

# ARGOS<sup>2021</sup>

SURGE ARRESTERS



**ARGOS INTERNATIONAL**  
Lightning protection and earthing systems









In analogy to induced surges, the effects of distant lightning strokes on the electrical system of a structure are controlled by devices and components, which are designed accordingly for impulse current wave 8/20  $\mu$ s.

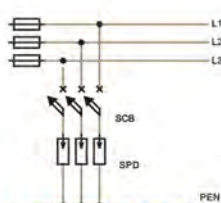
Surges due to switching operations (SEMP) are caused by e.g. switching off inductive load (e.g. transformers, coils, motors), ignition and interruption of electric arcs (e.g. arc welding device), tripping of fuses.

The effects of switching operations in electrical installations of structures can also be simulated with impulse currents of wave form 8/20  $\mu$ s for testing purposes.

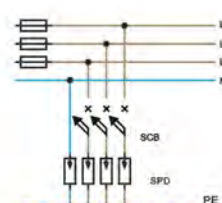
#### LEMP protection of structures with electrical and electronic systems according to IEC 62305-4

| Lightning Protection Zone | Description                                                                                                                                                           |
|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LPZ 0A                    | Threat by direct lightning strokes, impulse currents up to complete lightning currents and the entire lightning field.                                                |
| LPZ 0B                    | Protected against direct lightning strokes. Threat by impulse currents up to partial lightning currents and the entire lightning field.                               |
| LPZ 1                     | Impulse currents are further limited by current distribution and SPDs situated at the zone boundaries. The lightning field is mostly attenuated by spatial shielding. |
| LPZ 2                     | Impulse currents are further limited by current distribution and SPDs situated at the zone boundaries. The lightning field is mostly attenuated by spatial shielding. |

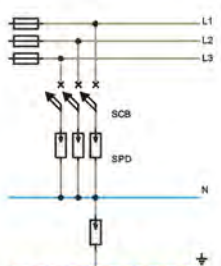
#### Power Distribution System:



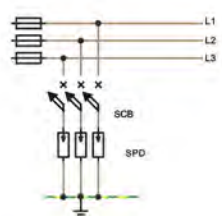
SPD in TN-C system



SPD in TN-S system



SPD in TT system



SPD in IT system



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## Type 1 Surge Arrester

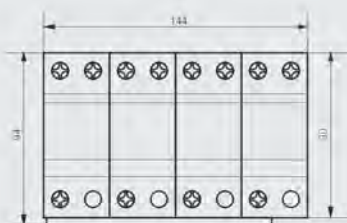
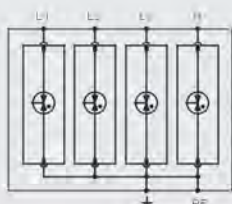
**ARGOS INTERNATIONAL**  
Lightning protection and earthing systems

Surge Arrester





## AG1-50\*-4 Type1 Surge Arrester



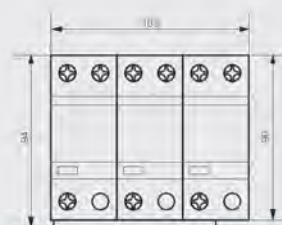
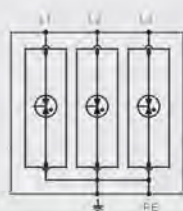
■ AG1-50\*-4 is suitable for TN-S/TT system .

|                                              |                 | AG1-50*-255-4          | AG1-50*-275-4     | AG1-50*-320-4     | AG1-50*-385-4     | AG1-50*-420-4     | AG1-50*-440-4     |
|----------------------------------------------|-----------------|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |                 | Class I/Type1          |                   |                   |                   |                   |                   |
| Max. continuous operating a.c. voltage       | Uc              | 255V                   | 275V              | 320V              | 385V              | 420V              | 440V              |
| Lightning impulse current (10/350 μs)        | Iimp            | 50kA                   | 50kA              | 50kA              | 50kA              | 50kA              | 50kA              |
| Norminal discharge current (8/20 μs)         | In              | 50kA                   | 50kA              | 50kA              | 50kA              | 50kA              | 50kA              |
| Voltage protection level                     | Up              | ≤ 2.5kV                | ≤ 2.5kV           | ≤ 2.5kV           | ≤ 2.5kV           | ≤ 2.5kV           | ≤ 2.5kV           |
| Follow current extinguishing capability a.c. | I <sub>fi</sub> | 3kA rms                | 3kA rms           | 3kA rms           | 3kA rms           | 3kA rms           | 3kA rms           |
| Max. backup fuse                             |                 | 500A gL                | 500A gL           | 500A gL           | 500A gL           | 500A gL           | 500A gL           |
| Response time                                | t <sub>A</sub>  | ≤ 100ns                | ≤ 100ns           | ≤ 100ns           | ≤ 100ns           | ≤ 100ns           | ≤ 100ns           |
| Operating temperature range                  | Tu              | -40°C-80°C             | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Cross-section area (Min.)                    |                 | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |                 | 35mm <sup>2</sup>      | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                              |                 | 35mm Din rail          |                   |                   |                   |                   |                   |
| Enclosure material                           |                 | Thermalplastic UL94-V0 |                   |                   |                   |                   |                   |
| Degree of protection                         |                 | IP20                   |                   |                   |                   |                   |                   |



## AG1-50\*-3

Type1 Surge Arrester



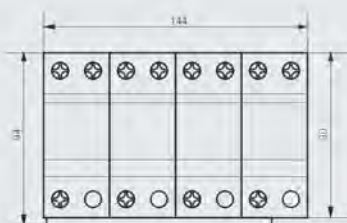
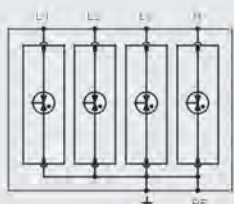
■ AG1-50\*-3 is suitable for TN-C/IT system.

|                                              |                 | AG1-50*-255-3          | AG1-50*-275-3     | AG1-50*-320-3     | AG1-50*-385-3     | AG1-50*-420-3     | AG1-50*-440-3     |
|----------------------------------------------|-----------------|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |                 | Class I/Type1          |                   |                   |                   |                   |                   |
| Max. continuous operating a.c. voltage       | Uc              | 255V                   | 275V              | 320V              | 385V              | 420V              | 440V              |
| Lightning impulse current (10/350 $\mu$ s)   | Iimp            | 50kA                   | 50kA              | 50kA              | 50kA              | 50kA              | 50kA              |
| Normal discharge current (8/20 $\mu$ s)      | In              | 50kA                   | 50kA              | 50kA              | 50kA              | 50kA              | 50kA              |
| Voltage protection level                     | Up              | $\leq 2.5$ kV          | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     |
| Follow current extinguishing capability a.c. | I <sub>fi</sub> | 3kA rms                | 3kA rms           | 3kA rms           | 3kA rms           | 3kA rms           | 3kA rms           |
| Max. backup fuse                             |                 | 500A gL                | 500A gL           | 500A gL           | 500A gL           | 500A gL           | 500A gL           |
| Response time                                | t <sub>A</sub>  | $\leq 100$ ns          | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     |
| Operating temperature range                  | T <sub>u</sub>  | -40°C-80°C             | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Cross-section area (Min.)                    |                 | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |                 | 35mm <sup>2</sup>      | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                              |                 | 35mm Din rail          |                   |                   |                   |                   |                   |
| Enclosure material                           |                 | Thermalplastic UL94-V0 |                   |                   |                   |                   |                   |
| Degree of protection                         |                 | IP20                   |                   |                   |                   |                   |                   |





## AG1-25\*-4 Type1 Surge Arrester



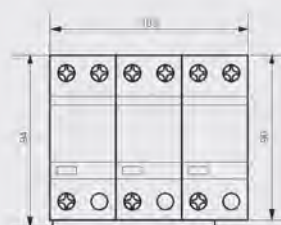
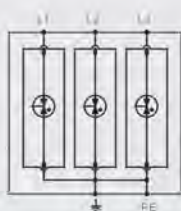
■ AG1-25\*-4 is suitable for TN-S/TT system .

|                                              |                 | AG1-25*-255-4          | AG1-25*-275-4     | AG1-25*-320-4     | AG1-25*-385-4     | AG1-25*-420-4     | AG1-25*-440-4     |
|----------------------------------------------|-----------------|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |                 | Class I/Type1          |                   |                   |                   |                   |                   |
| Max. continuous operating a.c. voltage       | Uc              | 255V                   | 275V              | 320V              | 385V              | 420V              | 440V              |
| Lightning impulse current (10/350 $\mu$ s)   | Iimp            | 25kA                   | 25kA              | 25kA              | 25kA              | 25kA              | 25kA              |
| Norminal discharge current (8/20 $\mu$ s)    | In              | 25kA                   | 25kA              | 25kA              | 25kA              | 25kA              | 25kA              |
| Voltage protection level                     | Up              | $\leq 2.5$ kV          | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     |
| Follow current extinguishing capability a.c. | I <sub>fi</sub> | 3kA rms                | 3kA rms           | 3kA rms           | 3kA rms           | 3kA rms           | 3kA rms           |
| Max. backup fuse                             |                 | 500A gL                | 500A gL           | 500A gL           | 500A gL           | 500A gL           | 500A gL           |
| Response time                                | t <sub>A</sub>  | $\leq 100$ ns          | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     |
| Operating temperature range                  | Tu              | -40°C-80°C             | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Cross-section area (Min.)                    |                 | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |                 | 35mm <sup>2</sup>      | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                              |                 | 35mm Din rail          |                   |                   |                   |                   |                   |
| Enclosure material                           |                 | Thermalplastic UL94-V0 |                   |                   |                   |                   |                   |
| Degree of protection                         |                 | IP20                   |                   |                   |                   |                   |                   |



## AG1-25\*-3

Type1 Surge Arrester



■ AG1-25\*-3 is suitable for TN-C/IT system.

|                                              |      | AG1-25*-255-3          | AG1-25*-275-3     | AG1-25*-320-3     | AG1-25*-385-3     | AG1-25*-420-3     | AG1-25*-440-3     |
|----------------------------------------------|------|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |      | Class I/Type1          |                   |                   |                   |                   |                   |
| Max. continuous operating a.c. voltage       | Uc   | 255V                   | 275V              | 320V              | 385V              | 420V              | 440V              |
| Lightning impulse current (10/350 $\mu$ s)   | Iimp | 50kA                   | 50kA              | 50kA              | 50kA              | 50kA              | 50kA              |
| Normal discharge current (8/20 $\mu$ s)      | In   | 50kA                   | 50kA              | 50kA              | 50kA              | 50kA              | 50kA              |
| Voltage protection level                     | Up   | $\leq 2.5$ kV          | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     |
| Follow current extinguishing capability a.c. | Ifi  | 3kA rms                | 3kA rms           | 3kA rms           | 3kA rms           | 3kA rms           | 3kA rms           |
| Max. backup fuse                             |      | 500A gL                | 500A gL           | 500A gL           | 500A gL           | 500A gL           | 500A gL           |
| Response time                                | tA   | $\leq 100$ ns          | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     |
| Operating temperature range                  | Tu   | -40°C-80°C             | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Cross-section area (Min.)                    |      | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |      | 35mm <sup>2</sup>      | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                              |      | 35mm Din rail          |                   |                   |                   |                   |                   |
| Enclosure material                           |      | Thermalplastic UL94-V0 |                   |                   |                   |                   |                   |
| Degree of protection                         |      | IP20                   |                   |                   |                   |                   |                   |



**AG1-15\*-4/3**  
Type1 Surge Arrester

■ AG1-15\*-4 is suitable for TN-S/TT system, AG1-15\*-3 is suitable for TN-C/IT system.

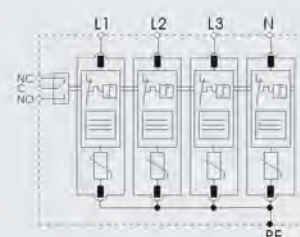
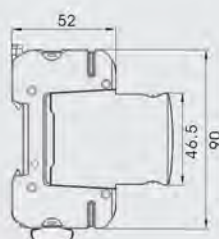
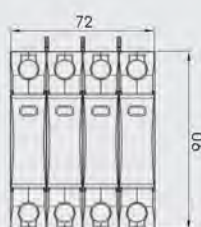
|                                              |                 | AG1-15*-255-4/3        | AG1-15*-275-4/3   | AG1-15*-320-4/3   | AG1-15*-385-4/3   | AG1-15*-420-4/3   | AG1-15*-440-4/3   |
|----------------------------------------------|-----------------|------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |                 | Class I/Type1          |                   |                   |                   |                   |                   |
| Max. continuous operating a.c. voltage       | Uc              | 255V                   | 275V              | 320V              | 385V              | 420V              | 440V              |
| Lightning impulse current (10/350 $\mu$ s)   | Iimp            | 15kA                   | 15kA              | 15kA              | 15kA              | 15kA              | 15kA              |
| Norminal discharge current (8/20 $\mu$ s)    | In              | 15kA                   | 15kA              | 15kA              | 15kA              | 15kA              | 15kA              |
| Voltage protection level                     | Up              | $\leq 2.5$ kV          | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     | $\leq 2.5$ kV     |
| Follow current extinguishing capability a.c. | I <sub>fi</sub> | 3kA rms                | 3kA rms           | 3kA rms           | 3kA rms           | 3kA rms           | 3kA rms           |
| Max. backup fuse                             |                 | 500A gL                | 500A gL           | 500A gL           | 500A gL           | 500A gL           | 500A gL           |
| Response time                                | t <sub>A</sub>  | $\leq 100$ ns          | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     | $\leq 100$ ns     |
| Operating temperature range                  | Tu              | -40°C–80°C             | -40°C–80°C        | -40°C–80°C        | -40°C–80°C        | -40°C–80°C        | -40°C–80°C        |
| Cross-section area (Min.)                    |                 | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |                 | 35mm <sup>2</sup>      | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                              |                 | 35mm Din rail          |                   |                   |                   |                   |                   |
| Enclosure material                           |                 | Thermalplastic UL94-V0 |                   |                   |                   |                   |                   |
| Degree of protection                         |                 | IP20                   |                   |                   |                   |                   |                   |





## AG1-12\*-4

Type1 Surge Arrester

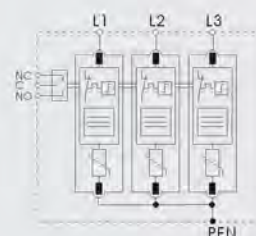
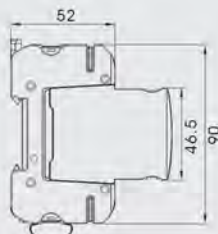
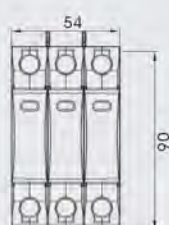


■ AG1-12\*-4 is suitable for TN-S/TT system.

|                                              |      | AG1-12*-275-4          | AG1-12*-320-4     |
|----------------------------------------------|------|------------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |      | Class I / Type1        |                   |
| Max. continuous operating a.c. voltage       | Uc   | 275V                   | 320V              |
| Lightning impulse current (10/350 $\mu$ s)   | Iimp | 12.5kA                 | 12.5kA            |
| Normal discharge current (8/20 $\mu$ s)      | In   | 20kA                   | 20kA              |
| Voltage protection level                     | Up   | $\leq 1.5$ kV          | $\leq 1.8$ kV     |
| Follow current extinguishing capability a.c. | Ifi  | 5kA rms                | 5kA rms           |
| Max. backup fuse                             |      | 315A gL                | 315A gL           |
| Response time                                | tA   | $\leq 25$ ns           | $\leq 25$ ns      |
| Operating temperature range                  | Tu   | -40°C-80°C             | -40°C-80°C        |
| Cross-section area (Min.)                    |      | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |      | 35mm <sup>2</sup>      | 35mm <sup>2</sup> |
| For mounting on                              |      | 35mm Din rail          |                   |
| Enclosure material                           |      | Thermalplastic UL94-V0 |                   |
| Degree of protection                         |      | IP20                   |                   |



## AG1-12\*-3 Type1 Surge Arrester



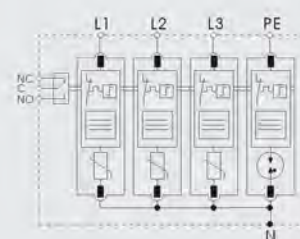
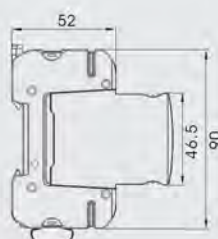
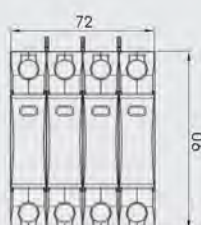
■ AG1-12\*-3 is suitable for TN-C/IT system.

|                                              |                 | AG1-12*-275-3          | AG1-12*-320-3     |
|----------------------------------------------|-----------------|------------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |                 | Class I / Type1        |                   |
| Max. continuous operating a.c. voltage       | Uc              | 275V                   | 320V              |
| Lightning impulse current (10/350 $\mu$ s)   | Iimp            | 12.5kA                 | 12.5kA            |
| Norminal discharge current (8/20 $\mu$ s)    | In              | 20kA                   | 20kA              |
| Voltage protection level                     | Up              | $\leq 1.5$ kV          | $\leq 1.8$ kV     |
| Follow current extinguishing capability a.c. | I <sub>fi</sub> | 5kA rms                | 5kA rms           |
| Max. backup fuse                             |                 | 315A gL                | 315A gL           |
| Response time                                | t <sub>A</sub>  | $\leq 25$ ns           | $\leq 25$ ns      |
| Operating temperature range                  | Tu              | -40°C-80°C             | -40°C-80°C        |
| Cross-section area (Min.)                    |                 | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |                 | 35mm <sup>2</sup>      | 35mm <sup>2</sup> |
| For mounting on                              |                 | 35mm Din rail          |                   |
| Enclosure material                           |                 | Thermalplastic UL94-V0 |                   |
| Degree of protection                         |                 | IP20                   |                   |



## AG1-12\*-8

Type1 Surge Arrester



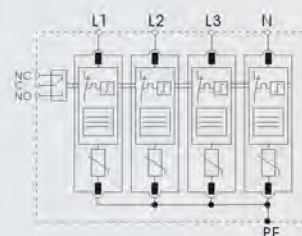
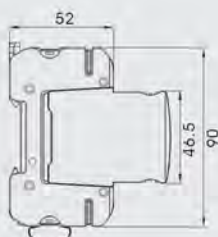
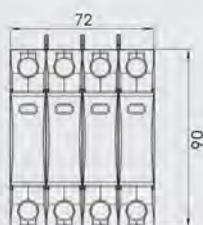
■ AG1-12\*-275-8 and 320-8 is suitable for TN-S/TT system.

|                                              |      | AG1-12*-275-8          | AG1-12*-320-8     |
|----------------------------------------------|------|------------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |      | Class I / Type1        |                   |
| Max. continuous operating a.c. voltage       | Uc   | 275V                   | 320V              |
| Lightning impulse current (10/350 $\mu$ s)   | Iimp | 12.5kA                 | 12.5kA            |
| Normal discharge current (8/20 $\mu$ s)      | In   | 20kA                   | 20kA              |
| Voltage protection level                     | Up   | $\leq 1.5$ kV          | $\leq 1.8$ kV     |
| Follow current extinguishing capability a.c. | Ifi  | 5kA rms                | 5kA rms           |
| Max. backup fuse                             |      | 315A gL                | 315A gL           |
| Response time                                | tA   | $\leq 25/100$ ns       | $\leq 25/100$ ns  |
| Operating temperature range                  | Tu   | -40 °C-80 °C           | -40 °C-80 °C      |
| Cross-section area (Min.)                    |      | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |      | 35mm <sup>2</sup>      | 35mm <sup>2</sup> |
| For mounting on                              |      | 35mm Din rail          |                   |
| Enclosure material                           |      | Thermalplastic UL94-V0 |                   |
| Degree of protection                         |      | IP20                   |                   |



**AG1-10\*-4**

Type 1 Surge Arrester



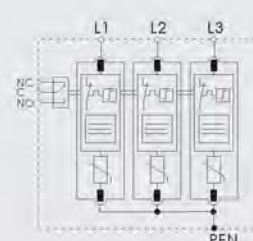
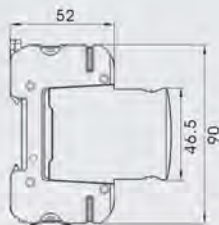
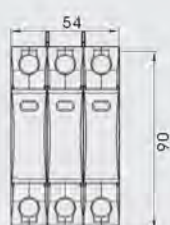
■ AG1-10\*-4 is suitable for TN-S system.

|                                              |                 | AG1-10*-385-4          | AG1-10*-440-4     | AG1-10*-550-4     |
|----------------------------------------------|-----------------|------------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |                 | Class I / Type 1       |                   |                   |
| Max. continuous operating a.c. voltage       | Uc              | 385V                   | 440V              | 550V              |
| Lightning impulse current (10/350 $\mu$ s)   | Iimp            | 10kA                   | 10kA              | 10kA              |
| Norminal discharge current (8/20 $\mu$ s)    | In              | 10kA                   | 10kA              | 10kA              |
| Voltage protection level                     | Up              | $\leq 2.0$ kV          | $\leq 2.3$ kV     | $\leq 2.8$ kV     |
| Follow current extinguishing capability a.c. | I <sub>fi</sub> | 5kA rms                | 5kA rms           | 5kA rms           |
| Max. backup fuse                             |                 | 315A gL                | 315A gL           | 315A gL           |
| Response time                                | t <sub>A</sub>  | $\leq 25$ ns           | $\leq 25$ ns      | $\leq 25$ ns      |
| Operating temperature range                  | Tu              | -40°C-80°C             | -40°C-80°C        | -40 °C-80 °C      |
| Cross-section area (Min.)                    |                 | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |                 | 35mm <sup>2</sup>      | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                              |                 | 35mm Din rail          |                   |                   |
| Enclosure material                           |                 | Thermalplastic UL94-V0 |                   |                   |
| Degree of protection                         |                 | IP20                   |                   |                   |



## AG1-10\*-3

Type1 Surge Arrester

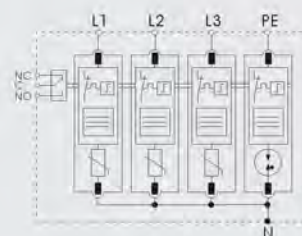
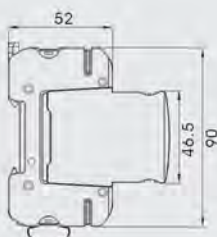
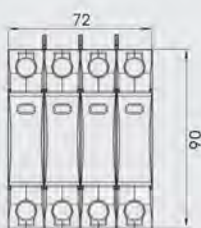


■ AG1-10\*-3 is suitable for TN-C/IT system.

|                                              |                 | AG1-10*-385-3          | AG1-10*-440-3     | AG1-10*-550-3     |
|----------------------------------------------|-----------------|------------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |                 | Class I / Type1        |                   |                   |
| Max. continuous operating a.c. voltage       | Uc              | 385V                   | 440V              | 550V              |
| Lightning impulse current (10/350 $\mu$ s)   | Iimp            | 10kA                   | 10kA              | 10kA              |
| Norminal discharge current (8/20 $\mu$ s)    | In              | 10kA                   | 10kA              | 10kA              |
| Voltage protection level                     | Up              | $\leq 2.0$ kV          | $\leq 2.3$ kV     | $\leq 2.8$ kV     |
| Follow current extinguishing capability a.c. | I <sub>fi</sub> | 5kA rms                | 5kA rms           | 5kA rms           |
| Max. backup fuse                             |                 | 315A gL                | 315A gL           | 315A gL           |
| Response time                                | t <sub>A</sub>  | $\leq 25$ ns           | $\leq 25$ ns      | $\leq 25$ ns      |
| Operating temperature range                  | Tu              | -40°C-80°C             | -40°C-80°C        | -40°C-80°C        |
| Cross-section area (Min.)                    |                 | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |                 | 35mm <sup>2</sup>      | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                              |                 | 35mm Din rail          |                   |                   |
| Enclosure material                           |                 | Thermalplastic UL94-V0 |                   |                   |
| Degree of protection                         |                 | IP20                   |                   |                   |



## AG1-10\*-8 Type 1 Surge Arrester



■ AG1-10\*-8 is suitable for TN-S/TT system.

|                                              |                 | AG1-10*-385-8          | AG1-10*-440-8     | AG1-10*-550-8     |
|----------------------------------------------|-----------------|------------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11      |                 | Class I / Type 1       |                   |                   |
| Max. continuous operating a.c. voltage       | Uc              | 385V                   | 440V              | 550V              |
| Lightning impulse current (10/350 $\mu$ s)   | Iimp            | 10kA                   | 10kA              | 10kA              |
| Norminal discharge current (8/20 $\mu$ s)    | In              | 10kA                   | 10kA              | 10kA              |
| Voltage protection level                     | Up              | $\leq 2.0/1.5$ kV      | $\leq 2.3/1.8$ kV | $\leq 2.8/2.0$ kV |
| Follow current extinguishing capability a.c. | I <sub>fi</sub> | 5kA rms                | 5kA rms           | 5kA rms           |
| Max. backup fuse                             |                 | 315A gL                | 315A gL           | 315A gL           |
| Response time                                | t <sub>A</sub>  | $\leq 25/100$ ns       | $\leq 25/100$ ns  | $\leq 25/100$ ns  |
| Operating temperature range                  | Tu              | -40°C-80°C             | -40°C-80°C        | -40°C-80°C        |
| Cross-section area (Min.)                    |                 | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                    |                 | 35mm <sup>2</sup>      | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                              |                 | 35mm Din rail          |                   |                   |
| Enclosure material                           |                 | Thermalplastic UL94-V0 |                   |                   |
| Degree of protection                         |                 | IP20                   |                   |                   |

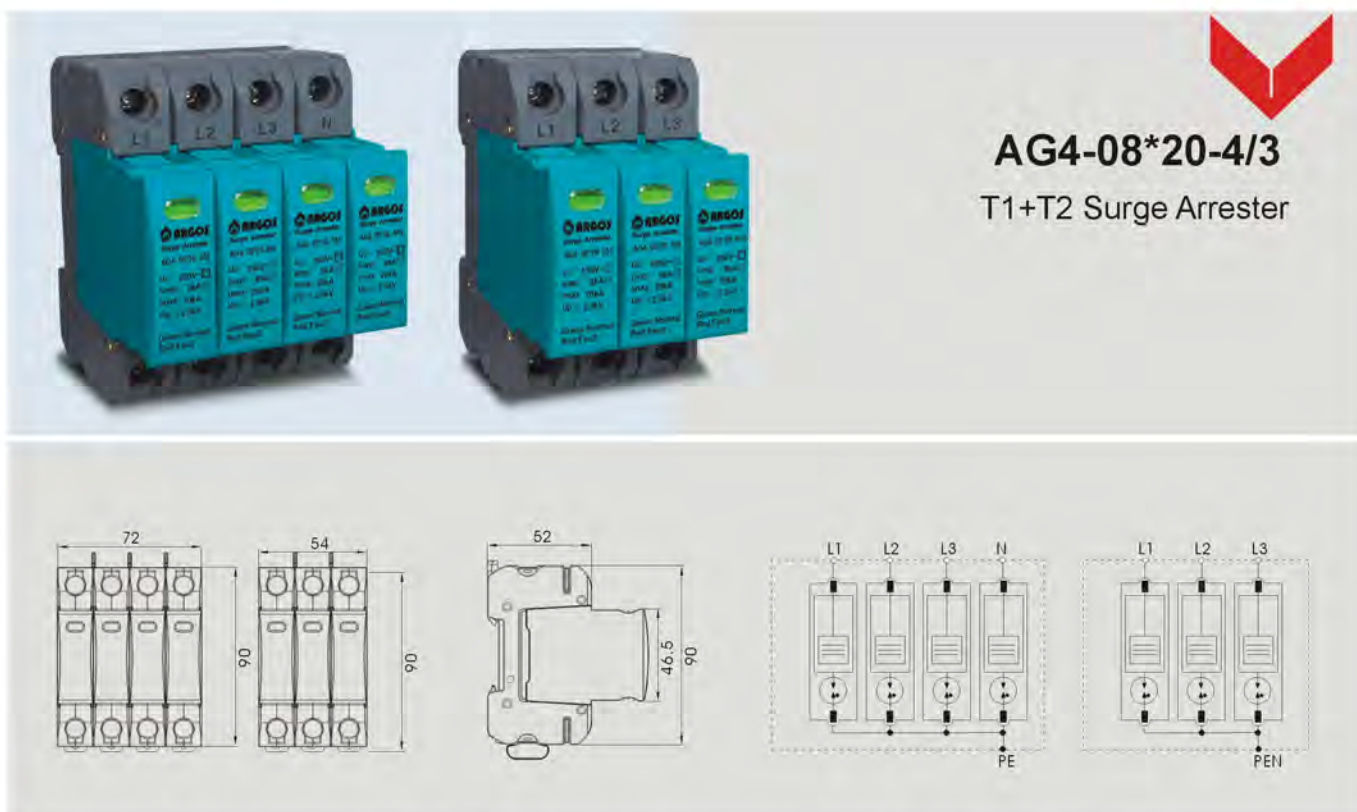




## T<sub>1</sub>+T<sub>2</sub> Surge Arrester

**ARGOS INTERNATIONAL**  
Lightning protection and earthing systems

Surge Arrester



■ AG4-08\*20-550-4 is suitable for TN-S/TT system, AG4-08\*20-550-3 is suitable for TN-C/IT system.

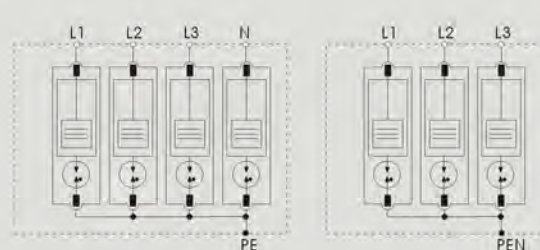
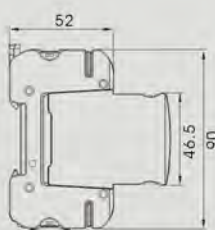
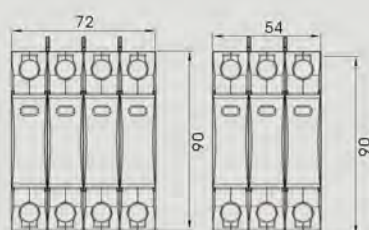
|                                         |                  | AG4-08*20-550-4                      | AG4-08*20-550-3   |
|-----------------------------------------|------------------|--------------------------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | Class I + Class II / Type 1 + Type 2 |                   |
| Max. Continuous operating a. c. voltage | Uc               | 550V                                 | 550V              |
| Lightning impulse current (10/350μs)    | Iimp             | 8kA                                  | 8kA               |
| Normal discharge current (8/20 μs)      | In               | 20kA                                 | 20kA              |
| Max. discharge current (8 /20 μs)       | I <sub>max</sub> | 80kA                                 | 80kA              |
| Voltage protection level                | Up               | ≤2.5kV                               | ≤2.5kV            |
| Voltage protection level 5kA            | Up               | ≤1.2kV                               | ≤1.2kV            |
| Max. backup fuse                        |                  | 160A gL                              | 160A gL           |
| Response time                           | t <sub>A</sub>   | ≤100ns                               | ≤100ns            |
| Operating temperature range             | T <sub>u</sub>   | -40°C-80°C                           | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red                            | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>                    | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>                    | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail                        |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0              |                   |
| Degree of protection                    |                  | IP20                                 |                   |





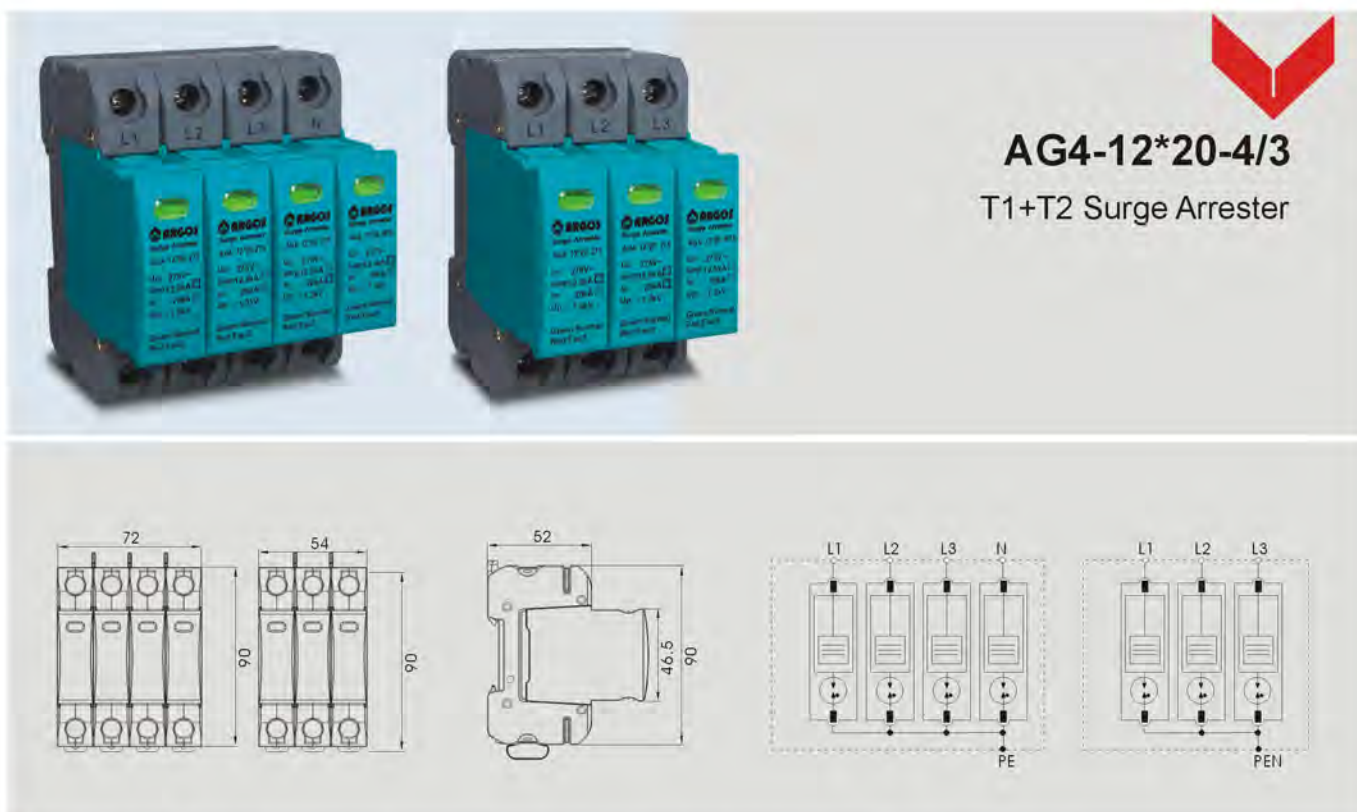
## AG4-10\*20-4/3

T1+T2 Surge Arrester



■ AG4-10\*20-4 is suitable for TN-S/TT system, AG4-10\*20-3 is suitable for TN-C/IT system.

|                                         |                  | AG4-10*20-385-4/3                    | AG4-10*20-440-4/3 |
|-----------------------------------------|------------------|--------------------------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | Class I + Class II / Type 1 + Type 2 |                   |
| Max. Continuous operating a. c. voltage | Uc               | 385V                                 | 440V              |
| Lightning impulse current (10/350μs)    | Iimp             | 10kA                                 | 10kA              |
| Normal discharge current (8/20μs)       | In               | 10kA                                 | 10kA              |
| Max. discharge current (8/20μs)         | I <sub>max</sub> | 20kA                                 | 20kA              |
| Voltage protection level                | Up               | ≤1.8kV                               | ≤2.2kV            |
| Voltage protection level 5kA            | Up               | ≤1.2kV                               | ≤1.2kV            |
| Max. backup fuse                        |                  | 160A gL                              | 160A gL           |
| Response time                           | t <sub>A</sub>   | ≤25ns                                | ≤25ns             |
| Operating temperature range             | T <sub>u</sub>   | -40°C-80°C                           | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red                            | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>                    | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>                    | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail                        |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0              |                   |
| Degree of protection                    |                  | IP20                                 |                   |



## AG4-12\*20-4/3

T1+T2 Surge Arrester

■ AG4-12\*20-4 is suitable for TN-S/TT system, AG4-12\*20-3 is suitable for TN-C/IT system.

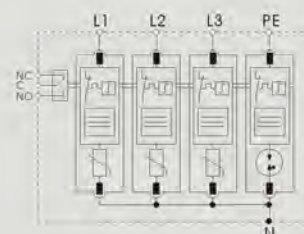
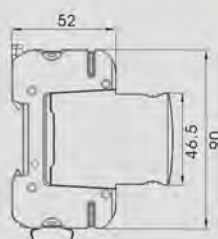
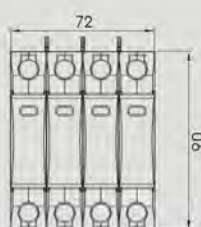
|                                         |      | AG4-12*20-275-4/3                | AG4-12*20-320-4/3 |
|-----------------------------------------|------|----------------------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |      | Class I+Class II / Type 1+Type 2 |                   |
| Max. Continuous operating a. c. voltage | Uc   | 275V                             | 320V              |
| Lightning impulse current (10/350μs)    | Iimp | 12.5kA                           | 12.5kA            |
| Nominal discharge current (8/20 μs)     | In   | 20kA                             | 20kA              |
| Voltage protection level                | Up   | ≤1.3kV                           | ≤1.5kV            |
| Voltage protection level 5kA            | Up   | ≤1.2kV                           | ≤1.2kV            |
| Max. backup fuse                        |      | 160A gL                          | 160A gL           |
| Response time                           | tA   | ≤25ns                            | ≤25ns             |
| Operating temperature range             | Tu   | -40°C-80°C                       | -40°C-80°C        |
| Operating state/fault indication        |      | green/red                        | green/red         |
| Cross - section area (Min.)             |      | 4 mm <sup>2</sup>                | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |      | 35mm <sup>2</sup>                | 35mm <sup>2</sup> |
| For mounting on                         |      | 35mm Din rail                    |                   |
| Enclosure material                      |      | Thermal plastic UL94-V0          |                   |
| Degree of protection                    |      | IP20                             |                   |





## AG4-25\*20-8

T1+T2 Surge Arrester



■ AG4-25\*20-8 is suitable for TN-S/TT system.

|                                         |                  | AG4-25*20-275-8                      | AG4-25*20-320-8   | AG4-25*20-385-8   | AG4-25*20-440-8   | AG4-25*20-550-8   |
|-----------------------------------------|------------------|--------------------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | Class I + Class II / Type 1 + Type 2 |                   |                   |                   |                   |
| Max. Continuous operating a. c. voltage | Uc               | 275V                                 | 320V              | 385V              | 440V              | 550V              |
| Lightning impulse current (10/350μs)    | Iimp             | 25kA                                 | 25kA              | 25kA              | 25kA              | 25kA              |
| Normal discharge current (8/20μs)       | In               | 10kA                                 | 10kA              | 10kA              | 10kA              | 10kA              |
| Max. discharge current (8/20μs)         | I <sub>max</sub> | 20kA                                 | 20kA              | 20kA              | 20kA              | 20kA              |
| Voltage protection level                | Up               | ≤1.3kV                               | ≤1.5kV            | ≤1.8kV            | ≤2.2kV            | ≤2.5kV            |
| Voltage protection level 5kA            | Up               | ≤1.2kV                               | ≤1.2kV            | ≤1.2kV            | ≤1.2kV            | ≤1.2kV            |
| Max. backup fuse                        |                  | 160A gL                              | 160A gL           | 160A gL           | 160A gL           | 160A gL           |
| Response time                           | t <sub>A</sub>   | ≤25ns                                | ≤25ns             | ≤25ns             | ≤25ns             | ≤25ns             |
| Operating temperature range             | T <sub>u</sub>   | -40°C-80°C                           | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red                            | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>                    | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>                    | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail                        |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0              |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                                 |                   |                   |                   |                   |



## Type 2 Surge Arrester

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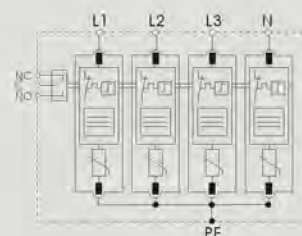
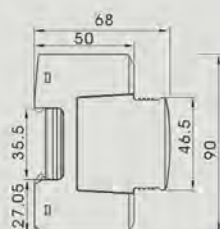
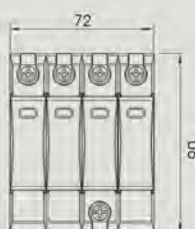




## AG-40-4P

### Type 2 Surge Arrester

- \* Thermal stability 100A without additional protection
- \* Patented fast tripping mechanism
- \* SEMKO approval



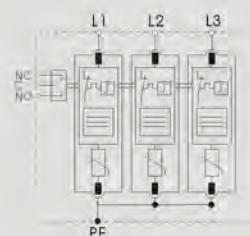
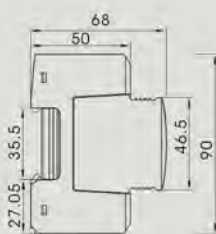
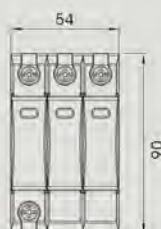
■ AG-40-4 pole surge arrester is suitable for TN-S system.

|                                         |                  | AG-40-150-4             | AG-40- 275-4      | AG-40-320-4       | AG-40- 385-4      | AG-40-400-4       |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | Type2 / ClassII         | Type2 / ClassII   | Type2 / ClassII   | Type2 / ClassII   | Type2 / ClassII   |
| Max. continuous operating a.c. voltage  | Uc               | 150V                    | 275V              | 320V              | 385V              | 440V              |
| Nominal discharge current (8/20 μs)     | In               | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Max. discharge current (8/20 μs)        | I <sub>max</sub> | 40kA                    | 40kA              | 40kA              | 40kA              | 40kA              |
| Voltage protection level                | Up               | ≤0.8kV                  | ≤1.3kV            | ≤1.5kV            | ≤1.8kV            | ≤2.0kV            |
| Voltage protection level 5kA            | Up               | ≤0.6kV                  | ≤1kV              | ≤1.2kV            | ≤1.4kV            | ≤1.6kV            |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | ≤25ns                   | ≤25ns             | ≤25ns             | ≤25ns             | ≤25ns             |
| Operating temperature range             | T <sub>u</sub>   | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross-section area (Min.)               |                  | 4mm <sup>2</sup>        | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)               |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |
|                                         |                  |                         |                   |                   |                   |                   |



## AG-40-3P

Type 2 Surge Arrester



■ AG-40-3 pole surge arrester is suitable for TN-C system.

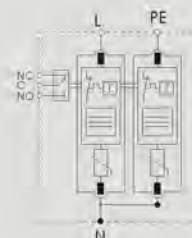
|                                          |           | AG-40-150-3             | AG-40-275-3       | AG-40-320-3       | AG-40-385-3       | AG-40-440-3       |
|------------------------------------------|-----------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11  |           | Type2 / ClassII         | Type2 / ClassII   | Type2 / ClassII   | Type2 / ClassII   | Type2 / ClassII   |
| Max. continuous operating a.c. voltage   | $U_c$     | 150V                    | 275V              | 320V              | 385V              | 440V              |
| Nominal discharge current (8/20 $\mu$ s) | $I_n$     | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Max. discharge current (8/20 $\mu$ s)    | $I_{max}$ | 40kA                    | 40kA              | 40kA              | 40kA              | 40kA              |
| Voltage protection level                 | $U_p$     | $\leq 0.8kV$            | $\leq 1.3kV$      | $\leq 1.5kV$      | $\leq 1.8kV$      | $\leq 2.0kV$      |
| Voltage protection level 5kA             | $U_p$     | $\leq 0.6kV$            | $\leq 1kV$        | $\leq 1.2kV$      | $\leq 1.4kV$      | $\leq 1.6kV$      |
| Max. backup fuse                         |           | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                            | $t_A$     | $\leq 25ns$             | $\leq 25ns$       | $\leq 25ns$       | $\leq 25ns$       | $\leq 25ns$       |
| Operating temperature range              | $T_u$     | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication         |           | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross-section area (Min.)                |           | 4mm <sup>2</sup>        | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                |           | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                          |           | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                       |           | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                     |           | IP20                    |                   |                   |                   |                   |
| Order Code                               |           |                         |                   |                   |                   |                   |





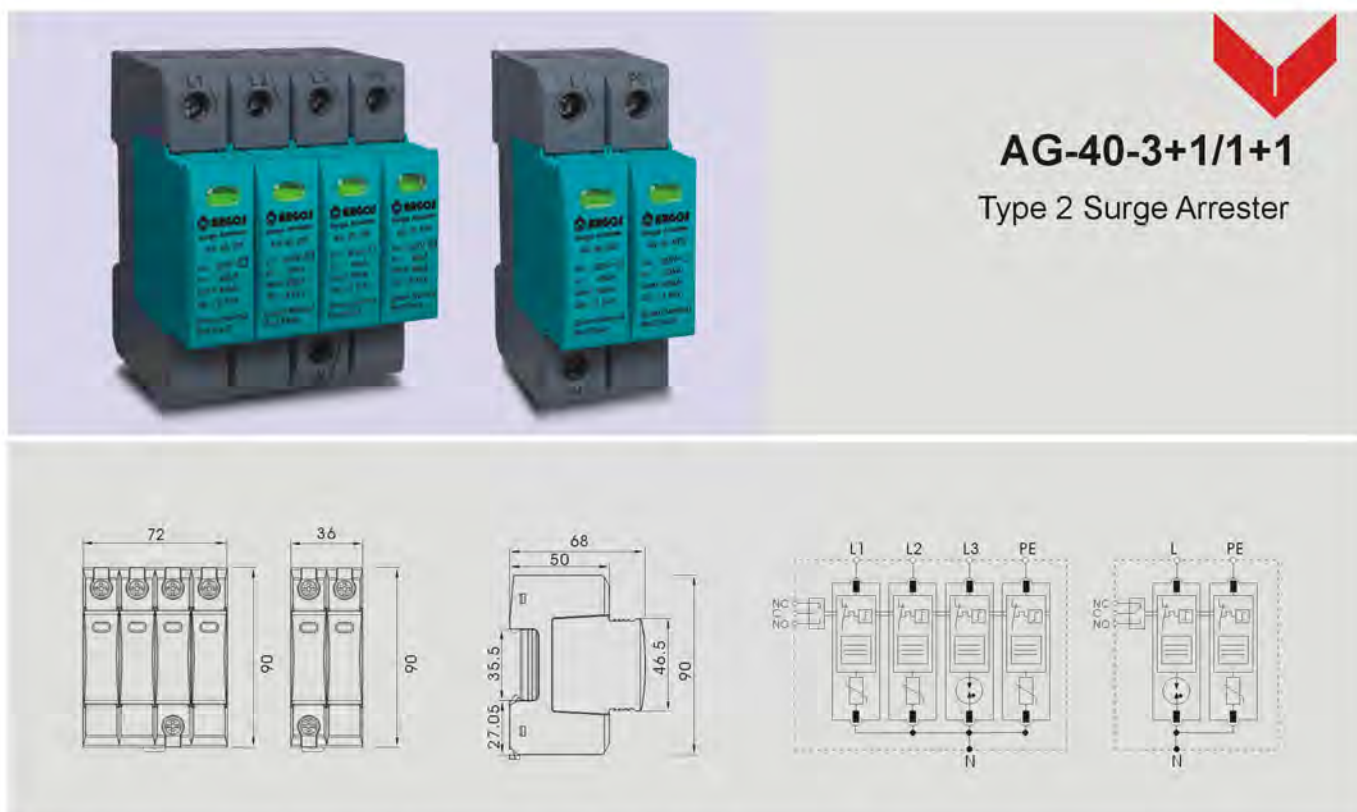
## AG-40-2P

Type 2 Surge Arrester



■ AG-40 2 pole surge arrester is suitable for TN-S system.

|                                         |                  | AG-40-150-2             | AG-40-275-2       | AG-40-320-2       | AG-40-385-2       | AG-40-440-2       |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | Type2 / ClassII         | Type2 / ClassII   | Type2 / ClassII   | Type2 / ClassII   | Type2 / ClassII   |
| Max. continuous operating a.c. voltage  | Uc               | 150V                    | 275V              | 320V              | 385V              | 440V              |
| Nominal discharge current (8/20μs)      | In               | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Max. discharge current (8/20 μs)        | I <sub>max</sub> | 40kA                    | 40kA              | 40kA              | 40kA              | 40kA              |
| Voltage protection level                | Up               | ≤ 0.8kV                 | ≤ 1.3kV           | ≤ 1.5kV           | ≤ 1.8kV           | ≤ 2.0kV           |
| Voltage protection level 5kA            | Up               | ≤ 0.6kV                 | ≤ 1kV             | ≤ 1.2kV           | ≤ 1.4kV           | ≤ 1.6kV           |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | ≤ 25ns                  | ≤ 25ns            | ≤ 25ns            | ≤ 25ns            | ≤ 25ns            |
| Operating temperature range             | T <sub>u</sub>   | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross-section area (Min.)               |                  | 4mm <sup>2</sup>        | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)               |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |
|                                         |                  |                         |                   |                   |                   |                   |



■ AG-40-3+1/1+1 surge arrester is suitable for TT and TN-S system.

|                                                                |  | AG-40-150-3+1/1+1          | AG-40-275-3+1/1+1          | AG-40-320-3+1/1+1          | AG-40-385-3+1/1+1          | AG-40-440-3+1/1+1          |
|----------------------------------------------------------------|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| SPD according to EN61643-11/IEC61643-11                        |  | Type2 / ClassII            | Type2 / ClassII            | Type2 / ClassII            | Type2 / ClassII            | Type2 / ClassII            |
| Max. continuous operating a.c. Voltage[L-N] $U_c$              |  | 150V                       | 275V                       | 320V                       | 385V                       | 440V                       |
| Max. continuous operating a.c. voltage[N-PE] $U_c$             |  | 255V                       | 255V                       | 255V                       | 255V                       | 255V                       |
| Nominal discharge current (8/20 $\mu$ s) $I_n$                 |  | 20kA                       | 20kA                       | 20kA                       | 20kA                       | 20kA                       |
| Max. discharge current (8/20 $\mu$ s) $I_{max}$                |  | 40kA                       | 40kA                       | 40kA                       | 40kA                       | 40kA                       |
| Voltage protection level $U_p$                                 |  | $\leq 0.8kV$               | $\leq 1.3kV$               | $\leq 1.5kV$               | $\leq 1.8kV$               | $\leq 2.0kV$               |
| Voltage protection level 5kA $U_p$                             |  | $\leq 0.6kV$               | $\leq 1kV$                 | $\leq 1.2kV$               | $\leq 1.4kV$               | $\leq 1.6kV$               |
| Voltage protection level [N-PE] $U_p$                          |  | $\leq 1.5kV$               | $\leq 1.5kV$               | $\leq 1.5kV$               | $\leq 1.5kV$               | $\leq 1.5kV$               |
| Follow current extinguishing capability [N-PE] a.k.a. $I_{fl}$ |  | 100Arms                    | 100Arms                    | 100Arms                    | 100Arms                    | 100Arms                    |
| Max. backup fuse                                               |  | 125A gL                    | 125A gL                    | 125A gL                    | 125A gL                    | 125A gL                    |
| Response time $t_A$                                            |  | $\leq 25ns$                | $\leq 25ns$                | $\leq 25ns$                | $\leq 25ns$                | $\leq 25ns$                |
| Response time[N-PE] $t_A$                                      |  | $\leq 100ns$               | $\leq 100ns$               | $\leq 100ns$               | $\leq 100ns$               | $\leq 100ns$               |
| Operating temperature range $T_u$                              |  | $-40^{\circ}C-80^{\circ}C$ | $-40^{\circ}C-80^{\circ}C$ | $-40^{\circ}C-80^{\circ}C$ | $-40^{\circ}C-80^{\circ}C$ | $-40^{\circ}C-80^{\circ}C$ |
| Operating state/fault indication                               |  | green/red                  | green/red                  | green/red                  | green/red                  | green/red                  |
| Cross-section area (Min.)                                      |  | 4mm <sup>2</sup>           | 4mm <sup>2</sup>           | 4mm <sup>2</sup>           | 4mm <sup>2</sup>           | 4mm <sup>2</sup>           |
| Cross-section area (Max.)                                      |  | 35mm <sup>2</sup>          | 35mm <sup>2</sup>          | 35mm <sup>2</sup>          | 35mm <sup>2</sup>          | 35mm <sup>2</sup>          |
| For mounting on                                                |  | 35mm Din rail              |                            |                            |                            |                            |
| Enclosure material                                             |  | Thermal plastic UL94-V0    |                            |                            |                            |                            |
| Degree of protection                                           |  | IP20                       |                            |                            |                            |                            |

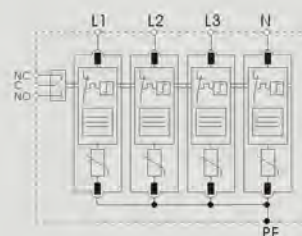
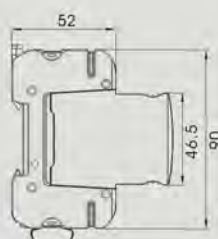
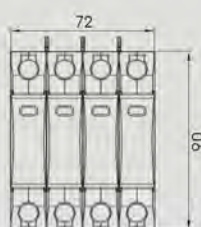




## AG2-4080-4

### Type 2 Surge Arrester

\* Thermal stability 100A without additional protection



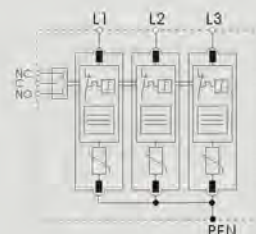
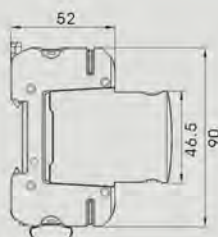
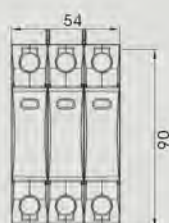
■ AG2-4080-4 poles surge arrester is suitable for TN-S system.

|                                         |                  | AG2-4080-275-4          | AG2-4080-320-4    | AG2-4080-385-4    | AG2-4080-440-4    | AG2-3570-550-4    |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | ClassII / Type2         |                   |                   |                   |                   |
| Max. Continuous operating a. c. voltage | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Normal discharge current ( 8 /20 μs)    | In               | 40kA                    | 40kA              | 40kA              | 40kA              | 35kA              |
| Max. discharge current ( 8 /20 μs)      | I <sub>max</sub> | 80kA                    | 80kA              | 80kA              | 80kA              | 70kA              |
| Voltage protection level                | Up               | ≤1.6kV                  | ≤1.8kV            | ≤2.1kV            | ≤2.5kV            | ≤2.8kV            |
| Voltage protection level 5kA            | Up               | ≤1.2kV                  | ≤1.2kV            | ≤1.2kV            | ≤1.2kV            | ≤1.2kV            |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | ≤25ns                   | ≤25ns             | ≤25ns             | ≤25ns             | ≤25ns             |
| Operating temperature range             | Tu               | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |
|                                         |                  |                         |                   |                   |                   |                   |



## AG2-4080-3

Type 2 Surge Arrester



■ AG2-4080-3 poles surge arrester is suitable for TN-C/IT system.

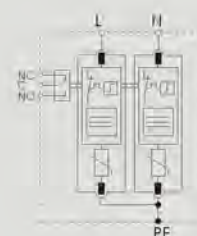
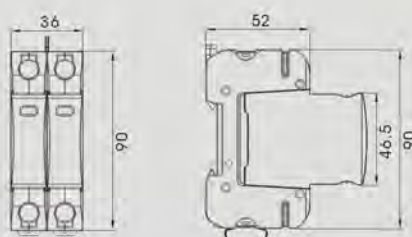
|                                         |                  | AG2-4080-275-3          | AG2-4080-320-3    | AG2-4080-385-3    | AG2-4080-440-3    | AG2-3570-550-3    |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | ClassII /Type2          |                   |                   |                   |                   |
| Max.Continuous operating a. c.voltage   | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Norminal discharge current (8 /20 μs)   | In               | 40kA                    | 40kA              | 40kA              | 40kA              | 35kA              |
| Max.discharge current (8/20 μs)         | I <sub>max</sub> | 80kA                    | 80kA              | 80kA              | 80kA              | 70kA              |
| Voltage protection level                | Up               | ≤1.6kV                  | ≤1.8kV            | ≤2.1kV            | ≤2.5kV            | ≤2.8kV            |
| Voltage protection level 5kA            | Up               | ≤1.2kV                  | ≤1.2kV            | ≤1.2kV            | ≤1.2kV            | ≤1.2kV            |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | ≤25ns                   | ≤25ns             | ≤25ns             | ≤25ns             | ≤25ns             |
| Operating temperature range             | T <sub>u</sub>   | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |





## AG2-4080-2

Type 2 Surge Arrester



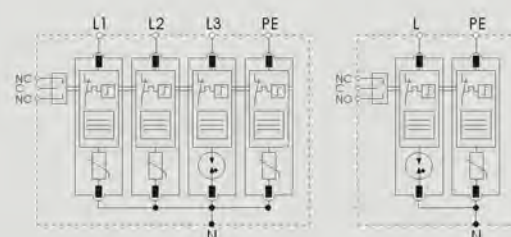
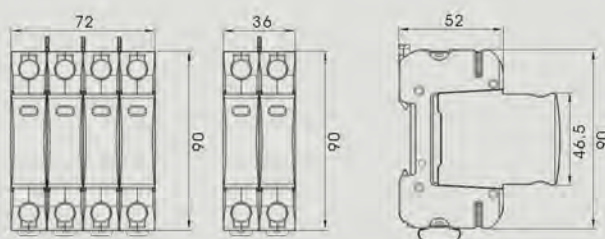
■ AG2-4080-2 poles surge arrester is suitable for TN-C/IT system.

|                                          |                  | AG2-4080-275-2          | AG2-4080-320-2    | AG2-4080-385-2    | AG2-4080-440-2    | AG2-4080-550-2    |
|------------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11  |                  | ClassII / Type2         |                   |                   |                   |                   |
| Max. Continuous operating a. c. voltage  | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Normal discharge current (8 /20 $\mu$ s) | In               | 40kA                    | 40kA              | 40kA              | 40kA              | 35kA              |
| Max. discharge current (8/20 $\mu$ s)    | I <sub>max</sub> | 80kA                    | 80kA              | 80kA              | 80kA              | 70kA              |
| Voltage protection level                 | Up               | $\leq 1.6$ kV           | $\leq 1.8$ kV     | $\leq 2.1$ kV     | $\leq 2.5$ kV     | $\leq 2.8$ kV     |
| Voltage protection level 5kA             | Up               | $\leq 1.2$ kV           | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     |
| Max. backup fuse                         |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                            | t <sub>A</sub>   | $\leq 25$ ns            | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      |
| Operating temperature range              | Tu               | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication         |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)              |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)              |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                          |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                       |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                     |                  | IP20                    |                   |                   |                   |                   |



## AG2-4080-8/6

Type 2 Surge Arrester



■ AG2-4080-8/6 poles surge arrester is suitable for TN-S/TT system.

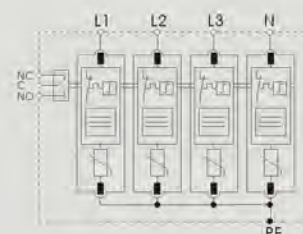
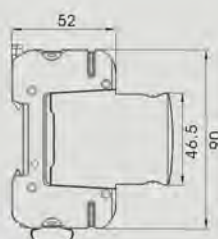
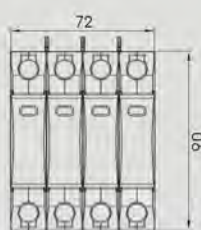
|                                                             | AG2-4080-275-8/6        | AG2-4080-320-8/6  | AG2-4080-385-8/6  | AG2-4080-440-8/6  | AG2-4080-550-8/6  |
|-------------------------------------------------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11                     | ClassII /Type2          |                   |                   |                   |                   |
| Max.Continuous operating a. c.voltage (L-N) $U_c$           | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Max.Continuous operating a. c.voltage (N-PE) $U_c$          | 255V                    | 255V              | 255V              | 255V              | 255V              |
| Nominal discharge current (8 /20 $\mu$ s) $I_n$             | 40kA                    | 40kA              | 40kA              | 40kA              | 35kA              |
| Max.discharge current (8/20 $\mu$ s) $I_{max}$              | 80kA                    | 80kA              | 80kA              | 80kA              | 70kA              |
| Voltage protection level (L-N) $U_p$                        | $\leq 1.6kV$            | $\leq 1.8kV$      | $\leq 2.1kV$      | $\leq 2.5kV$      | $\leq 2.8kV$      |
| Voltage protection level (N-PE) $U_p$                       | $\leq 1.8kV$            | $\leq 1.8kV$      | $\leq 1.8kV$      | $\leq 1.8kV$      | $\leq 1.8kV$      |
| Follow current extinguishing capability(N-PE) a.c. $I_{fi}$ | 100Arms                 | 100Arms           | 100Arms           | 100Arms           | 100Arms           |
| Max. backup fuse                                            | 200A gL                 | 200A gL           | 200A gL           | 200A gL           | 200A gL           |
| Response time (L-N/N-PE) $t_A$                              | $\leq 25ns/100ns$       | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ |
| Operating temperature range $T_u$                           | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication                            | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)                                 | 4 mm <sup>2</sup>       |                   |                   |                   |                   |
| Cross - section area (Max.)                                 | 35mm <sup>2</sup>       |                   |                   |                   |                   |
| For mounting on                                             | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                                          | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                                        | IP20                    |                   |                   |                   |                   |





## AG2-3060-4

Type 2 Surge Arrester



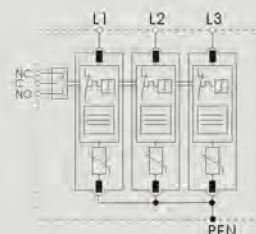
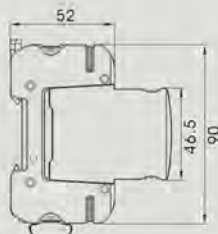
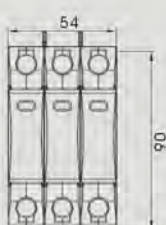
■ AG2-3060-4 poles surge arrester is suitable for TN-S system.

|                                         |                  | AG2-3060-275-4          | AG2-3060-320-4    | AG2-3060-385-4    | AG2-3060-440-4    | AG2-3060-550-4    |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | Class II / Type 2       |                   |                   |                   |                   |
| Max. Continuous operating a. c. voltage | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Norminal discharge current (8 /20 μs)   | In               | 30kA                    | 30kA              | 30kA              | 30kA              | 30kA              |
| Max. discharge current (8/20 μs)        | I <sub>max</sub> | 60kA                    | 60kA              | 60kA              | 60kA              | 60kA              |
| Voltage protection level                | Up               | ≤1.5kV                  | ≤1.7kV            | ≤2.0kV            | ≤2.4kV            | ≤2.7kV            |
| Voltage protection level 5kA            | Up               | ≤1.2kV                  | ≤1.2kV            | ≤1.2kV            | ≤1.2kV            | ≤1.2kV            |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | ≤25ns                   | ≤25ns             | ≤25ns             | ≤25ns             | ≤25ns             |
| Operating temperature range             | Tu               | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |
|                                         |                  |                         |                   |                   |                   |                   |



## AG2-3060-3

Type 2 Surge Arrester



■ AG2-3060-3 poles surge arrester is suitable for TN-C/IT system.

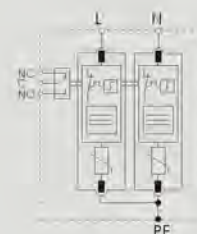
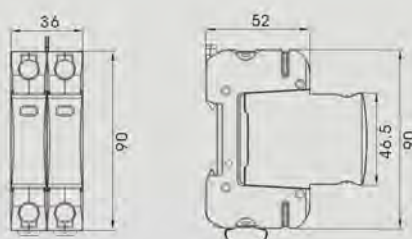
|                                         |                  | AG2-3060-275-3          | Ag2-3060-320-3    | Ag2-3060-375-3    | Ag2-3060-440-3    | Ag2-3060-550-3    |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | ClassII /Type2          |                   |                   |                   |                   |
| Max.Continuous operating a. c.voltage   | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Normal discharge current (8/20 $\mu$ s) | In               | 30kA                    | 30kA              | 30kA              | 30kA              | 30kA              |
| Max.discharge current (8/20 $\mu$ s)    | I <sub>max</sub> | 60kA                    | 60kA              | 60kA              | 60kA              | 60kA              |
| Voltage protection level                | Up               | $\leq 1.5$ kV           | $\leq 1.7$ kV     | $\leq 2.0$ kV     | $\leq 2.4$ kV     | $\leq 2.7$ kV     |
| Voltage protection level 5kA            | Up               | $\leq 1.2$ kV           | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | $\leq 25$ ns            | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      |
| Operating temperature range             | T <sub>u</sub>   | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |





## AG2-3060-2

Type 2 Surge Arrester



■ AG2-3060-2 poles surge arrester is suitable for TN-C/IT system.

|                                         |                  | AG2-3060-275-2          | AG2-3060-320-2    | AG2-3060-375-2    | AG2-3060-440-2    | AG2-3060-550-2    |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | ClassII / Type2         |                   |                   |                   |                   |
| Max. Continuous operating a. c. voltage | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Normal discharge current (8/20 $\mu$ s) | In               | 30kA                    | 30kA              | 30kA              | 30kA              | 30kA              |
| Max. discharge current (8/20 $\mu$ s)   | I <sub>max</sub> | 60kA                    | 60kA              | 60kA              | 60kA              | 60kA              |
| Voltage protection level                | Up               | $\leq 1.5$ kV           | $\leq 1.7$ kV     | $\leq 2.0$ kV     | $\leq 2.4$ kV     | $\leq 2.7$ kV     |
| Voltage protection level 5kA            | Up               | $\leq 1.2$ kV           | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | $\leq 25$ ns            | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      |
| Operating temperature range             | Tu               | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |



■ AG2-3060-8 poles surge arrester is suitable for TN-S/IT system, AG2-3060-6 poles surge arrester is suitable for TN-S/TT system.

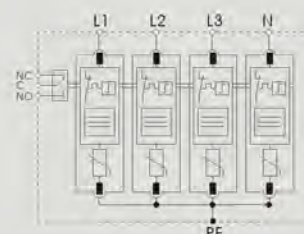
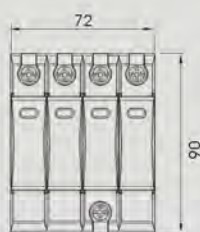
|                                                              | AG2-3060-275            | AG2-4080-320      | AG2-3060-385      | AG2-3060-440      | AG2-3060-550      |
|--------------------------------------------------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11                      | Class II / Type 2       |                   |                   |                   |                   |
| Max. Continuous operating a. c. voltage (L-N) $U_c$          | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Max. Continuous operating a. c. voltage (N-PE) $U_c$         | 255V                    | 255V              | 255V              | 255V              | 255V              |
| Nominal discharge current (8/20 $\mu$ s) $I_n$               | 30kA                    | 30kA              | 30kA              | 30kA              | 30kA              |
| Max. discharge current (8/20 $\mu$ s) $I_{max}$              | 60kA                    | 60kA              | 60kA              | 60kA              | 60kA              |
| Voltage protection level (L-N) $U_p$                         | $\leq 1.5kV$            | $\leq 1.7kV$      | $\leq 2.0kV$      | $\leq 2.4kV$      | $\leq 2.7kV$      |
| Voltage protection level (N-PE) $U_p$                        | $\leq 1.5kV$            | $\leq 1.7kV$      | $\leq 1.7kV$      | $\leq 1.7kV$      | $\leq 1.7kV$      |
| Follow current extinguishing capability (N-PE) a.c. $I_{fi}$ | 100Arms                 | 100Arms           | 100Arms           | 100Arms           | 100Arms           |
| Max. backup fuse                                             | 200A gL                 | 200A gL           | 200A gL           | 200A gL           | 200A gL           |
| Response time (L-N/N-PE) $t_A$                               | $\leq 25ns/100ns$       | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ |
| Operating temperature range $T_u$                            | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication                             | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)                                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)                                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                                              | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                                           | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                                         | IP20                    |                   |                   |                   |                   |





## AG2-2040-4

Type 2 Surge Arrester



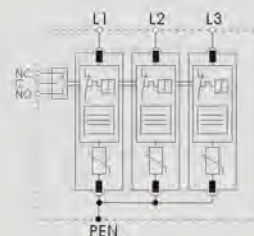
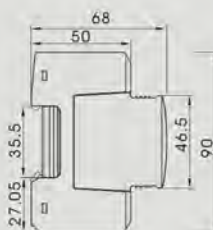
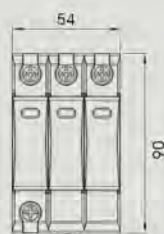
■ AG2-2040-4 poles surge arrester is suitable for TN-S system.

|                                         |                  | AG2-2040-275-4          | AG2-2040-320-4    | AG2-2040-385-4    | AG2-2040-440-4    | AG2-2040-550-4    |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | ClassII / Type2         |                   |                   |                   |                   |
| Max. Continuous operating a. c. voltage | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Normal discharge current (8/20 $\mu$ s) | In               | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Max. discharge current (8/20 $\mu$ s)   | I <sub>max</sub> | 40kA                    | 40kA              | 40kA              | 40kA              | 40kA              |
| Voltage protection level                | Up               | $\leq 1.3$ kV           | $\leq 1.5$ kV     | $\leq 1.8$ kV     | $\leq 2.2$ kV     | $\leq 2.5$ kV     |
| Voltage protection level 5kA            | Up               | $\leq 1.2$ kV           | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | $\leq 25$ ns            | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      |
| Operating temperature range             | T <sub>u</sub>   | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |
|                                         |                  |                         |                   |                   |                   |                   |



## AG2-2040-3

Type 2 Surge Arrester



■ AG2-3060-3 poles surge arrester is suitable for TN-C/IT system.

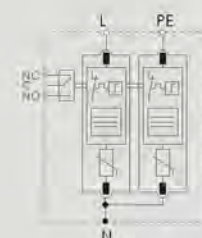
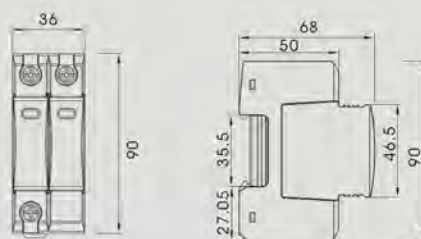
|                                           |                  | AG2-2040-275-3          | AG2-2040-320-3    | AG2-2040-385-3    | AG2-2040-440-3    | AG2-2040-550-3    |
|-------------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11   |                  | ClassII /Type2          |                   |                   |                   |                   |
| Max.Continuous operating a. c.voltage     | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Norminal discharge current (8/20 $\mu$ s) | In               | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Max.discharge current (8/20 $\mu$ s)      | I <sub>max</sub> | 40kA                    | 40kA              | 40kA              | 40kA              | 40kA              |
| Voltage protection level                  | Up               | $\leq 1.3$ kV           | $\leq 1.5$ kV     | $\leq 1.8$ kV     | $\leq 2.2$ kV     | $\leq 2.5$ kV     |
| Voltage protection level 5kA              | Up               | $\leq 1.2$ kV           | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     |
| Max. backup fuse                          |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                             | t <sub>A</sub>   | $\leq 25$ ns            | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      |
| Operating temperature range               | T <sub>u</sub>   | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication          |                  | green/red               | Green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)               |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)               |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                           |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                        |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                      |                  | IP20                    |                   |                   |                   |                   |





## AG2-2040-2

Type 2 Surge Arrester



■ AG2-3060-2 poles surge arrester is suitable for TN-C/IT system.

|                                         |                  | AG2-2040-275-2          | AG2-2040-320-2    | AG2-2040-385-2    | AG2-2040-440-2    | AG2-2040-550-2    |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | ClassII / Type2         |                   |                   |                   |                   |
| Max.Continuous operating a. c.voltage   | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Normal discharge current (8/20 $\mu$ s) | In               | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Max.discharge current (8/20 $\mu$ s)    | I <sub>max</sub> | 40kA                    | 40kA              | 40kA              | 40kA              | 40kA              |
| Voltage protection level                | Up               | $\leq 1.3$ kV           | $\leq 1.5$ kV     | $\leq 1.8$ kV     | $\leq 2.2$ kV     | $\leq 2.5$ kV     |
| Voltage protection level 5kA            | Up               | $\leq 1.2$ kV           | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     | $\leq 1.2$ kV     |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | $\leq 25$ ns            | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      |
| Operating temperature range             | Tu               | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | Green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |
|                                         |                  |                         |                   |                   |                   |                   |



■ AG2-2040-8/6 poles surge arrester is suitable for TN-S/TT system.

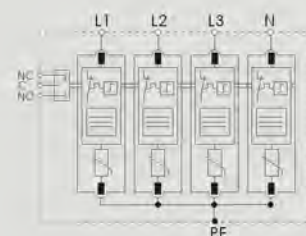
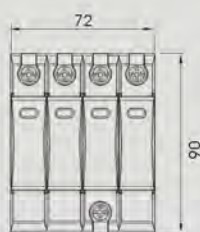
|                                                             | AG2-2040-275            | AG2-2040-320      | AG2-2040-385      | AG2-2040-440      | AG2-2040-550      |
|-------------------------------------------------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11                     | ClassII /Type2          |                   |                   |                   |                   |
| Max.Continuous operating a. c.voltage (L-N) $U_c$           | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Max.Continuous operating a. c.voltage (N-PE) $U_c$          | 255V                    | 255V              | 255V              | 255V              | 255V              |
| Nominal discharge current (8 /20 $\mu$ s) $I_n$             | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Max.discharge current (8/20 $\mu$ s) $I_{max}$              | 40kA                    | 40kA              | 40kA              | 40kA              | 40kA              |
| Voltage protection level (L-N) $U_p$                        | $\leq 1.3kV$            | $\leq 1.5kV$      | $\leq 1.8kV$      | $\leq 2.2kV$      | $\leq 2.5kV$      |
| Voltage protection level (N-PE) $U_p$                       | $\leq 1.5kV$            | $\leq 1.5kV$      | $\leq 1.7kV$      | $\leq 1.7kV$      | $\leq 1.7kV$      |
| Follow current extinguishing capability(N-PE) a.c. $I_{fi}$ | 100Arms                 | 100Arms           | 100Arms           | 100Arms           | 100Arms           |
| Max. backup fuse                                            | 200A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time (L-N/N-PE) $t_A$                              | $\leq 25ns/100ns$       | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ |
| Operating temperature range $T_u$                           | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication                            | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)                                 | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)                                 | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                                             | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                                          | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                                        | IP20                    |                   |                   |                   |                   |





## AG2-1020-4

Type 2 Surge Arrester



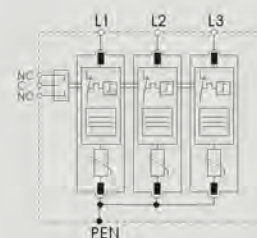
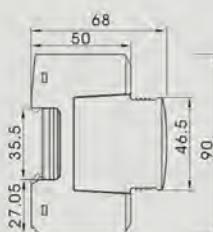
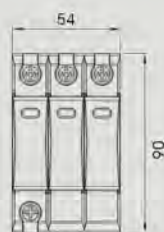
■ AG2-1020-4 poles surge arrester is suitable for TN-S system.

|                                         |                  | AG2-1020-275-4          | AG2-1020-320-4    | AG2-1020-385-4    | AG2-1020-440-4    | AG2-1020-550-4    |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | Class II / Type 2       |                   |                   |                   |                   |
| Max. Continuous operating a. c. voltage | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Normal discharge current (8/20 μs)      | In               | 10kA                    | 10kA              | 10kA              | 10kA              | 10kA              |
| Max. discharge current (8/20 μs)        | I <sub>max</sub> | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Voltage protection level                | Up               | ≤1.3kV                  | ≤1.5kV            | ≤1.8kV            | ≤2.2kV            | ≤2.5kV            |
| Voltage protection level 5kA            | Up               | ≤1.0kV                  | ≤1.0kV            | ≤1.0kV            | ≤1.0kV            | ≤1.0kV            |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | ≤25ns                   | ≤25ns             | ≤25ns             | ≤25ns             | ≤25ns             |
| Operating temperature range             | Tu               | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |
|                                         |                  |                         |                   |                   |                   |                   |



## AG2-1020-3

Type 2 Surge Arrester



■ AG2-1020-3 poles surge arrester is suitable for TN-C/IT system.

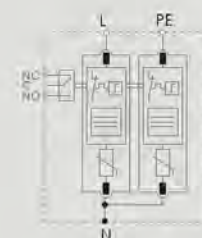
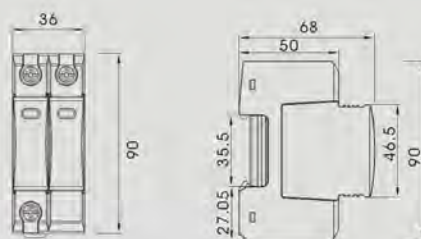
|                                         |                  | AG2-1020-275-3          | AG2-1020-320-3    | AG2-1020-385-3    | AG2-1020-440-3    | AG2-1020-550-3    |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | ClassII /Type2          |                   |                   |                   |                   |
| Max.Continuous operating a. c.voltage   | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Normal discharge current (8/20 $\mu$ s) | In               | 10kA                    | 10kA              | 10kA              | 10kA              | 10kA              |
| Max.discharge current (8/20 $\mu$ s)    | I <sub>max</sub> | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Voltage protection level                | Up               | $\leq 1.3$ kV           | $\leq 1.5$ kV     | $\leq 1.8$ kV     | $\leq 2.2$ kV     | $\leq 2.5$ kV     |
| Voltage protection level 5kA            | Up               | $\leq 1.0$ kV           | $\leq 1.0$ kV     | $\leq 1.0$ kV     | $\leq 1.0$ kV     | $\leq 1.0$ kV     |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | $\leq 25$ ns            | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      |
| Operating temperature range             | T <sub>u</sub>   | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |





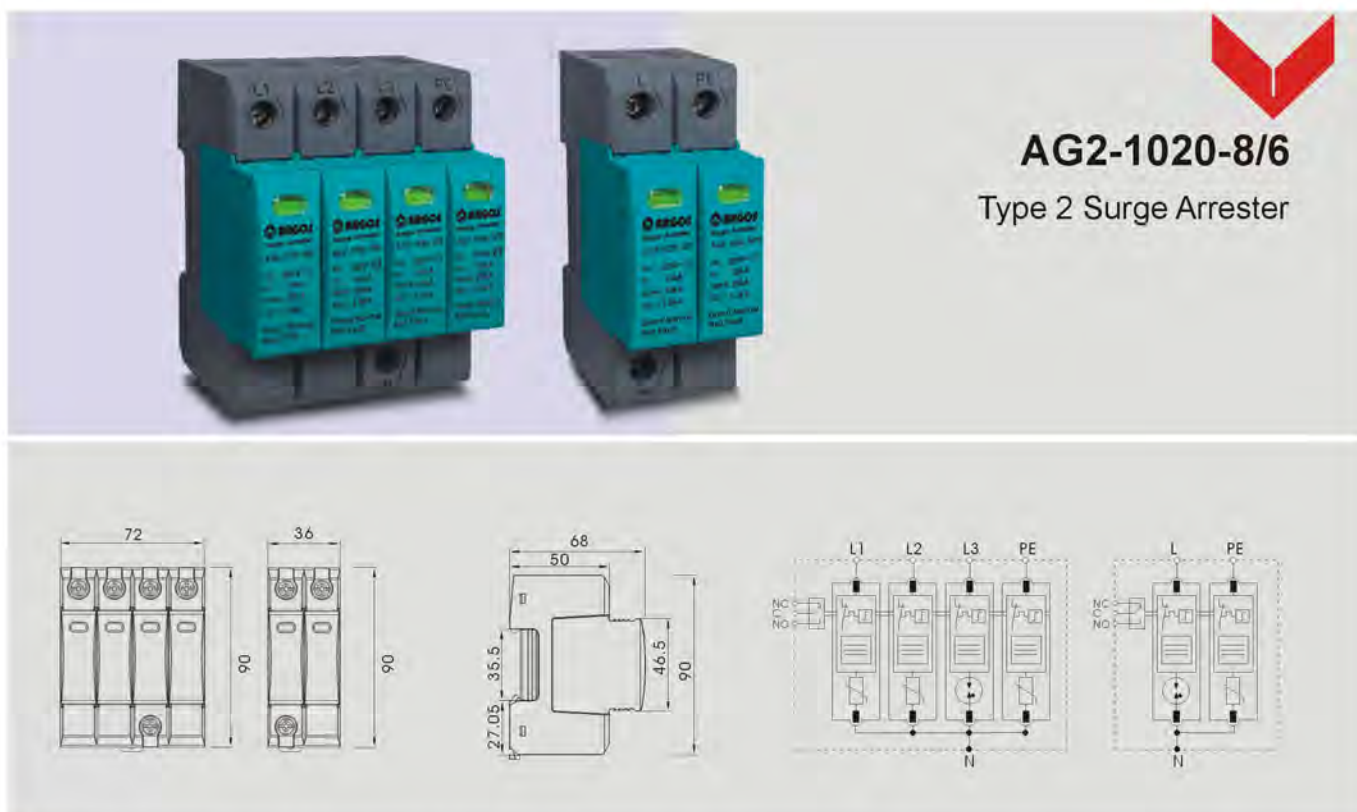
## AG2-1020-2

Type 2 Surge Arrester



■ AG2-1020-2 poles surge arrester is suitable for TN-S/TT system.

|                                         |                  | AG2-1020-275-2          | AG2-1020-320-2    | AG2-1020-385-2    | AG2-1020-440-2    | AG2-1020-550-2    |
|-----------------------------------------|------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11 |                  | ClassII / Type2         |                   |                   |                   |                   |
| Max.Continuous operating a. c.voltage   | Uc               | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Normal discharge current (8/20 $\mu$ s) | In               | 10kA                    | 10kA              | 10kA              | 10kA              | 10kA              |
| Max.discharge current (8/20 $\mu$ s)    | I <sub>max</sub> | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Voltage protection level                | Up               | $\leq 1.3$ kV           | $\leq 1.5$ kV     | $\leq 1.8$ kV     | $\leq 2.2$ kV     | $\leq 2.5$ kV     |
| Voltage protection level 5kA            | Up               | $\leq 1.0$ kV           | $\leq 1.0$ kV     | $\leq 1.0$ kV     | $\leq 1.0$ kV     | $\leq 1.0$ kV     |
| Max. backup fuse                        |                  | 125A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time                           | t <sub>A</sub>   | $\leq 25$ ns            | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      | $\leq 25$ ns      |
| Operating temperature range             | Tu               | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication        |                  | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)             |                  | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)             |                  | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                         |                  | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                      |                  | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                    |                  | IP20                    |                   |                   |                   |                   |



■ AG2-1020-8/6 poles surge arrester is suitable for TN-S/TT system.

|                                                             | AG2-1020-275            | AG2-1020-320      | AG2-1020-385      | AG2-1020-440      | AG2-1020-550      |
|-------------------------------------------------------------|-------------------------|-------------------|-------------------|-------------------|-------------------|
| SPD according to EN61643-11/IEC61643-11                     | ClassII /Type2          |                   |                   |                   |                   |
| Max.Continuous operating a. c.voltage (L-N) $U_c$           | 275V                    | 320V              | 385V              | 440V              | 550V              |
| Max.Continuous operating a. c.voltage (N-PE) $U_c$          | 255V                    | 255V              | 255V              | 255V              | 255V              |
| Nominal discharge current (8 /20 $\mu$ s) $I_n$             | 10kA                    | 10kA              | 10kA              | 10kA              | 10kA              |
| Max.discharge current (8/20 $\mu$ s) $I_{max}$              | 20kA                    | 20kA              | 20kA              | 20kA              | 20kA              |
| Voltage protection level (L-N) $U_p$                        | $\leq 1.3kV$            | $\leq 1.5kV$      | $\leq 1.8kV$      | $\leq 2.2kV$      | $\leq 2.5kV$      |
| Voltage protection level (N-PE) $U_p$                       | $\leq 1.5kV$            | $\leq 1.5kV$      | $\leq 1.5kV$      | $\leq 1.7kV$      | $\leq 1.8kV$      |
| Follow current extinguishing capability(N-PE) a.c. $I_{fi}$ | 100Arms                 | 100Arms           | 100Arms           | 100Arms           | 100Arms           |
| Max. backup fuse                                            | 200A gL                 | 125A gL           | 125A gL           | 125A gL           | 125A gL           |
| Response time (L-N/N-PE) $t_A$                              | $\leq 25ns/100ns$       | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ | $\leq 25ns/100ns$ |
| Operating temperature range $T_u$                           | -40°C-80°C              | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        | -40°C-80°C        |
| Operating state/fault indication                            | green/red               | green/red         | green/red         | green/red         | green/red         |
| Cross - section area (Min.)                                 | 4 mm <sup>2</sup>       | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> | 4 mm <sup>2</sup> |
| Cross - section area (Max.)                                 | 35mm <sup>2</sup>       | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                                             | 35mm Din rail           |                   |                   |                   |                   |
| Enclosure material                                          | Thermal plastic UL94-V0 |                   |                   |                   |                   |
| Degree of protection                                        | IP20                    |                   |                   |                   |                   |





## Type3 Surge Arrester

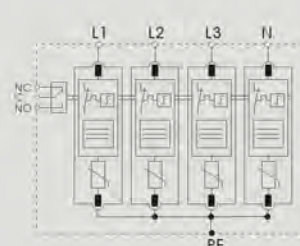
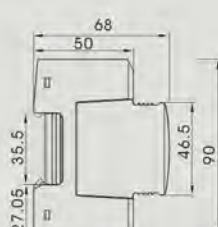
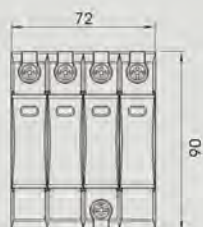
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Lightning protection and earthing systems





## AG3-2010-4

Type 3 Surge Arrester



■ AG3-2010-4 poles surge arrester is suitable for TN-S system.

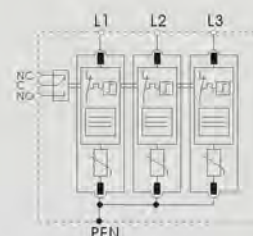
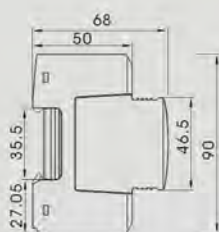
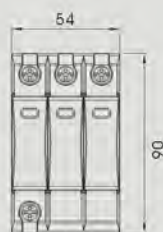
|                                         |     | AG3-2010-275-4          | AG3-2010-320-4     | AG3-2010-385-4     | AG3-2010-440-4     |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | ClassIII/Type3          |                    |                    |                    |
| Max. Continuous operating a.c.voltage   | Uc  | 275V                    | 320V               | 385V               | 440V               |
| Nominal discharge current (8/20μs)      | In  | 20kA                    | 20kA               | 20kA               | 20kA               |
| Combined impulse                        | Uoc | 10kV                    | 10kV               | 10kV               | 10kV               |
| Voltage protection level                | Up  | ≤1.3kV                  | ≤1.5kV             | ≤1.8kV             | ≤2.2kV             |
| Response time                           | tA  | ≤25ns                   | ≤25ns              | ≤25ns              | ≤25ns              |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |





## AG3-2010-3

Type 3 Surge Arrester



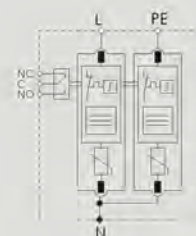
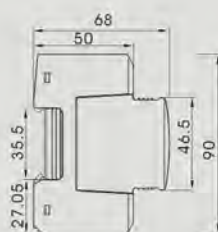
■ AG3-2010-4 poles surge arrester is suitable for TN-C/IT system.

|                                         |     | AG3-2010-275-3          | AG3-2010-320-3     | AG3-2010-385-3     | AG3-2010-440-3     |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | ClassIII/Type3          |                    |                    |                    |
| Max. Continuous operating a.c.voltage   | Uc  | 275V                    | 320V               | 385V               | 440V               |
| Nominal discharge current (8/20μs)      | In  | 20kA                    | 20kA               | 20kA               | 20kA               |
| Combined impulse                        | Uoc | 10kV                    | 10kV               | 10kV               | 10kV               |
| Voltage protection level                | Up  | ≤ 1.3kV                 | ≤ 1.5kV            | ≤ 1.8kV            | ≤ 2.2kV            |
| Response time                           | tA  | ≤ 25ns                  | ≤ 25ns             | ≤ 25ns             | ≤ 25ns             |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |



## AG3-2010-2

Type 3 Surge Arrester



■ AG3-2010-2 poles surge arrester is suitable for TN system.

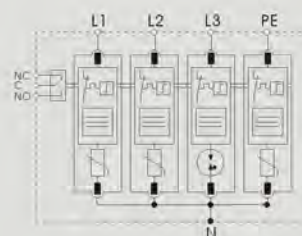
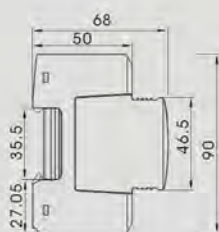
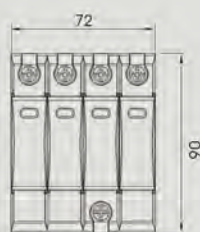
|                                         |     | AG3-2010-275-2          | AG3-2010-320-2     | AG3-2010-385-2     | AG3-2010-440-2     |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | ClassIII/Type3          |                    |                    |                    |
| Max. Continuous operating a.c.voltage   | Uc  | 275V                    | 320V               | 385V               | 440V               |
| Nominal discharge current (8/20μs)      | In  | 20kA                    | 20kA               | 20kA               | 20kA               |
| Combined impulse                        | Uoc | 10kV                    | 10kV               | 10kV               | 10kV               |
| Voltage protection level                | Up  | ≤1.3kV                  | ≤1.5kV             | ≤1.8kV             | ≤2.2kV             |
| Response time                           | tA  | ≤25ns                   | ≤25ns              | ≤25ns              | ≤25ns              |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |





## AG3-2010-8

Type 3 Surge Arrester



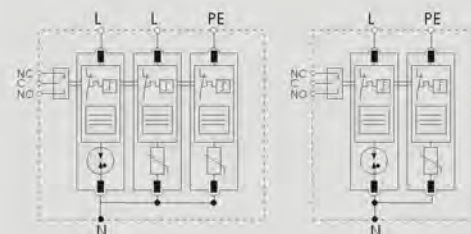
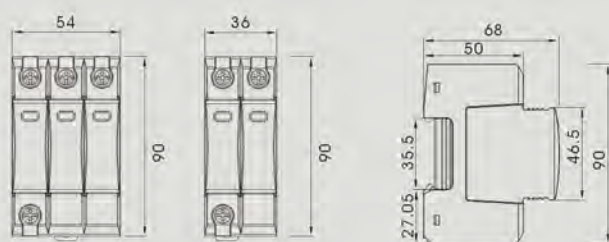
■ AG3-2010-8 poles surge arrester is suitable for TN-S/TT system.

|                                         |     | AG3-2010-275-8          | AG3-2010-320-8     | AG3-2010-385-8     | AG3-2010-440-8     |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | Class III/Type 3        |                    |                    |                    |
| Max. Continuous operating a.c.voltage   | Uc  | 275V                    | 320V               | 385V               | 440V               |
| Nominal discharge current (8/20μs)      | In  | 20kA                    | 20kA               | 20kA               | 20kA               |
| Combined impulse                        | Uoc | 10kV                    | 10kV               | 10kV               | 10kV               |
| Voltage protection level                | Up  | ≤ 1.3/1.5kV             | ≤ 1.5/1.5kV        | ≤ 1.8/1.5kV        | ≤ 2.2/1.5kV        |
| Response time                           | tA  | ≤ 25ns                  | ≤ 25ns             | ≤ 25ns             | ≤ 25ns             |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |



## AG3-2010-7/6

### Type 3 Surge Arrester



■ AG3-2010-7/6 poles surge arrester is suitable for TN-S/TT system.

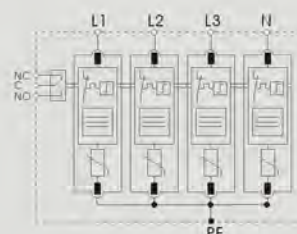
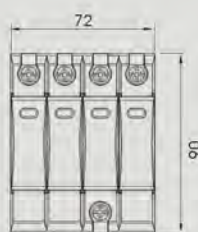
|                                                | AG3-2010-275            | AG3-2010-320       | AG3-2010-385-      | AG3-2010-440       |
|------------------------------------------------|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11        | ClassIII/Type3          |                    |                    |                    |
| Max. Continuous operating a.c.voltage $U_c$    | 275V                    | 320V               | 385V               | 440V               |
| Nominal discharge current (8/20 $\mu$ s) $I_n$ | 20kA                    | 20kA               | 20kA               | 20kA               |
| Combined impulse $U_{oc}$                      | 10kV                    | 10kV               | 10kV               | 10kV               |
| Voltage protection level $U_p$                 | $\leq 1.3/1.5kV$        | $\leq 1.5/1.5kV$   | $\leq 1.8/1.5kV$   | $\leq 2.2/1.5kV$   |
| Response time $t_A$                            | $\leq 25ns$             | $\leq 25ns$        | $\leq 25ns$        | $\leq 25ns$        |
| Operating temperature range $T_u$              | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication               | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)                      | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)                      | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                                | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                             | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                           | IP20                    |                    |                    |                    |





## AG3-1006-4

Type 3 Surge Arrester



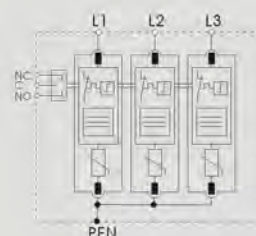
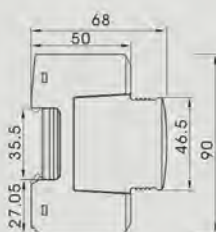
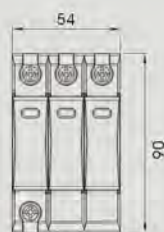
■ AG3-1006-4 poles surge arrester is suitable for TN-S system.

|                                         |     | AG3-1006-275-4          | AG3-1006-320-4     | AG3-1006-385-4     | AG3-1006-440-4     |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | Class III/Type 3        |                    |                    |                    |
| Max. Continuous operating a.c.voltage   | Uc  | 275V                    | 320V               | 385V               | 440V               |
| Nominal discharge current (8/20μs)      | In  | 10kA                    | 10kA               | 10kA               | 10kA               |
| Combined impulse                        | Uoc | 6kV                     | 6kV                | 6kV                | 6kV                |
| Voltage protection level                | Up  | ≤ 1.2kV                 | ≤ 1.4kV            | ≤ 1.7kV            | ≤ 2.1kV            |
| Response time                           | tA  | ≤ 25ns                  | ≤ 25ns             | ≤ 25ns             | ≤ 25ns             |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |



## AG3-1006-3

Type 3 Surge Arrester



■ AG3-1006-3 poles surge arrester is suitable for TN-C/IT system.

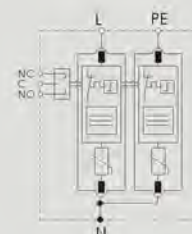
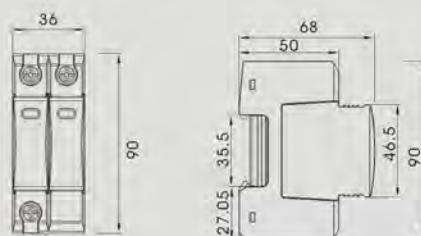
|                                         |     | AG3-1006-275-3          | AG3-1006-320-3     | AG3-1006-385-3     | AG3-1006-440-3     |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | ClassIII/Type3          |                    |                    |                    |
| Max. Continuous operating a.c.voltage   | Uc  | 275V                    | 320V               | 385V               | 440V               |
| Nominal discharge current (8/20μs)      | In  | 10kA                    | 10kA               | 10kA               | 10kA               |
| Combined impulse                        | Uoc | 6kV                     | 6kV                | 6kV                | 6kV                |
| Voltage protection level                | Up  | ≤1.2kV                  | ≤1.4kV             | ≤1.7kV             | ≤2.1kV             |
| Response time                           | tA  | ≤25ns                   | ≤25ns              | ≤25ns              | ≤25ns              |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |





## AG3-1006-2

Type 3 Surge Arrester



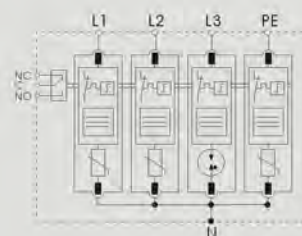
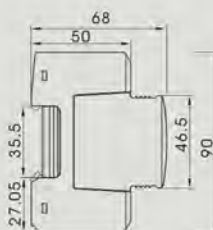
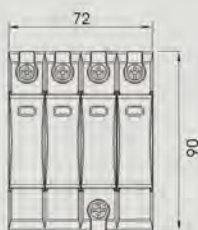
■ AG3-1006-2 poles surge arrester is suitable for TN system.

|                                         |     | AG3-1006-275-2          | AG3-1006-320-2     | AG3-1006-385-2     | AG3-1006-440-2     |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | ClassIII/Type3          |                    |                    |                    |
| Max. Continuous operating a.c.voltage   | Uc  | 275V                    | 320V               | 385V               | 440V               |
| Nominal discharge current (8/20μs)      | In  | 10kA                    | 10kA               | 10kA               | 10kA               |
| Combined impulse                        | Uoc | 6kV                     | 6kV                | 6kV                | 6kV                |
| Voltage protection level                | Up  | ≤ 1.2kV                 | ≤ 1.4kV            | ≤ 1.7kV            | ≤ 2.1kV            |
| Response time                           | tA  | ≤ 25ns                  | ≤ 25ns             | ≤ 25ns             | ≤ 25ns             |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |



## AG3-1006-8

Type 3 Surge Arrester



■ AG3-1006-8 poles surge arrester is suitable for TN-S/TT system.

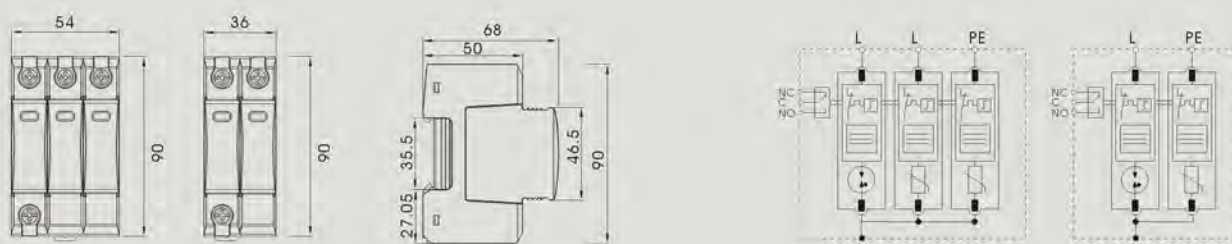
|                                         |     | AG3-1006-275-8          | AG3-1006-320-8     | AG3-1006-385-8     | AG3-1006-440-8     |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | ClassIII/Type3          |                    |                    |                    |
| Max. Continuous operating a.c.voltage   | Uc  | 275V                    | 320V               | 385V               | 440V               |
| Nominal discharge current (8/20μs)      | In  | 10kA                    | 10kA               | 10kA               | 10kA               |
| Combined impulse                        | Uoc | 6kV                     | 6kV                | 6kV                | 6kV                |
| Voltage protection level                | Up  | ≤1.2/1.5kV              | ≤1.4/1.5kV         | ≤1.7/1.5kV         | ≤2.1/1.5kV         |
| Response time                           | tA  | ≤25ns                   | ≤25ns              | ≤25ns              | ≤25ns              |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |





## AG3-1006-7/6

Type 3 Surge Arrester



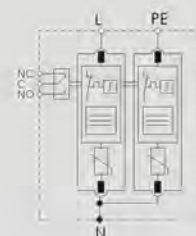
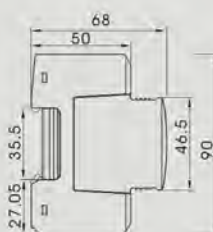
■ AG3-1006-7/6 poles surge arrester is suitable for TN-S/TT system.

|                                         |     | AG3-1006-275-7/6        | AG3-1006-320-7/6   | AG3-1006-385-7/6   | AG3-1006-440-7/6   |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | ClassIII/Type3          |                    |                    |                    |
| Max. Continuous operating a.c.voltage   | Uc  | 275V                    | 320V               | 385V               | 440V               |
| Nominal discharge current (8/20μs)      | In  | 10kA                    | 10kA               | 10kA               | 10kA               |
| Combined impulse                        | Uoc | 6kV                     | 6kV                | 6kV                | 6kV                |
| Voltage protection level                | Up  | ≤ 1.2/1.5kV             | ≤ 1.4/1.5kV        | ≤ 1.7/1.5kV        | ≤ 2.1/1.5kV        |
| Response time                           | tA  | ≤ 25ns                  | ≤ 25ns             | ≤ 25ns             | ≤ 25ns             |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |



## AG3-1020-2

Type 3 Surge Arrester



■ Type 3 surge arrester is installed between LPZ2 and LPZ3, it can provide protection for equipments.

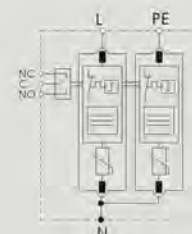
|                                         |     | AG3-1020-30-2           | AG3-1020-75-2      | AG3-1020-150-2     | AG3-1020-275-2     |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | ClassIII/Type3          |                    |                    |                    |
| Normal a.c. voltage                     | Un  | 24V                     | 60V                | 120V               | 230V               |
| Max. Continuous operating a.c.voltage   | Uc  | 30V                     | 75V                | 150V               | 275V               |
| Max. continuous operating d.c. voltage  | Uc  | 38V                     | 100V               | 190V               | 300V               |
| Nominal discharge current (8/20μs)      | In  | 10kA                    | 10kA               | 10kA               | 10kA               |
| Combined impulse                        | Uoc | 20kV                    | 20kV               | 20kV               | 20kV               |
| Voltage protection level                | Up  | ≤300V                   | ≤600V              | ≤800V              | ≤1200V             |
| Response time                           | tA  | ≤25ns                   | ≤25ns              | ≤25ns              | ≤25ns              |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |
|                                         |     |                         |                    |                    |                    |





## AG3-0510-2

Type 3 Surge Arrester



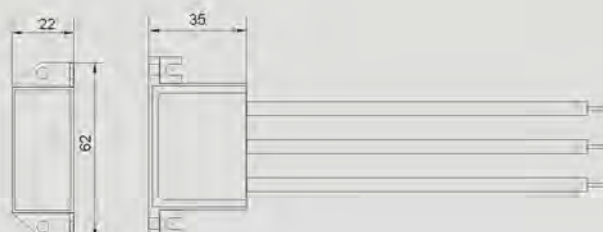
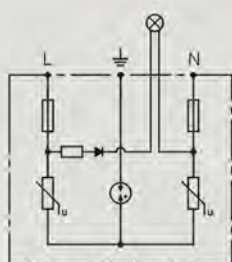
|                                         |     | AG3-0510-30-2           | AG3-0510-75-2      | AG3-0510-150-2     | AG3-0510-275-2     |
|-----------------------------------------|-----|-------------------------|--------------------|--------------------|--------------------|
| SPD according to EN61643-11/IEC61643-11 |     | Class III/Type 3        |                    |                    |                    |
| Normal a.c. voltage                     | Un  | 24V                     | 60V                | 120V               | 230V               |
| Max. Continuous operating a.c.voltage   | Uc  | 30V                     | 75V                | 150V               | 275V               |
| Max. continuous operating d.c. voltage  | Uc  | 38V                     | 100V               | 190V               | 300V               |
| Nominal discharge current (8/20μs)      | In  | 5kA                     | 5kA                | 5kA                | 5kA                |
| Combined impulse                        | Uoc | 10kV                    | 10kV               | 10kV               | 10kV               |
| Voltage protection level                | Up  | ≤200V                   | ≤500V              | ≤700V              | ≤1100V             |
| Response time                           | tA  | ≤25ns                   | ≤25ns              | ≤25ns              | ≤25ns              |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C         | -40°C-80°C         | -40°C-80°C         |
| Operating state/fault indication        |     | green/red               | green/red          | green/red          | green/red          |
| Cross-section area (Min.)               |     | 2.5mm <sup>2</sup>      | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> | 2.5mm <sup>2</sup> |
| Cross-section area (Max.)               |     | 16mm <sup>2</sup>       | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  | 16mm <sup>2</sup>  |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail      | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |     | Thermal plastic UL94-V0 |                    |                    |                    |
| Degree of protection                    |     | IP20                    |                    |                    |                    |
|                                         |     |                         |                    |                    |                    |



## AG3-0306-275

Type 3 Surge Arrester

Out door LED lights protection



- A possible field of application is the protection of outdoor LED lights.

|                                         |     | AG3-0306-275-L          | AG3-0306-275-B          |
|-----------------------------------------|-----|-------------------------|-------------------------|
| SPD according to EN61643-11/IEC61643-11 |     | Type3 / ClassIII        | Type3 / ClassIII        |
| Normal a.c. voltage                     | Un  | 230V                    | 230V                    |
| Max. continuous operating a.c. voltage  | Uc  | 275V                    | 275V                    |
| Max. continuous operating d.c. voltage  | Uc  | 300V                    | 300V                    |
| Nominal discharge current (8/20μs)      | In  | 3kA                     | 3kA                     |
| Combined impulse                        | Uoc | 6kV                     | 6kV                     |
| Voltage protection level                | Up  | ≤1200V                  | ≤1200V                  |
| Response time                           | tA  | ≤25ns                   | ≤25ns                   |
| Operating temperature range             | Tu  | -40°C-80°C              | -40°C-80°C              |
| Operating state/fault indication        |     | LED                     | BEEP                    |
| For mounting on                         |     | 35mm Din rail           | 35mm Din rail           |
| Enclosure material                      |     | Thermal plastic UL94-V0 | Thermal plastic UL94-V0 |
| Degree of protection                    |     | IP20                    | IP20                    |
| Order Code                              |     | AG8455                  | AG8457                  |
| Order Code(with remote signal)          |     | AG8456                  | AG8458                  |





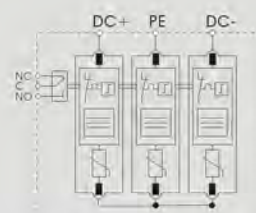
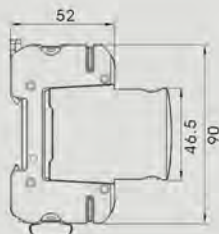
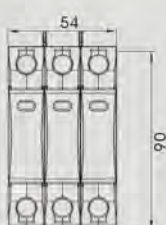
## DC Surge Arrester for PV

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## AGPV4 T1+T2

Type 1+2 DC Surge Arrester for PV



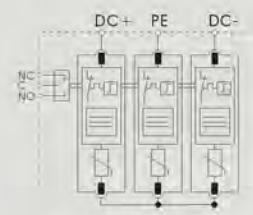
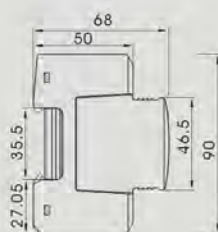
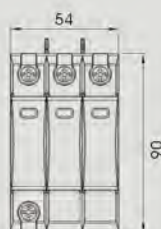
|                                         |                  | AGPV4-12*60-600-3            | AGPV4-08*60-1000-3 | AGPV4-06*60-1500-3 |
|-----------------------------------------|------------------|------------------------------|--------------------|--------------------|
| SPD according to EN50539-11/IEC50539-11 |                  | Type1+Type2 / ClassI+ClassII |                    |                    |
| Max. continuous operating dc voltage    | Ucpv             | 600V                         | 1000V              | 1500V              |
| Lightning impulse current (10/350 μs)   | Iimp             | 12.5kA                       | 8.5kA              | 6.5kA              |
| Nominal discharge current (8/20 μs)     | In               | 25kA                         | 25kA               | 25kA               |
| Max. discharge current (8/20 μs)        | I <sub>max</sub> | 60kA                         | 60kA               | 60kA               |
| Voltage protection level [(DC+/DC-)→PE] | Up               | ≤3.4kV                       | ≤5.0kV             | ≤6.5kV             |
| Response time                           | tA               | ≤ 25ns                       | ≤ 25ns             | ≤ 25ns             |
| Operating temperature range             | Tu               | -40°C-70°C                   | -40°C-70°C         | -40°C-70°C         |
| Operating state/fault indication        |                  | green/red                    | green/red          | green/red          |
| Cross-section area (Min.)               |                  | 4mm <sup>2</sup>             | 4mm <sup>2</sup>   | 4mm <sup>2</sup>   |
| Cross-section area (Max.)               |                  | 25mm <sup>2</sup>            | 25mm <sup>2</sup>  | 25mm <sup>2</sup>  |
| For mounting on                         |                  | 35mm Din rail                | 35mm Din rail      | 35mm Din rail      |
| Enclosure material                      |                  | Thermalplastic UL94-V0       |                    |                    |
| Degree of protection                    |                  | IP20                         |                    |                    |





## AGPV2-2040

Type 2 DC Surge Arrester for PV



|                                          |                  | AGPV2-2040-600-3       | AGPV2-2040-1000-3 | AGPV2-2040-1500-3 |
|------------------------------------------|------------------|------------------------|-------------------|-------------------|
| SPD according to EN50539-11/IEC50539-11  |                  | ClassII / Type2        | ClassII / Type2   | ClassII / Type2   |
| Max. continuous operating dc voltage     | Ucpv             | 600V                   | 1000V             | 1500V             |
| Nominal discharge current (8/20 $\mu$ s) | I <sub>n</sub>   | 20kA                   | 20kA              | 20kA              |
| Max. discharge current (8/20 $\mu$ s)    | I <sub>max</sub> | 40kA                   | 40kA              | 40kA              |
| Voltage protection level [(DC+/DC-)→PE]  | U <sub>p</sub>   | ≤ 3.5kV                | ≤ 3.7kV           | ≤ 4.5kV           |
| Response time                            | t <sub>A</sub>   | ≤ 25ns                 | ≤ 25ns            | ≤ 25ns            |
| Operating temperature range              | T <sub>u</sub>   | -40°C –80°C            | -40°C –80°C       | -40°C –80°C       |
| Operating state/fault indication         |                  | green/red              | green/red         | green/red         |
| Cross-section area (Min.)                |                  | 4mm <sup>2</sup>       | 4mm <sup>2</sup>  | 4mm <sup>2</sup>  |
| Cross-section area (Max.)                |                  | 35mm <sup>2</sup>      | 35mm <sup>2</sup> | 35mm <sup>2</sup> |
| For mounting on                          |                  | 35mm Din rail          | 35mm Din rail     | 35mm Din rail     |
| Enclosure material                       |                  | Thermalplastic UL94-V0 |                   |                   |
| Degree of protection                     |                  | IP20                   |                   |                   |
| Order Code                               |                  |                        |                   |                   |



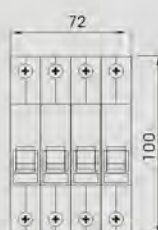
## Surge protector device circuit breaker

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**AGPV2**



|                                                 |    | AG SCB -T3                                                                      | AG SCB -T2   | AG SCB -T2   | AG SCB -T1     | AG SCB -T1     |
|-------------------------------------------------|----|---------------------------------------------------------------------------------|--------------|--------------|----------------|----------------|
| Test standards                                  |    | IEC 61643-21                                                                    |              |              |                |                |
|                                                 | Ie | 20kA(8/20ms)                                                                    | 40kA(8/20ms) | 80kA(8/20ms) | 15kA(10/350ms) | 25kA(10/350ms) |
| Nominal discharge current (8/20ms)              | In | 10kA(8/20ms)                                                                    | 20kA(8/20ms) | 40kA(8/20ms) |                |                |
| Voltage protection level                        | Up | < 300V                                                                          | < 500V       | < 750V       | < 1200V        | < 1800V        |
|                                                 | Ue | 230V/400V AC                                                                    | 230V/400V AC | 230V/400V AC | 230V/400V AC   | 230V/400V AC   |
| Up 20kA(8/20ms)                                 |    | < 500V                                                                          | < 500V       | < 500V       | < 500V         | < 500V         |
| Current trip value Io (instantaneous)           |    | 2A ± A5% (2~5A) optional                                                        |              |              |                |                |
| To                                              |    | < 0.1s                                                                          |              |              |                |                |
| Power frequency current delay trip              |    | 500mA~3A optional current (this item is selected by the customer, not standard) |              |              |                |                |
| Power frequency current delay trip time         |    | 0.3s~120s optional time (this item is selected by the customer, not standard)   |              |              |                |                |
| Test button                                     |    | Verify the trip system (once a month)                                           |              |              |                |                |
| Crimping screw                                  |    | M6                                                                              |              |              |                |                |
| Installation location                           |    | Installed on the SPD front end                                                  |              |              |                |                |
| Connecting wire cross section                   |    | 4-16mm <sup>2</sup>                                                             |              |              |                |                |
| Protection action and environmental temperature |    | -25℃ ~ 60℃ switch                                                               |              |              |                |                |
| Storage environment                             |    | Temperature -40℃~75℃ Relative Humidity: <95% (at 25℃)                           |              |              |                |                |
| working environment                             |    | Temperature -25℃ ~ 60℃ Relative Humidity: <95% (at 25℃)                         |              |              |                |                |
| Degree of protection                            |    | IP 20                                                                           |              |              |                |                |



## Power Lightning Protection Box

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Lightning protection and earthing systems





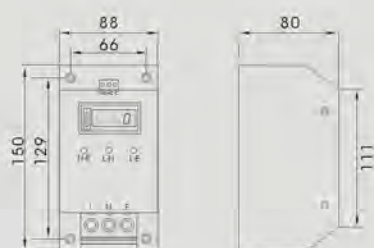
## AGPV2



|                                                 | AGV-4080-275                                                                | AGV-4080-320 | AGV-4080-385 | AGV-4080-440 | AGV-2040-275                                                                | AGV-2040-320 | AGV-2040-385 | AGV-2040-440 |
|-------------------------------------------------|-----------------------------------------------------------------------------|--------------|--------------|--------------|-----------------------------------------------------------------------------|--------------|--------------|--------------|
| Type                                            | T2                                                                          |              |              |              | T2                                                                          |              |              |              |
| SPD according to EN50539-11/IEC50539-11         | Type2 / ClassII                                                             |              |              |              | Type2 / ClassII                                                             |              |              |              |
| Max. continuous operating dc voltage $U_c$      | 275Vac                                                                      | 320Vac       | 385Vac       | 440Vac       | 275Vac                                                                      | 320Vac       | 385Vac       | 440Vac       |
| Nominal discharge current (8/20 $\mu$ s) $I_n$  | 40kA                                                                        | 40kA         | 40kA         | 40kA         | 20kA                                                                        | 20kA         | 20kA         | 20kA         |
| Max. discharge current (8/20 $\mu$ s) $I_{max}$ | 80kA                                                                        | 80kA         | 80kA         | 80kA         | 40kA                                                                        | 40kA         | 40kA         | 40kA         |
| Voltage protection level $U_p$                  | 1.25kV                                                                      | 1.35kV       | 1.80kV       | 2.00kV       | 1.20kV                                                                      | 1.30kV       | 1.70kV       | 1.80kV       |
| Wiring method                                   | Parallel circuit                                                            |              |              |              | Parallel circuit                                                            |              |              |              |
| Protection mode                                 | L1-N, L2-N, L3-N, L1-E, L2-E, L3-E, N-E                                     |              |              |              | L1-N, L2-N, L3-N, L1-E, L2-E, L3-E, N-E                                     |              |              |              |
| Status indication                               | 7-mode status indicator-off failure                                         |              |              |              | 7-mode status indicator-off failure                                         |              |              |              |
| Counting range                                  | 0~999                                                                       |              |              |              | 0~999                                                                       |              |              |              |
| Remote Control                                  | Normally open, normally closed optional                                     |              |              |              | Normally open, normally closed optional                                     |              |              |              |
| Tripping                                        | Temperature control fuse trip                                               |              |              |              | Temperature control fuse trip                                               |              |              |              |
| Fixing way                                      | 176x106mm wall mounting holes/35mmDIN electrical rail                       |              |              |              | 157x94mm wall mounting holes/35mmDIN electrical rail                        |              |              |              |
| Housing material                                | Cold-rolled steel plate, painted                                            |              |              |              | Cold-rolled steel plate, painted                                            |              |              |              |
| Degree of protection                            | IP20                                                                        |              |              |              | IP20                                                                        |              |              |              |
| Size                                            | 197x139x90                                                                  |              |              |              | 178x116x75                                                                  |              |              |              |
| Use                                             | Full-mode lightning protection for LPZ0-1 area of three-phase power system. |              |              |              | Full-mode lightning protection for LPZ1-2 area of three-phase power system. |              |              |              |



## AGPV3GD

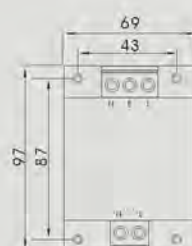
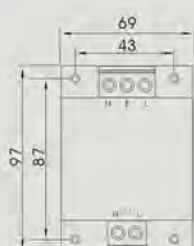


|                                                 | AGS-4080-275                                                                | AGS-4080-320 | AGS-4080-385 | AGS-4080-440 | AGS-2040-275                                                                | AGS-2040-320 | AGS-2040-385 | AGS-2040-440 |
|-------------------------------------------------|-----------------------------------------------------------------------------|--------------|--------------|--------------|-----------------------------------------------------------------------------|--------------|--------------|--------------|
| Type                                            | T2                                                                          |              |              |              | T2                                                                          |              |              |              |
| SPD according to EN50539-11/IEC50539-11         | Type2 / ClassII                                                             |              |              |              | Type2 / ClassII                                                             |              |              |              |
| Max. continuous operating dc voltage $U_c$      | 275Vac                                                                      | 320Vac       | 385Vac       | 440Vac       | 275Vac                                                                      | 320Vac       | 385Vac       | 440Vac       |
| Nominal discharge current (8/20 $\mu$ s) $I_n$  | 40kA                                                                        | 40kA         | 40kA         | 40kA         | 20kA                                                                        | 20kA         | 20kA         | 20kA         |
| Max. discharge current (8/20 $\mu$ s) $I_{max}$ | 80kA                                                                        | 80kA         | 80kA         | 80kA         | 40kA                                                                        | 40kA         | 40kA         | 40kA         |
| Voltage protection level $U_p$                  | 1.25kV                                                                      | 1.35kV       | 1.80kV       | 2.00kV       | 1.20kV                                                                      | 1.35kV       | 1.75kV       | 2.00kV       |
| Wiring method                                   | Parallel circuit                                                            |              |              |              | Parallel circuit                                                            |              |              |              |
| Protection mode                                 | L-N, L-E, N-E                                                               |              |              |              | L-N, L-E, N-E                                                               |              |              |              |
| Status indication                               | 3-mode status indicator-off failure                                         |              |              |              | 3-mode status indicator-off failure                                         |              |              |              |
| Counting range                                  | 0-999                                                                       |              |              |              | 0-999                                                                       |              |              |              |
| Remote Control                                  | Normally open, normally closed optional                                     |              |              |              | Normally open, normally closed optional                                     |              |              |              |
| Tripping                                        | Temperature control fuse trip                                               |              |              |              | Temperature control fuse trip                                               |              |              |              |
| Fixing way                                      | 129x79mm wall mounting holes/35mmDIN electrical rail                        |              |              |              | 129x66mm wall mounting holes/35mmDIN electrical rail                        |              |              |              |
| Housing material                                | Cold-rolled steel plate, painted                                            |              |              |              | Cold-rolled steel plate, painted                                            |              |              |              |
| Degree of protection                            | IP20                                                                        |              |              |              | IP20                                                                        |              |              |              |
| Size                                            | 150x88x80                                                                   |              |              |              | 150x108x80                                                                  |              |              |              |
| Use                                             | Full-mode lightning protection for LPZ0-1 area of three-phase power system. |              |              |              | Full-mode lightning protection for LPZ1-2 area of three-phase power system. |              |              |              |





## AGPV2



|                                                 | AGC-2040-275                                                                       | AGC-2040-320 | AGC-2040-385 | AGC-2040-440 | AGC-1025-275                                                                | AGC-1025-320 | AGC-1025-385 | AGC-1025-440 |
|-------------------------------------------------|------------------------------------------------------------------------------------|--------------|--------------|--------------|-----------------------------------------------------------------------------|--------------|--------------|--------------|
| Type                                            | T2, T3                                                                             |              |              |              | T2, T3                                                                      |              |              |              |
| SPD according to EN50539-11/IEC50539-11         | Type2 / ClassII                                                                    |              |              |              | Type2 / ClassII                                                             |              |              |              |
| Max. continuous operating dc voltage $U_c$      | 275Vac                                                                             | 320Vac       | 385Vac       | 440Vac       | 275Vac                                                                      | 320Vac       | 385Vac       | 440Vac       |
| Nominal discharge current (8/20 $\mu$ s) $I_n$  | 20kA                                                                               | 20kA         | 20kA         | 20kA         | 10kA                                                                        | 10kA         | 10kA         | 10kA         |
| Max. discharge current (8/20 $\mu$ s) $I_{max}$ | 40kA                                                                               | 40kA         | 40kA         | 40kA         | 25kA                                                                        | 25kA         | 25kA         | 25kA         |
| Voltage protection level $U_p$                  | 1.20kV                                                                             | 1.30kV       | 1.70kV       | 1.80kV       | 1.20kV                                                                      | 1.30kV       | 1.70kV       | 1.80kV       |
| Wiring method                                   | Parallel circuit/Series connection                                                 |              |              |              | Parallel circuit/Series connection                                          |              |              |              |
| Protection mode                                 | L-N, L-E, N-E                                                                      |              |              |              | L-N, L-E, N-E                                                               |              |              |              |
| Status indication                               | 1-mode status indicator-off failure.green light out :replace                       |              |              |              | 1-mode status indicator-off failure.green light out :replace                |              |              |              |
| Installation Method                             | <15A Load series, > 15A Load parallel connection                                   |              |              |              | <15A Load series, > 15A Load parallel connection                            |              |              |              |
| failure mode                                    | In series mode, the load is de energized                                           |              |              |              | In series mode, the load is de energized                                    |              |              |              |
| Tripping                                        | Temperature control fuse trip                                                      |              |              |              | Temperature control fuse trip                                               |              |              |              |
| Fixing way                                      | 35mmDIN electrical rail                                                            |              |              |              | 35mmDIN electrical rail                                                     |              |              |              |
| Housing material                                | Cold-rolled steel plate, painted                                                   |              |              |              | Cold-rolled steel plate, painted                                            |              |              |              |
| Degree of protection                            | IP20                                                                               |              |              |              | IP20                                                                        |              |              |              |
| Size                                            | 97x69x55                                                                           |              |              |              | 97x69x55                                                                    |              |              |              |
| Use                                             | Full-mode lightning protection for LPZ1-2/LPZ2-3 area of three-phase power system. |              |              |              | Full-mode lightning protection for LPZ2-3 area of three-phase power system. |              |              |              |



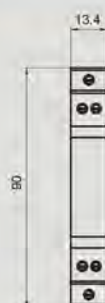
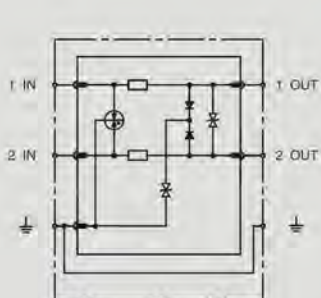
## SPD for Data Protection

**ARGOS INTERNATIONAL**  
 Lightning protection and earthing systems





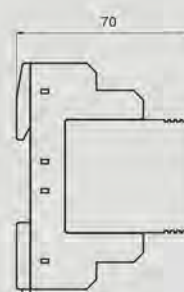
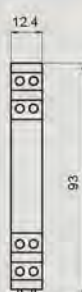
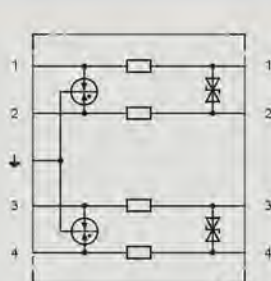
## SPDs for general information(plug-in) AGPI-2L



|                                                 |    | AGPI-2L-6               | AGPI-2L-12     | AGPI-2L-24     | AGPI-2L-48     | AGPI-2L-60     | AGPI-2L-180    |
|-------------------------------------------------|----|-------------------------|----------------|----------------|----------------|----------------|----------------|
| Test standards                                  |    | IEC 61643-21            | IEC 61643-21   | IEC 61643-21   | IEC 61643-21   | IEC 61643-21   | IEC 61643-21   |
| Nominal voltage                                 | Un | 6V                      | 12V            | 24V            | 48V            | 60V            | 180V           |
| Max. continuous operating d.c. voltage          | Uc | 8V                      | 15V            | 29V            | 56V            | 70V            | 180V           |
| Max. continuous operating a.c. voltage          | Uc | 5V                      | 11V            | 20V            | 40V            | 49V            | 130V           |
| Nominal current                                 | IL | 0.5A                    | 0.5A           | 0.5A           | 0.5A           | 0.5A           | 0.5A           |
| C2 Nominal discharge current(8/20μs) per lineIn |    | 5kA                     | 5kA            | 5kA            | 5kA            | 5kA            | 5kA            |
| Voltage protection level [line-line]            | Up | ≤30V                    | ≤40V           | ≤60V           | ≤100V          | ≤130V          | ≤320V          |
| Voltage protection level [line-PG]              | Up | ≤600V                   | ≤600V          | ≤600V          | ≤600V          | ≤600V          | ≤600V          |
| Response time [line-line]                       | tA | ≤1ns                    | ≤1ns           | ≤1ns           | ≤1ns           | ≤1ns           | ≤1ns           |
| Response time [line-PG]                         | tA | ≤100ns                  | ≤100ns         | ≤100ns         | ≤100ns         | ≤100ns         | ≤100ns         |
| Operating temperature range                     | Tu | -40°C...+80°C           | -40°C...+80°C  | -40°C...+80°C  | -40°C...+80°C  | -40°C...+80°C  | -40°C...+80°C  |
| Connection input/output                         |    | Terminal Block          | Terminal Block | Terminal Block | Terminal Block | Terminal Block | Terminal Block |
| Bandwidth                                       |    | 10 Mbps                 | 10 Mbps        | 10 Mbps        | 10 Mbps        | 10 Mbps        | 10 Mbps        |
| Insertion Loss                                  |    | ≤0.3dB                  | ≤0.3dB         | ≤0.3dB         | ≤0.3dB         | ≤0.3dB         | ≤0.3dB         |
| Enclosure material                              |    | Thermal plastic UL94-V0 |                |                |                |                |                |
| Degree of protection                            |    | IP20                    | IP20           | IP20           | IP20           | IP20           | IP20           |
|                                                 |    |                         |                |                |                |                |                |



## SPDs for general Information(plug-in) AG BD 4L



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



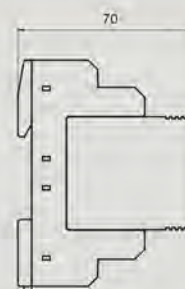
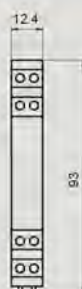
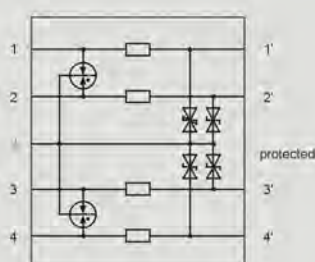


## SPDs for general information(plug-in)

### AG BE 4L

High degree of protection for four single lines

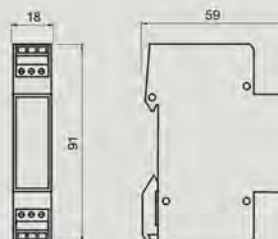
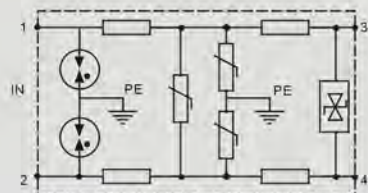
For installation in conformity with the lightning protection zone concept at the boundaries from 0B-2 and higher



|                                                        | AG BE 4L-6       | AG BE 4L-12   | AG BE 4L-24   | AG BE 4L-48   | AG BE 4L-60   | AG BE 4L-180  |
|--------------------------------------------------------|------------------|---------------|---------------|---------------|---------------|---------------|
| Test standards                                         | IEC 61643-21     | IEC 61643-21  | IEC 61643-21  | IEC 61643-21  | IEC 61643-21  | IEC 61643-21  |
| SPD class                                              | TYPE2 P1         | TYPE2 P1      | TYPE2 P1      | TYPE2 P1      | TYPE2 P1      | TYPE2 P1      |
| Nominal voltage $U_n$                                  | 6V               | 12V           | 24V           | 48V           | 60V           | 180V          |
| Max. continuous operating d.c. voltage $U_c$           | 6.0V             | 15V           | 33V           | 54V           | 70V           | 180V          |
| Max. continuous operating a.c. voltage $U_c$           | 4.2V             | 10.6V         | 23.3V         | 38.1V         | 49.5V         | 127V          |
| Nominal current at 45°C $I_L$                          | 1A               | 0.75A         | 0.75A         | 0.75A         | 1A            | 1A            |
| C2 Total nominal discharge current (8/20µs) $I_n$      | 20kA             | 20kA          | 20kA          | 20kA          | 20kA          | 20kA          |
| C2 Nominal discharge current (8/20µs) per line $I_n$   | 10kA             | 10kA          | 10kA          | 10kA          | 10kA          | 10kA          |
| Voltage protection level line-line for $I_n$ C2 $U_p$  | ≤40V             | ≤55V          | ≤105V         | ≤170V         | ≤220V         | ≤550V         |
| Voltage protection level line-PG for $I_n$ C2 $U_p$    | ≤60V             | ≤60V          | ≤85V          | ≤115V         | ≤155V         | ≤300V         |
| Voltage protection level line-line at 1 kV/µs C3 $U_p$ | ≤18V             | ≤38V          | ≤90V          | ≤140V         | ≤180V         | ≤500V         |
| Voltage protection level line-PG at 1 kV/µs C3 $U_p$   | ≤9V              | ≤19V          | ≤45V          | ≤70V          | ≤90V          | ≤250V         |
| Series impedance per line                              | 1 Ohm            | 1.8 Ohm       | 1.8 Ohm       | 1.8 Ohm       | 1 Ohm         | 1 Ohm         |
| Cut-off frequency line-PG $f_G$                        | 1.0 MHz          | 2.7 MHz       | 6.8 MHz       | 8.7 MHz       | 9.0 MHz       | 25.0 MHz      |
| Capacitance line-line $C$                              | ≤2.7 nF          | ≤1.0 nF       | ≤0.5 nF       | ≤0.35 nF      | ≤250 pF       | ≤120 pF       |
| capacitance line-PG $C$                                | ≤5.4 nF          | ≤2.0 nF       | ≤1.0 nF       | ≤0.7 nF       | ≤500 pF       | ≤240 pF       |
| Operating temperature range $T_u$                      | -40°C...+80°C    | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C |
| Enclosure material                                     | polyamide PA 6.6 |               |               |               |               |               |
| Degree of protection (plugged-in)                      | IP 20            |               |               |               |               |               |



## SPDs for control signal AG-SX-CH

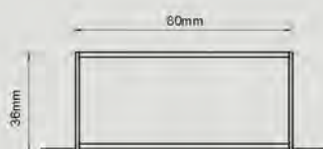
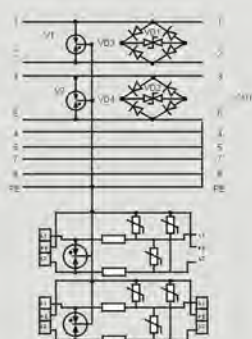


|                                        |                  | AG-SX-CH2/4                   |               |               |               |               |
|----------------------------------------|------------------|-------------------------------|---------------|---------------|---------------|---------------|
| Test standards                         |                  | IEC 61643-21                  |               |               |               |               |
| Operating frequency range              |                  | 5V                            | 12V           | 24V           | 48V           | 110V          |
| Protection line                        |                  | 1-3/2-4                       | 1-3/2-4       | 1-3/2-4       | 1-3/2-4       | 1-3/2-4       |
| Max. continuous operating a.c. voltage | Uc               | 8V                            | 18V           | 30V           | 60V           | 170V          |
| Nominal current                        | IL               | 1A                            | 1A            | 1A            | 1A            | 1A            |
| C2 Nominal discharge current (8/20μs)  | In               | 5kA                           | 5kA           | 5kA           | 5kA           | 5kA           |
| C2 Max. discharge current (8/20μs)     | I <sub>max</sub> | 10kA                          | 10kA          | 10kA          | 10kA          | 10kA          |
| Voltage protection level               | Up               | 25V                           | 30V           | 60V           | 90V           | 270V          |
| Operating temperature range            | Tu               | -40°C...+80°C                 | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C |
| Bandwidth                              |                  | ≤ 10Mbps                      | ≤ 10Mbps      | ≤ 10Mbps      | ≤ 10Mbps      | ≤ 10Mbps      |
| Insertion Loss                         |                  | ≤ 0.5dB                       | ≤ 0.5dB       | ≤ 0.5dB       | ≤ 0.5dB       | ≤ 0.5dB       |
| Connection input/output                |                  | Series connection/CH Crimping |               |               |               |               |
| Degree of protection                   |                  | IP20                          |               |               |               |               |

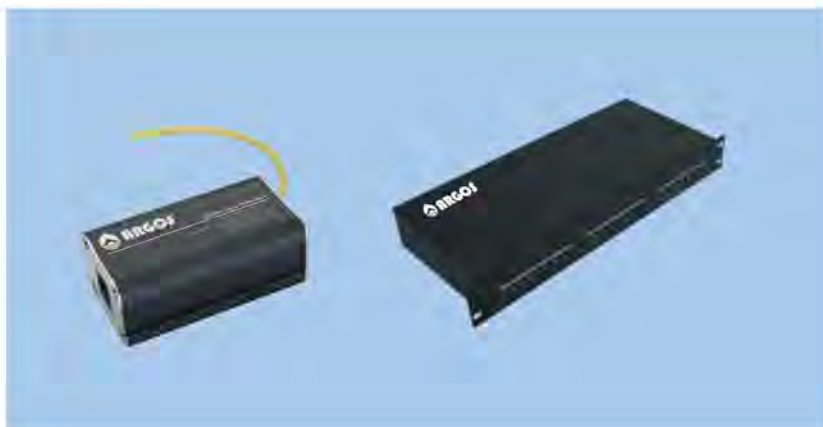




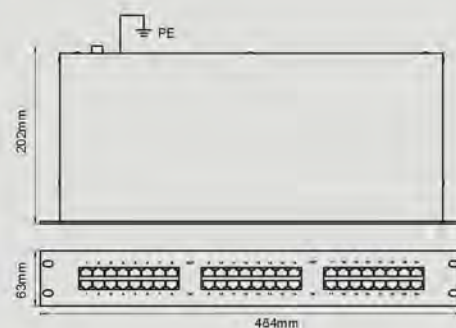
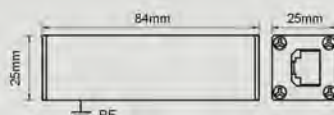
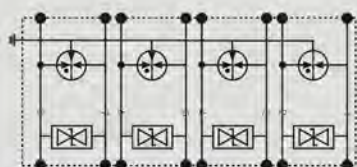
## SPDs for network two-in-one AG-JK2



|                                        |    | AG-JK2/220P-ETH FM |             | AG-JK2/12(24)P-ETH FM |             |
|----------------------------------------|----|--------------------|-------------|-----------------------|-------------|
| Test standards                         |    | IEC 61643-21       |             |                       |             |
| Nominal voltage                        | Un | 220V               | 5V          | 12/24V                | 5V          |
| Max. continuous operating d.c. voltage | Uc | 320V               | 6V          | 30V                   | 6V          |
| Nominal current                        | IL | 10A                | —           | 5A                    | —           |
| Nominal discharge current (8/20μs)     | In | 5kA                | 300A        | 3kA                   | 300A        |
| L-PE nominal discharge current         | In | 10kA               | 2.5kA       | 5kA                   | 2.5kA       |
| Voltage protection level               | Up | ≤1200V             | ≤35V        | ≤45/75V               | ≤35V        |
| Response time                          | tA | ≤25ns              | ≤1ns        | ≤25ns                 | ≤1ns        |
| Transmission rate                      | VS | —                  | 100Mbps     | —                     | 100Mbps     |
| Operating temperature range            | Tu | −40℃...+80℃        | −40℃...+80℃ | −40℃...+80℃           | −40℃...+80℃ |
| Connector ( plug/socket )              |    | Screw terminal     | RJ45        | Screw terminal        | RJ45        |
| Installation wiring specifications     |    | 1.5–2.5mm²         | —           | 1.5–2.5mm²            | —           |
| Insertion loss                         |    | —                  | ≤0.5dB      | —                     | ≤0.5dB      |
| Enclosure material                     |    | Aluminum Alloy     |             |                       |             |
| Degree of protection                   |    | IP20               |             |                       |             |



## SPDs for RJ AG-RJ45

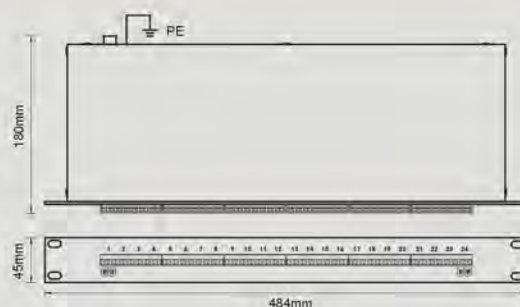
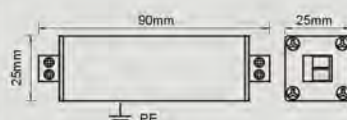
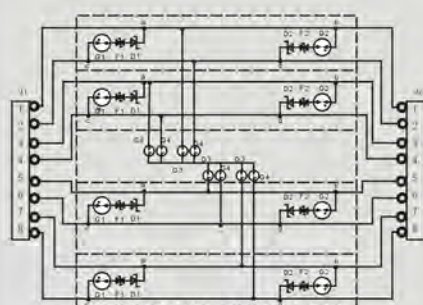
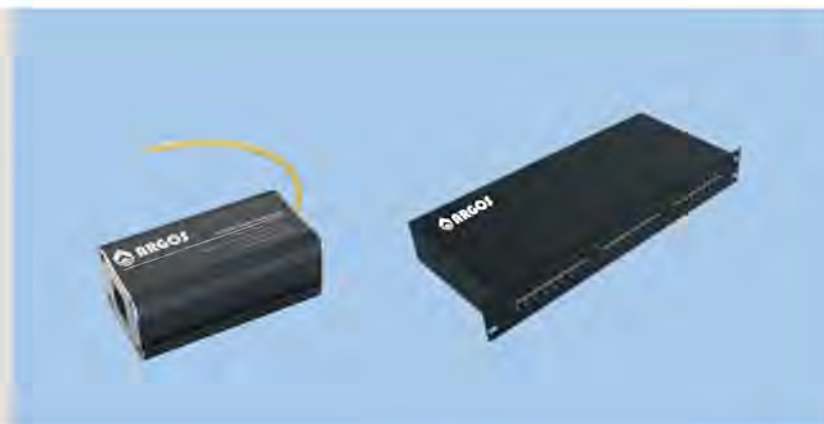


|                                        |    | AG-RJ45/E1000-8F      | AG-RJ45/E1000-8F/16S  | AG-RJ45/E1000-8F/24S  |
|----------------------------------------|----|-----------------------|-----------------------|-----------------------|
| Test standards                         |    | IEC 61643-21          |                       |                       |
| Nominal voltage                        | Un | 5V                    | 5V                    | 5V                    |
| Max. continuous operating d.c. voltage | Uc | 6V                    | 6V                    | 6V                    |
| Nominal current                        | IL | 300A                  | 300A                  | 300A                  |
| Max. discharge current                 |    | 2.5kA                 | 2.5kA                 | 2.5kA                 |
| Transmission rate                      |    | 100/1000Mbps          | 100/1000Mbps          | 100/1000Mbps          |
| Voltage protection level               |    | ≤130V                 | ≤130V                 | ≤130V                 |
| Response time                          | tA | ≤1ns                  | ≤1ns                  | ≤1ns                  |
| Operating temperature range            | Tu | -40°C...+80°C         | -40°C...+80°C         | -40°C...+80°C         |
| Connection input/output                |    | RJ45                  | RJ45                  | RJ45                  |
| Insertion Loss                         |    | ≤3dB                  | ≤3dB                  | ≤3dB                  |
| Protection line                        |    | Pin1/2, 3/4, 5/6, 7/8 | Pin1/2, 3/4, 5/6, 7/8 | Pin1/2, 3/4, 5/6, 7/8 |
| Enclosure material                     |    | 94x28x38mm ( 8line )  | 94x28x38mm ( 8line )  | 19" frame             |
| Dimensions                             |    |                       | Aluminium             |                       |
| Degree of protection                   |    | IP20                  |                       |                       |





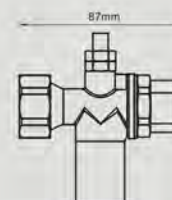
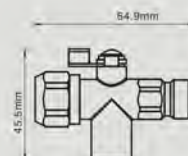
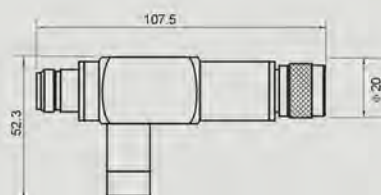
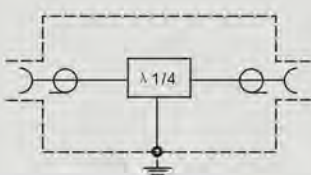
## SPDs for general information AGRJ45



|                                        |    | AG-CAT6A/EA           | AG-CAT6A/EA/16S       | AG-CAT6A/EA/24S       |
|----------------------------------------|----|-----------------------|-----------------------|-----------------------|
| Test standards                         |    | IEC 61643-21          |                       |                       |
| Nominal voltage                        | Un | 5V                    | 5V                    | 5V                    |
| Max. continuous operating d.c. voltage | Uc | 6V                    | 6V                    | 6V                    |
| Nominal current                        | IL | 300A                  | 300A                  | 300A                  |
| Max. discharge current                 |    | 2.5kA                 | 2.5kA                 | 2.5kA                 |
| Transmission rate                      |    | 100/1000/10000Mbps    | 100/1000/10000Mbps    | 100/1000/10000Mbps    |
| Voltage protection level               |    | ≤ 130V                | ≤ 130V                | ≤ 130V                |
| Response time                          | tA | ≤ 1ns                 | ≤ 1ns                 | ≤ 1ns                 |
| Operating temperature range            | Tu | -40°C...+80°C         | -40°C...+80°C         | -40°C...+80°C         |
| Connection input/output                |    | RJ45                  | RJ45                  | RJ45                  |
| Insertion Loss                         |    | ≤ 3dB                 | ≤ 3dB                 | ≤ 3dB                 |
| Protection line                        |    | Pin1/2, 3/4, 5/6, 7/8 | Pin1/2, 3/4, 5/6, 7/8 | Pin1/2, 3/4, 5/6, 7/8 |
| Enclosure material                     |    | 94x28x38mm ( 8line )  | 94x28x38mm ( 8line )  | 19" frame             |
| Dimensions                             |    |                       | Aluminium             |                       |
| Degree of protection                   |    | IP20                  |                       |                       |



## SPDs for Coaxial



|                                        |                  | AG-T5N-20     | AG-N          | AG-DIN 716     |
|----------------------------------------|------------------|---------------|---------------|----------------|
| Test standards                         |                  | IEC 61643-21  |               |                |
|                                        |                  | 1/4 λ         | 1/4 λ         | 1/4 λ          |
| Max. continuous operating d.c. voltage | Uc               | 0V            | 0V            | 0V             |
| Nominal current                        | IL               | 0A            | 0A            | 0A             |
| Max. discharge current (8/20μs)        | I <sub>max</sub> | 20kA          | 10kA          | 60kA           |
| Voltage protection level               | Up               | ≤ 100V        | ≤ 30V         | ≤ 650V         |
| Response time                          | t <sub>A</sub>   | ≤ 1ns         | ≤ 1ns         | ≤ 1ns          |
| frequency range                        | Δf               | 130MHz~470MHz | 2.3~6G        | 690MHz~2700MHz |
| Voltage standing wave ratio            | VSWR             | 1.2           | 1.2           | 1.2            |
| Operating temperature range            | T <sub>u</sub>   | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C  |
| Connector ( plug/socket )              |                  | N-JK          | N-JK          | N-JK           |
| RF transmission power                  | P <sub>w</sub>   | 300 W         | 100 W         | 2000 W         |
| Return loss                            |                  | 20dB          | 20dB          | 28dB           |
| Insertion loss                         |                  | ≤ 0.2dB       | ≤ 0.2dB       | ≤ 0.2dB        |
| Characteristic impedance               |                  | 50 Ω          | 50 Ω          | 50 Ω           |
| Enclosure material                     |                  | Copper        | Copper        | Copper         |
| Degree of protection                   |                  | IP65          | IP65          | IP65           |





## SPDs for Coaxial



AG-BNC



AG-N



AG-F



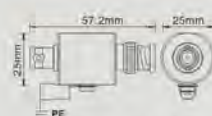
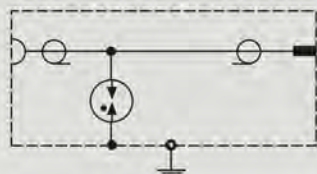
AG-SMA



AG-TNC



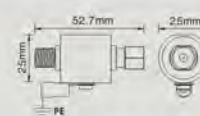
AG-5.8G/N



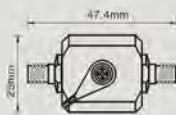
AG-BNC



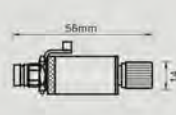
AG-N



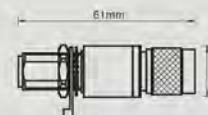
AG-F



AG-SMA



AG-TNC

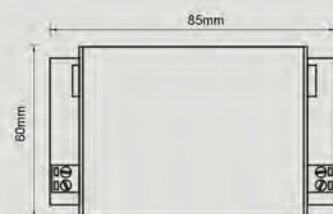
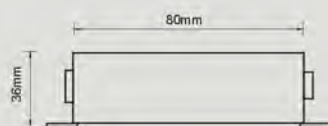
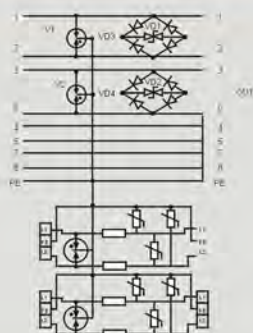


AG-5.8G/N

|                                        |      | AG-BNC        | AG-N          | AG-F          | AG-SMA        | AG-TNC        | AG-5.8G/N     |
|----------------------------------------|------|---------------|---------------|---------------|---------------|---------------|---------------|
| Test standards                         |      | IEC 61643-21  |               |               |               |               |               |
| Max. continuous operating d.c. voltage | Uc   | 135V          | 135V          | 135V          | 135V          | 135V          | 135V          |
| Nominal current                        | IL   | 3.5A          | 3.5A          | 3.5A          | 2A            | 3.5A          | 6A            |
| Nominal discharge current (8/20μs)     | In   | 5kA           | 5kA           | 5kA           | 5kA           | 5kA           | 5kA           |
| Voltage protection level               | Up   | ≤700V         | ≤700V         | ≤700V         | ≤700V         | ≤700V         | ≤500V         |
| Response time                          | tA   | ≤1ns          | ≤1ns          | ≤1ns          | ≤1ns          | ≤1ns          | 100ns         |
| frequency range                        | Δf   | D.C.~2.5GHz   | D.C.~2.5GHz   | D.C.~2.5GHz   | D.C.~2.5GHz   | D.C.~2.5GHz   | D.C.~5.8GHz   |
| Voltage standing wave ratio            | VSWR | 1.2           | 1.2           | 1.2           | 1.2           | 1.2           | 1.2           |
| Operating temperature range            | Tu   | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C | -40°C...+80°C |
| Connector ( plug/socket )              |      | BNC socket    | BNC socket    | BNC socket    | BNC socket    | BNC socket    | BNC socket    |
| RF transmission power                  | Pw   | 25 W          | 25 W          | 25 W          | 60 W          | 25 W          | 25 W          |
| Return loss                            |      | 18dB          | 18dB          | 18dB          | 18dB          | 18dB          | 18dB          |
| Insertion loss                         |      | ≤0.2dB        | ≤0.2dB        | ≤0.2dB        | ≤0.2dB        | ≤0.2dB        | ≤0.2dB        |
| Characteristic impedance               |      | 50 Ω          | 50 Ω          | 50 Ω          | 50 Ω          | 50 Ω          | 50 Ω          |
| Enclosure material                     |      | Steel         | Steel         | Steel         | Steel         | Steel         | Steel         |
| Degree of protection                   |      | IP65          | IP65          | IP65          | IP65          | IP65          | IP65          |



## SPDs for Mini network two-in-one

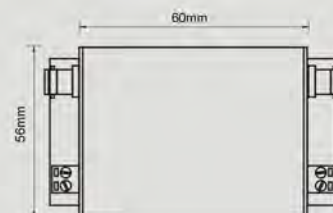
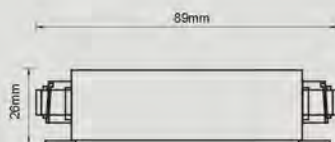
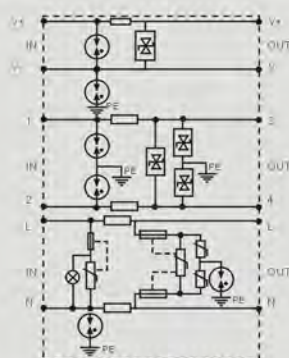
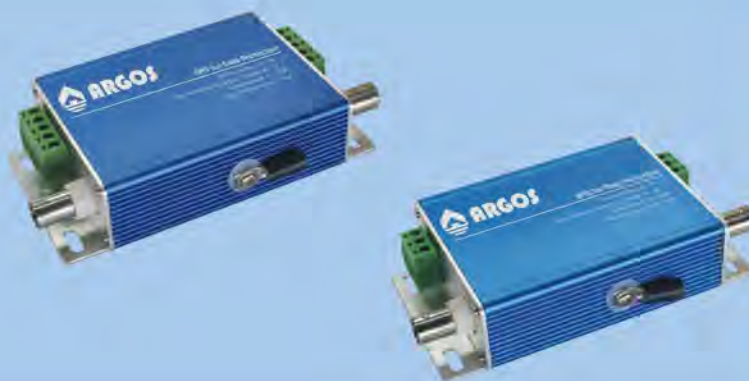


|                                         |    | AG-JK2/220P-ETH Mini-1 | AG-JK2/220P-ETH Mini-2 | AG-JK2/12(24)P-ETH Mini-1 | AG-JK2/12(24)P-ETH Mini-2 |
|-----------------------------------------|----|------------------------|------------------------|---------------------------|---------------------------|
| Test standards                          |    | IEC 61643-21           |                        |                           |                           |
| Nominal voltage                         | Un | 220V                   | 5V                     | 12/24V                    | 5V                        |
| Max. continuous operating d.c. voltage  | Uc | 320V                   | 6V                     | 18/30V                    | 6V                        |
| Nominal current                         | IL | 10A                    | —                      | 10A                       | —                         |
| Norminal discharge current ( 8 /20 μ s) | In | 5kA                    | 300A                   | 3kA                       | 300A                      |
| Voltage protection level                | Up | ≤ 1200V                | ≤ 35V                  | ≤ 45/75V                  | ≤ 35V                     |
| Response time                           | tA | ≤ 25ns                 | ≤ 1ns                  | ≤ 25ns                    | ≤ 1ns                     |
| Bandwidth                               |    | —                      | 100 Mbps               | —                         | 10 Mbps                   |
| Operating temperature range             | Tu | −40°C...+80°C          | −40°C...+80°C          | −40°C...+80°C             | −40°C...+80°C             |
| Connector ( plug/socket )               |    | Screw                  | RJ45                   | Screw                     | RJ45                      |
| Installation wiring                     |    | 1.5–2.5mm <sup>2</sup> | —                      | 1.5–2.5mm <sup>2</sup>    | —                         |
| Insertion loss                          |    | —                      | ≤ 0.5dB                | —                         | ≤ 0.5dB                   |
| Enclosure material                      |    | aluminium alloy        |                        |                           |                           |
| Degree of protection                    |    | IP20                   |                        |                           |                           |

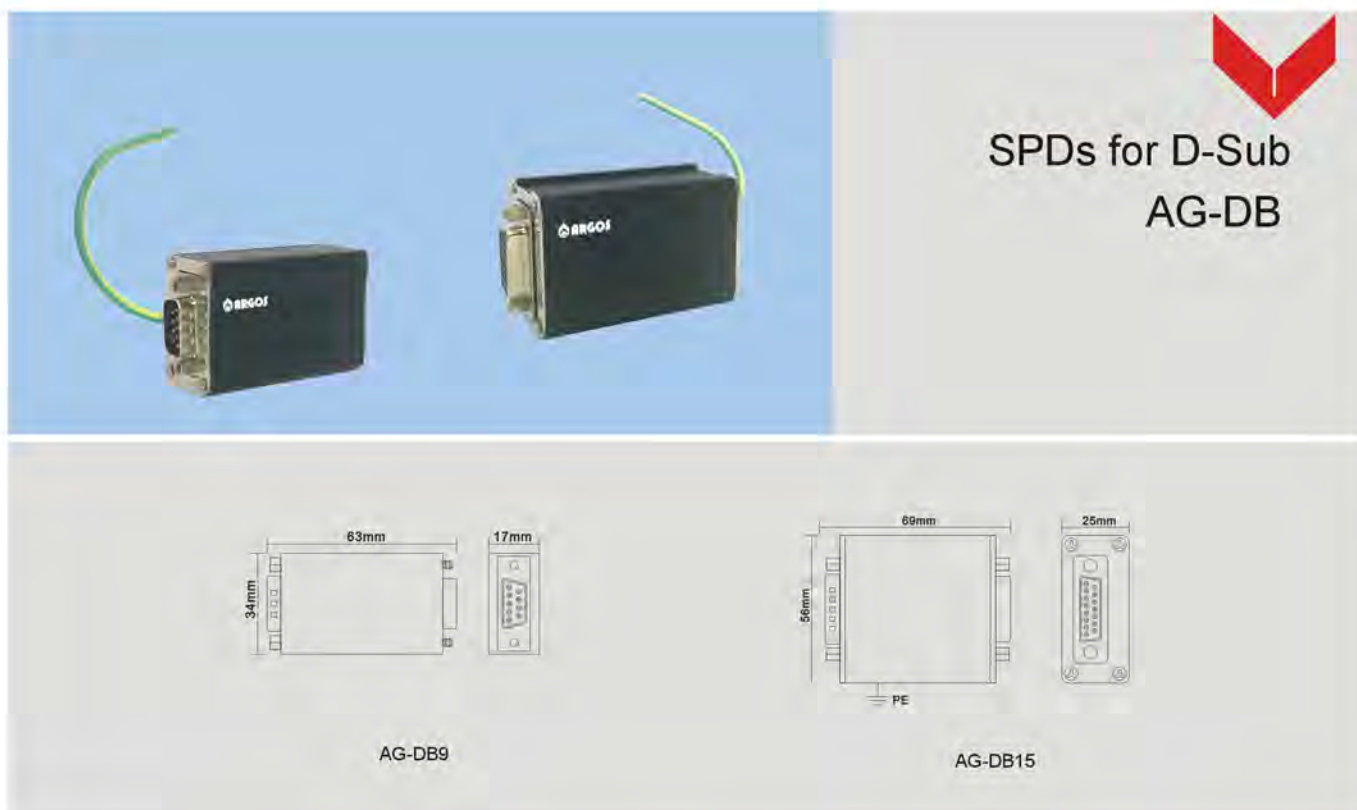




## SPDs for Mini monitoring two-in-one three-in-one



|                                          |    | AG-JK3(2)/220Mini-1    | AG-JK3(2)/220Mini-2 | AG-JK3(2)/220Mini-3    | AG-JK3(2)/12(24)Mini-1 | AG-JK3(2)/12(24)Mini-2 | AG-JK3(2)/12(24)Mini-3 |
|------------------------------------------|----|------------------------|---------------------|------------------------|------------------------|------------------------|------------------------|
| Test standards                           |    | IEC 61643-21           |                     |                        |                        |                        |                        |
| Nominal voltage                          | Un | 220V                   | 5V                  | 5V                     | 12/24V                 | 5V                     | 5V                     |
| Max. continuous operating d.c. voltage   | Uc | 320V                   | 6V                  | 6V                     | 18/30V                 | 6V                     | 6V                     |
| Nominal current                          | IL | 10A                    | –                   | –                      | 10A                    | –                      | –                      |
| Norminal discharge current ( 8 /20 μ s ) | In | 5kA                    | 5kA                 | 5kA                    | 3kA                    | 5kA                    | 5kA                    |
| Voltage protection level                 | Up | ≤ 1200V                | ≤ 15V               | ≤ 15V                  | ≤ 45/75V               | ≤ 15V                  | ≤ 15V                  |
| Response time                            | tA | ≤ 25ns                 | ≤ 1ns               | ≤ 1ns                  | ≤ 25ns                 | ≤ 1ns                  | ≤ 1ns                  |
| Bandwidth                                |    | –                      | 10 Mbps             | 2Mbps                  | –                      | 10 Mbps                | 2 Mbps                 |
| Operating temperature range              | Tu | –40°C...+80°C          | –40°C...+80°C       | –40°C...+80°C          | –40°C...+80°C          | –40°C...+80°C          | –40°C...+80°C          |
| Connector ( plug/socket )                |    | Screw                  | BNC                 | Screw                  | Screw                  | BNC                    | Screw                  |
| Installation wiring                      |    | 1.5–2.5mm <sup>2</sup> | –                   | 1.5–2.5mm <sup>2</sup> | 4mm <sup>2</sup>       | –                      | 1.5–2.5mm <sup>2</sup> |
| Insertion loss                           |    | –                      | ≤ 0.5dB             | ≤ 0.5dB                | –                      | ≤ 0.5dB                | ≤ 0.5dB                |
| Enclosure material                       |    | aluminium alloy        |                     |                        |                        |                        |                        |
| Degree of protection                     |    | IP20                   |                     |                        |                        |                        |                        |
|                                          |    |                        |                     |                        |                        |                        |                        |



|                                          |    | AG-DB9-12-1         | AG-DB9-12-2 | AG-DB9-24   | AG-DB15-12-1         | AG-DB15-12-2 | AG-DB15-24  |
|------------------------------------------|----|---------------------|-------------|-------------|----------------------|--------------|-------------|
| Test standards                           |    | IEC 61643-21        |             |             |                      |              |             |
| Nominal voltage                          | Un | 12V                 | 12V         | 24V         | 12V                  | 12V          | 24V         |
| Max. continuous operating d.c. voltage   | Uc | 15V                 | 15V         | 15V         | 15V                  | 15V          | 15V         |
| Nominal discharge current(8/20μs)        | In | 3kA                 | 3kA         | 3kA         | 5kA                  | 5kA          | 5kA         |
| Voltage protection level [line to line]  | Up | < 18V               | < 18V       | < 18V       | ≤40V                 | ≤40V         | ≤40V        |
| Voltage protection level [ine to ground] | Up | < 100V              | < 100V      | < 100V      | ≤500V                | ≤500V        | ≤500V       |
| Response time                            | tA | ≤1ns                | ≤1ns        | ≤1ns        | ≤1ns                 | ≤1ns         | ≤1ns        |
| Transmission rate                        |    | > 350M              | > 350M      | > 350M      | ≤100ns               | ≤100ns       | ≤100ns      |
| Operating temperature range              | Tu | -40℃...+80℃         | -40℃...+80℃ | -40℃...+80℃ | -40℃...+80℃          | -40℃...+80℃  | -40℃...+80℃ |
| Pinning                                  |    | 2/3, SG1/PG1        | 1-9         | 1-9         | 2/3, SG1/PG1         | 1-9          | 1-9         |
| Connection input/output                  |    | D-Sub 9 plug/socket |             |             | D-Sub 15 plug/socket |              |             |
| Bandwidth                                |    | 10 Mbps             |             |             |                      |              |             |
| Insertion Loss                           |    | ≤0.3dB              |             |             |                      |              |             |
| Enclosure material                       |    | aluminium alloy     |             |             |                      |              |             |
| Degree of protection                     |    | IP20                |             |             |                      |              |             |





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[contact@argos-international.com](mailto:contact@argos-international.com)