | 12                            | <b>A9L102563</b> |
|                          | iSCB1 25L1 3P | 25                | 80            | 65               | 3            | 3P    | 12                            | <b>A9L102553</b> |
|                          | iSCB1 25L2 4P | 25                | 80            | 100              | 3            | 4P    | 16                            | <b>A9L102564</b> |
|                          | iSCB1 25L1 4P | 25                | 80            | 65               | 3            | 4P    | 16                            | <b>A9L102554</b> |

# iSCB SPD backup circuit breaker

## For Type II SPD



A9L206542



A9L206544

| SPD applied to | Product        | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | I <sub>sc</sub><br>(kA) | I <sub>t</sub><br>(A) | Poles | Width<br>(In mod. of<br>9 mm) | Reference |
|----------------|----------------|--------------------------|------------------------|-------------------------|-----------------------|-------|-------------------------------|-----------|
| iPRU 120r      | iSCB2 120L2 1P | 120                      | 60                     | 100                     | 3                     | 1P    | 2                             | A9L212061 |
| iPRU 80r       | iSCB2 120L1 1P | 120                      | 60                     | 65                      | 3                     | 1P    | 2                             | A9L212051 |
|                | iSCB2 120L2 2P | 120                      | 60                     | 100                     | 3                     | 2P    | 4                             | A9L212062 |
|                | iSCB2 120L1 2P | 120                      | 60                     | 65                      | 3                     | 2P    | 4                             | A9L212052 |
|                | iSCB2 120L2 3P | 120                      | 60                     | 100                     | 3                     | 3P    | 6                             | A9L212063 |
|                | iSCB2 120L1 3P | 120                      | 60                     | 65                      | 3                     | 3P    | 6                             | A9L212053 |
|                | iSCB2 120L2 4P | 120                      | 60                     | 100                     | 3                     | 4P    | 8                             | A9L212064 |
|                | iSCB2 120L1 4P | 120                      | 60                     | 65                      | 3                     | 4P    | 8                             | A9L212054 |

| SPD applied to | Product       | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | I <sub>sc</sub><br>(kA) | I <sub>t</sub><br>(A) | Poles | Width<br>(In mod. of<br>9 mm) | Reference |
|----------------|---------------|--------------------------|------------------------|-------------------------|-----------------------|-------|-------------------------------|-----------|
| iPRU 65r       | iSCB2 65H2 1P | 65                       | 35                     | 50                      | 3                     | 1P    | 2                             | A9L206541 |
| iPRU 40r/40    | iSCB2 65H1 1P | 65                       | 35                     | 36                      | 3                     | 1P    | 2                             | A9L206531 |
| iST 65r/65     |               |                          |                        |                         |                       |       |                               |           |
| iST 40r/40     | iSCB2 65H2 2P | 65                       | 35                     | 50                      | 3                     | 2P    | 4                             | A9L206542 |
| EA9L 65kA      | iSCB2 65H1 2P | 65                       | 35                     | 36                      | 3                     | 2P    | 4                             | A9L206532 |
| EA9L 40kA      |               |                          |                        |                         |                       |       |                               |           |
|                | iSCB2 65H2 3P | 65                       | 35                     | 50                      | 3                     | 3P    | 6                             | A9L206543 |
|                | iSCB2 65H1 3P | 65                       | 35                     | 36                      | 3                     | 3P    | 6                             | A9L206533 |
|                | iSCB2 65H2 4P | 65                       | 35                     | 50                      | 3                     | 4P    | 8                             | A9L206544 |
|                | iSCB2 65H1 4P | 65                       | 35                     | 36                      | 3                     | 4P    | 8                             | A9L206534 |

| SPD applied to | Product       | I <sub>max</sub><br>(kA) | I <sub>n</sub><br>(kA) | I <sub>sc</sub><br>(kA) | I <sub>t</sub><br>(A) | Poles | Width<br>(In mod. of<br>9 mm) | Reference |
|----------------|---------------|--------------------------|------------------------|-------------------------|-----------------------|-------|-------------------------------|-----------|
| iPRU 20r/20    | iSCB2 20N2 1P | 20                       | 10                     | 25                      | 3                     | 1P    | 2                             | A9L202021 |
| iPRU 10        | iSCB2 20N1 1P | 20                       | 10                     | 15                      | 3                     | 1P    | 2                             | A9L202011 |
| iST 20r/20     |               |                          |                        |                         |                       |       |                               |           |
| EA9L 20kA      | iSCB2 20N2 2P | 20                       | 10                     | 25                      | 3                     | 2P    | 4                             | A9L202022 |
|                | iSCB2 20N1 2P | 20                       | 10                     | 15                      | 3                     | 2P    | 4                             | A9L202012 |
|                | iSCB2 20N2 3P | 20                       | 10                     | 25                      | 3                     | 3P    | 6                             | A9L202023 |
|                | iSCB2 20N1 3P | 20                       | 10                     | 15                      | 3                     | 3P    | 6                             | A9L202013 |
|                | iSCB2 20N2 4P | 20                       | 10                     | 25                      | 3                     | 4P    | 8                             | A9L202024 |
|                | iSCB2 20N1 4P | 20                       | 10                     | 15                      | 3                     | 4P    | 8                             | A9L202014 |





# Appendix

## How to select a surge protective device in a building or structure

For a general building or structure, the selection of multi-level surge protective devices should comply with the requirements of GB50057-2010 and GB50343-2012. The surge protective devices in low voltage distribution system recommended by Schneider Electric comply with the above standards and the details are listed in below table:

### Selection

Select the specification of surge protective devices based on the lightning protection level of electronic information system in building and different lightning protection zone

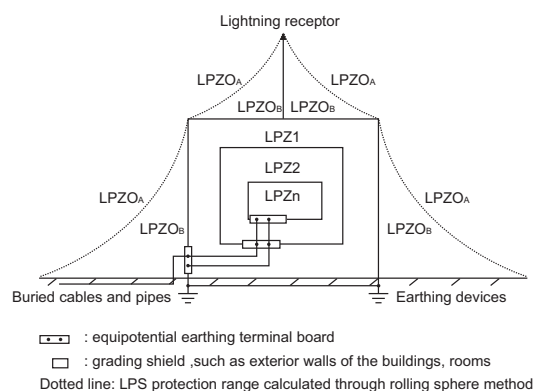
| Protection level | the boundary between LPZ0 and LPZ1 |                            | the boundary between LPZ1 and LPZ2 | the boundary of the following protection zone    |
|------------------|------------------------------------|----------------------------|------------------------------------|--------------------------------------------------|
|                  | Main switchboard                   |                            | Sub-switchboard                    | Enclosure of sensitive equipment to be protected |
|                  | 10/350 $\mu$ s<br>$I_{imp}$ (kA)   | 8/20 $\mu$ s<br>$I_n$ (kA) | 8/20 $\mu$ s<br>$I_n$ (kA)         | 8/20 $\mu$ s<br>$I_n$ (kA)                       |
| A                | $\geq 20$                          | $\geq 80$                  | $\geq 40$                          | $\geq 5$                                         |
|                  | iPRD1 20r                          | Please contact us          | iPRU 80r                           | iPRU 10 / PRU 10                                 |
|                  | iPRF1 12.5r (by GB50057)           |                            |                                    |                                                  |
| B                | $\geq 15$                          | $\geq 60$                  | $\geq 30$                          | $\geq 5$                                         |
|                  | iPRD1 20r                          | iPRU 120r                  | iPRU 65r                           | iPRU 10 / PRU 10                                 |
|                  | iPRF1 12.5r (by GB50057)           |                            |                                    |                                                  |
| C                | $\geq 12.5$                        | $\geq 50$                  | $\geq 20$                          | $\geq 3$                                         |
|                  | iPRF1 12.5r                        | iPRU 120r                  | iPRU 40r / iPRU 40                 | iPRU 10 / PRU 6                                  |
| D                | $\geq 12.5$                        | $\geq 50$                  | $\geq 10$                          | $\geq 3$                                         |
|                  | iPRF1 12.5r                        | iPRU 120r                  | iPRU 20r / iPRU 20                 | iPRU 10 / PRU 6                                  |

## Lightning Protection Level of Electronic Information System in Building

| Lightning Protection Level | Building type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A                          | <ul style="list-style-type: none"> <li>Electronic information systems in important public facilities such as state level computing centers, state level communication hubs, highest level and Level 1 monetary facilities, medium and large airports, state and provincial level radio and TV center, hub ports, train hub stations, provincial and municipal level water, electricity and heat facilities</li> <li>The CCTV monitoring and alarm systems of Level 1 security units, such as State Cultural Relic and Archive Museums</li> <li>Electronic medical equipment of level1 hospitals</li> </ul>                                                                                         |
| B                          | <ul style="list-style-type: none"> <li>Electronic information system of medium computing centers, Level 2 monetary facilities, medium communication hubs, mobile communication base stations, large stadiums, small airports, large ports, and large train stations</li> <li>The CCTV monitoring and alarm systems of Level 2 security units, such as Provincial Cultural Relic and Archive Museums</li> <li>Electronic information systems of radar stations and microwave stations, as well as highway monitoring and toll collection systems</li> <li>Electronic medical equipment of level 2 hospitals</li> <li>Electronic information systems of Five-Star and higher level hotels</li> </ul> |
| C                          | <ul style="list-style-type: none"> <li>Electronic information systems of Level III monetary facilities and small communication hub</li> <li>Large and medium cable TV system</li> <li>Electronic information systems of Four-Star and lower level hotels</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                |
| D                          | General-purpose electronic information equipment which requires protection except for the above A, B and C cases                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## Lightning protection zone partition

- Lightning protection zone partition means to divide the buildings which require protection and control of lightning EMP environment into different lightning protection zones (LPZ) from exterior to interior.
- Lightning protection zones are divided into: LPZ0<sub>A</sub>, LPZ0<sub>B</sub>, LPZ1, LPZ2, LPZn (refer to the right figure), and meet the following regulations:
  - LPZ0<sub>A</sub>: Electromagnetic field does not decay, various objects may be directly struck by lightning, and it is a completely exposed nonprotection zone.
  - LPZ0<sub>B</sub>: Electromagnetic field does not decay, various objects are unlikely to be directly struck by the lightning, and it is a completely exposed direct lightning protection zone.
  - LPZ1: Because of the shielding measures of the building, the lightning current flowing through various conductors is less than the current in the direct lightning protection zone (LPZ0<sub>B</sub>). The electromagnetic field decays, and various objects cannot be directly struck by lightning.
  - LPZ2: Following protection zone which is introduced to further decrease the guided lightning current or electromagnetic field.
  - LPZn: Following protection zones which are introduced to further decrease lightning electromagnetic pulse to protect highly sensitive equipment.



### Effective $U_{p/f}$ selection

The selection of effective  $U_{p/f}$  need to consider two aspects. (More details in GB50057 2010):

- d: The distance between surge protective device and equipment.
- $U_w$ : rated impulse withstand voltage of equipment

$U_{p/f}$  should comply with:

When  $d \leq 5m$  or  $10m$  (Lines are shielded and both ends is continuously equipotential)

$$U_{p/f} \leq U_w$$

when  $d > 10m$

$$U_{p/f} \leq \frac{U_w}{2}$$

Rated impulse withstand voltage of equipment( $U_w$ ) in 220/380V distribution system.

| Type      | I<br>Low                                  | II<br>Normal                                                                                   | III<br>High                                                                         | IV<br>Very high                                                                                   |
|-----------|-------------------------------------------|------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| Equipment | Electronic equipment: TV, audio, recorder | Household device: washer, refrigerator, power tools, heater, computers and other communication | Industrial electrical equipment: Motors, switchboard, power plug, transformer, etc. | Industrial electrical equipment: Electrical measuring instrument, over-current protection device. |
| $U_w$     | 1.5 kV                                    | 2.5 kV                                                                                         | 4 kV                                                                                | 6 kV                                                                                              |

### $U_c$ selection

According to the type of earthing system and protection mode of surge protective device

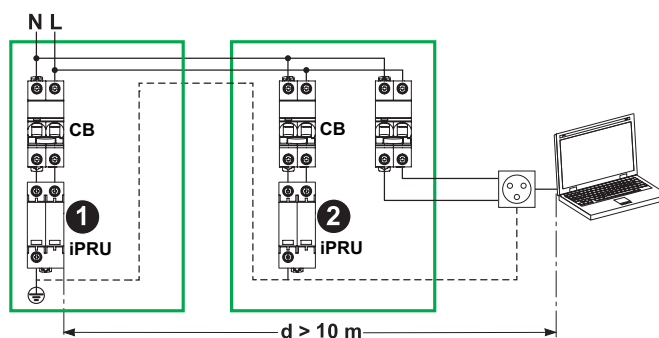
| Surge protective device | Earthing system |                |                |                             |                                |
|-------------------------|-----------------|----------------|----------------|-----------------------------|--------------------------------|
| Connected to            | TT              | TN-C           | TN-S           | IT system with neutral line | IT system without neutral line |
| L-N                     | $1.15U_o$       | Not applicable | $1.15U_o$      | $1.15U_o$                   | Not applicable                 |
| L-PE                    | $1.15U_o$       | Not applicable | $1.15U_o$      | $\sqrt{3}U_o$               | Voltage between phases         |
| N-PE                    | $U_o$           | Not applicable | $U_o$          | $U_o$                       | Not applicable                 |
| L-PEN                   | Not applicable  | $1.15U_o$      | Not applicable | Not applicable              | Not applicable                 |

$U_o$ : phase voltage, 220V.

PS: we suggest that  $U_c$  should be higher than 320v because of the instability of Chinese grid.

## Principle of hierarchical configuration

To offer best selection, surge protective device configuration is usually multilevel in application. The first protection should withstand most lightning current, and the second protection discharges residual lightning current, limits residual voltage at the equipment, and cooperates with the first protection.



When  $d > 10\text{m}$ , surge protective device should be installed as close as possible to the protected equipment.

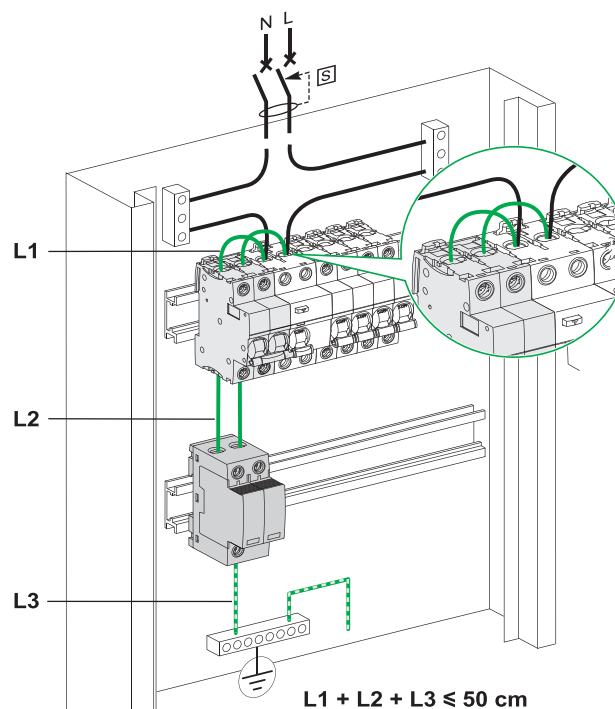
When the lightning current invades and discharges, SPD1 has two possibilities:

- Up is much higher than  $U_w$
- Surge protective device is far away from fine equipment ( $>10\text{m}$ )

In both cases, surge protective device shall be installed near the load to reduce overvoltage and make it match the  $U_w$  of protected equipment.

## Principle of 50 cm connection

Installation of connection requires  $d1 + d2 + d3 < 50\text{cm}$ , the connection among terminal of surge protective device, the electric wiring and grounding bus connection should be as short as possible to avoid the partial pressure get too high and busbar voltage rise too much.



**Class I test**

Test with  $I_n$ , 1.2 / 50 surge voltage and limp.

**Class II test**

Test with  $I_n$ , 1.2 / 50 surge voltage and  $I_{max}$ .

**Maximum continuous operating voltage  $U_c$** 

Maximum r.m.s. or d.c. voltage, which may be continuously applied to the surge protective device's mode of protection

**Maximum discharge current  $I_{max}$** 

Crest value of a current through the surge protective device having an 8/20 $\mu$ s wave-shape and magnitude according to the test sequence of the class II operating duty test.  $I_{max}$  is greater than  $I_n$

**Nominal discharge current  $I_n$** 

Crest value of the current through the surge protective device having a current wave-shape of 8/20 $\mu$ s. This is used for the classification of the surge protective device for class II test and also for preconditioning of the surge protective device for class I and II tests.

**Voltage protection level  $U_p$** 

A parameter that characterizes the performance of the surge protective device in limiting the voltage across its terminals, which is selected from a list of preferred values. This value shall be greater than the highest value of the measured limiting voltages.

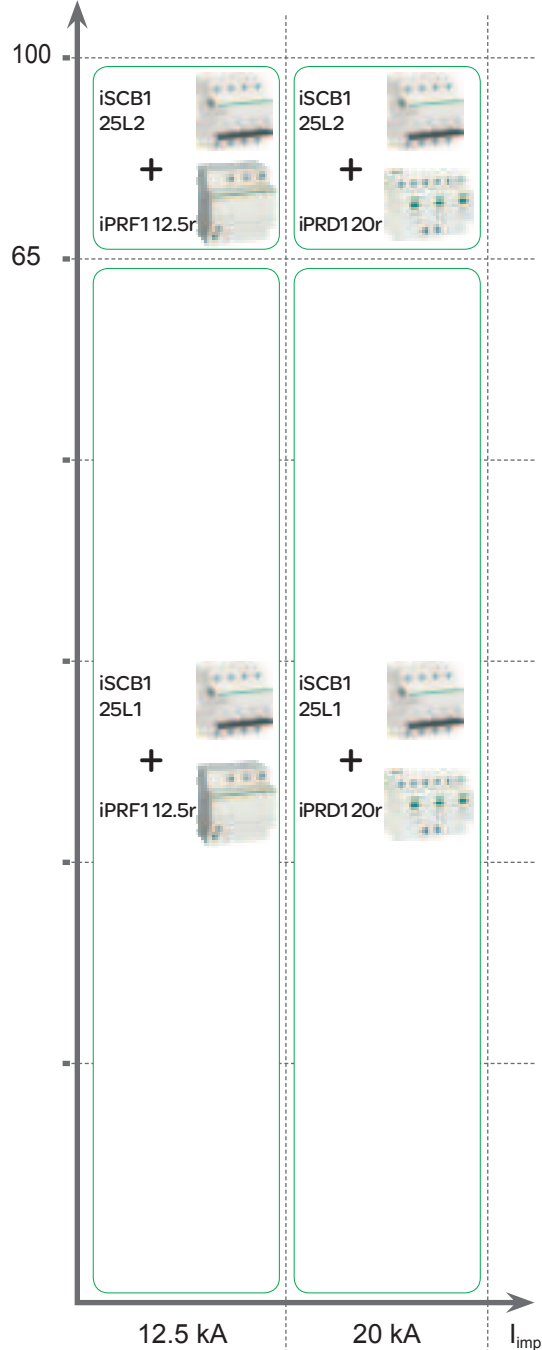
# Backup circuit breaker selection II (8/20 $\mu$ s) Surge protective device

The maximum short-circuit breaking capacity

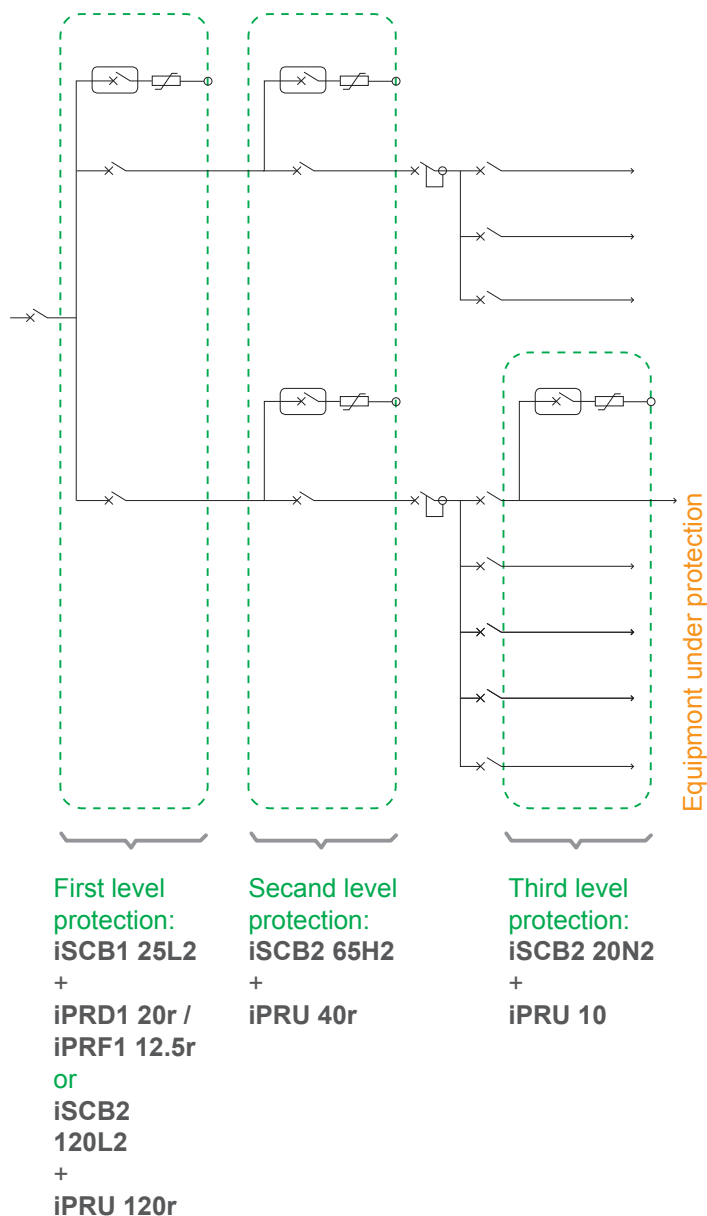
$I_{sc}$  (kA)



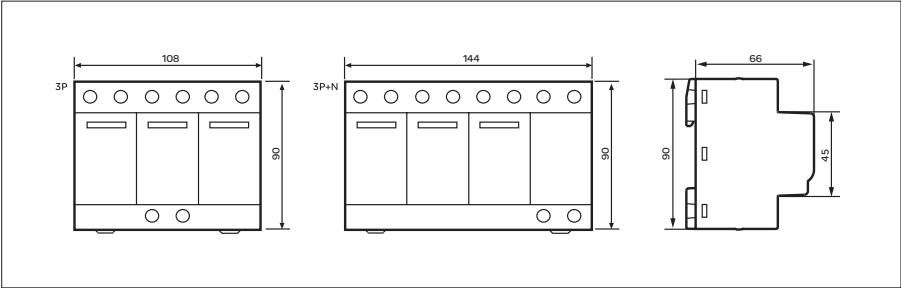
The maximum short-circuit breaking capacity

 $I_{sc}$  (kA)

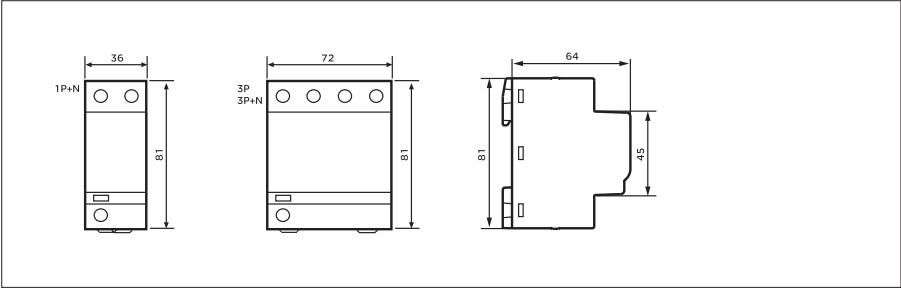
Application case



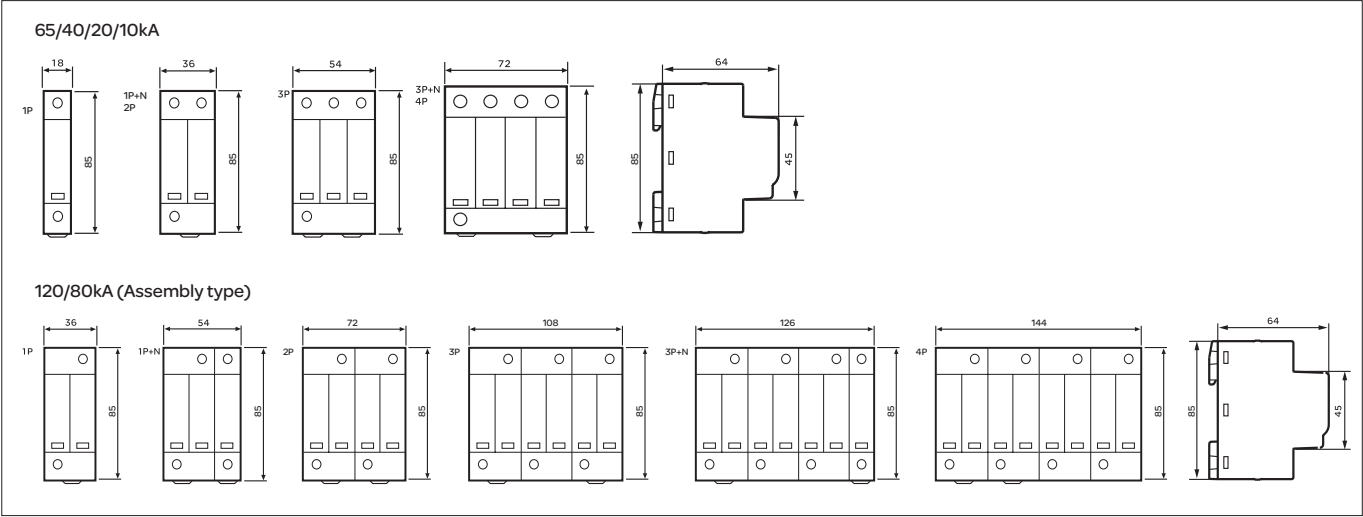
iPRD120r surge protective device



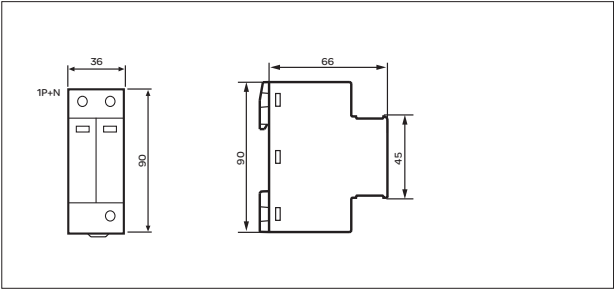
iPRF1 12.5r surge protective device



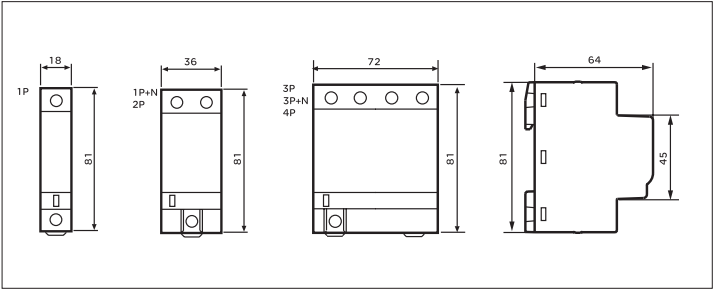
iPRU surge protective device

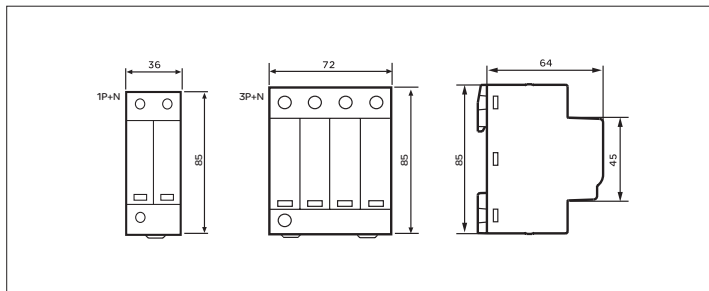
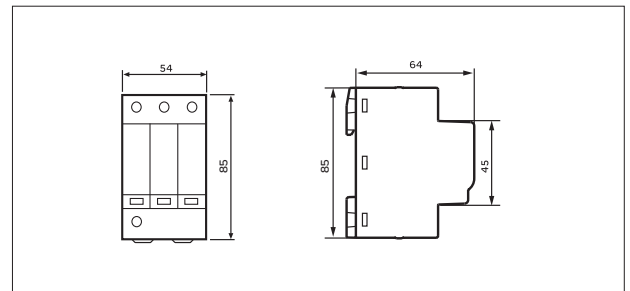
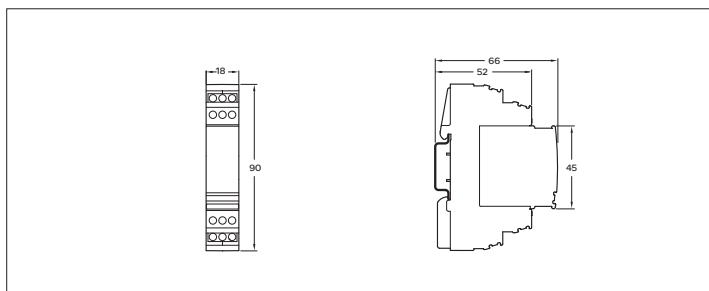
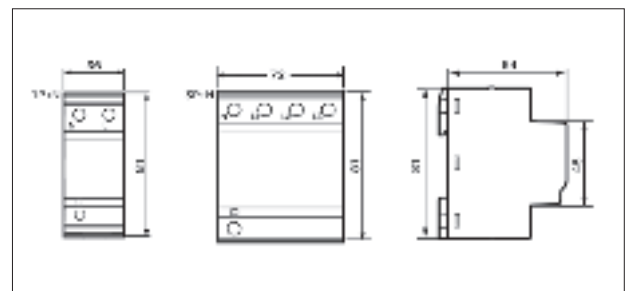
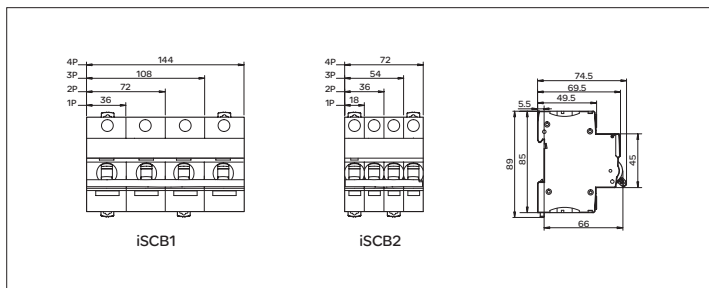


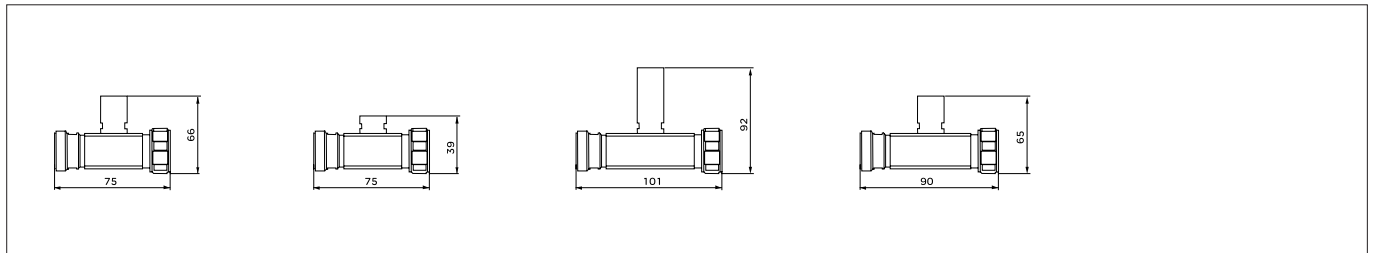
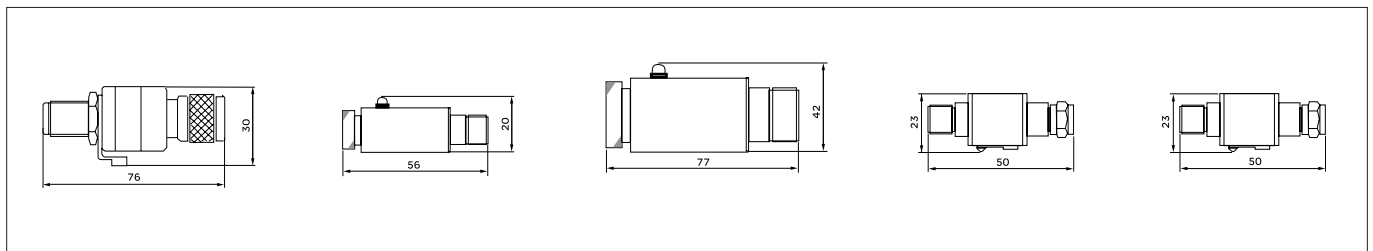
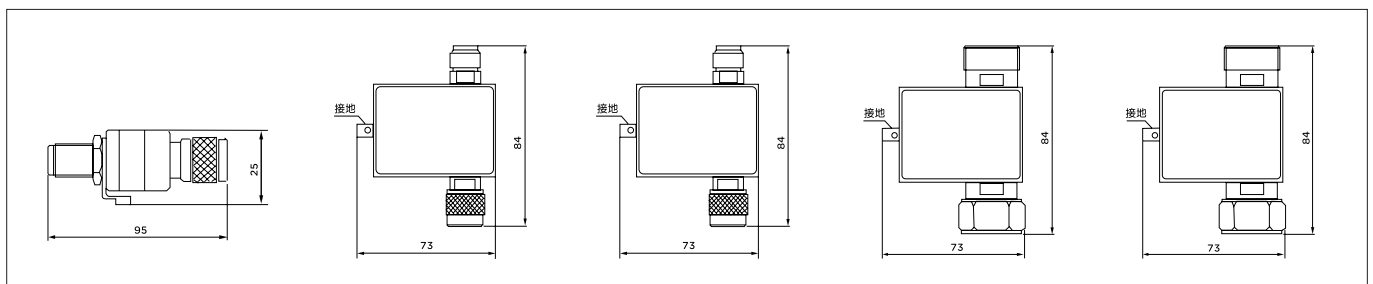
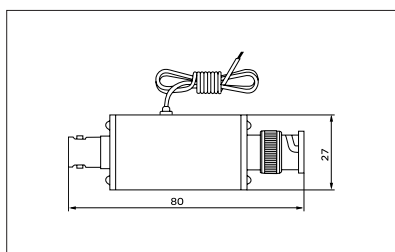
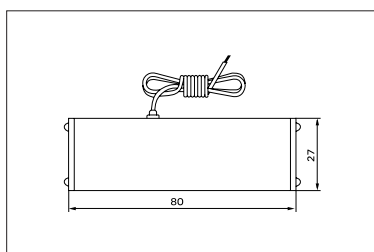
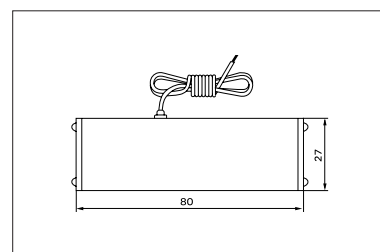
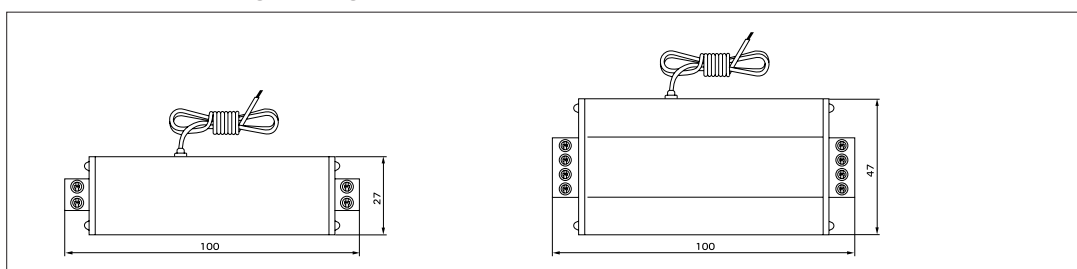
PRU surge protective device



iST surge protective device



**iPTU surge protective device****iPRU PV surge protective device****iPRC/iPRI surge protective device****EA9L surge protective device****iSCB SPD backup circuit breaker**

**SETT series  $\lambda/4$  antenna surge protective device****SEKT series discharge tube type antenna surge protective device****SEWT series microstrip type antenna surge protective device****SEXM signal surge protective device****SEXL(RJ11) signal surge protective device****SEXM, SEXH signal surge protective device****SEXL (twisted-pair) signal surge protective device**



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