

Manual Motor Controller / Circuit Breaker for Equipment thermal-magnetic, 4 poles



See below:

[Approvals and Compliances](#)

### Description

- Thermal-magnetic circuit breaker
- High short circuit performance
- Availability of AC and DC in the same frame size
- DIN-Rail Mounting

### Applications

- Industrial appliances

### References

Last order possibility: 31.08.2018  
Last delivery date: 30.09.2018

### Weblinks

[pdf datasheet](#), [html-datasheet](#), [General Product Information](#), [Distributor-Stock-Check](#), [Detailed request for product](#), [Product News](#)

### Technical Data

#### General data

|                                              |                                                                                                                                                           |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Voltage AC                             | IEC : 420 V Y / 240 V; 50/60 Hz<br>UL/CSA : 480 V Y / 277 V; 50/60 Hz                                                                                     |
| Rated Voltage DC                             | 65 V                                                                                                                                                      |
| Rated current                                | 0.5 - 52 A , see approbations                                                                                                                             |
| Conditional short circuit capacity IEC 60934 | Icn: AC 420 V Y/240 V / DC 65 V: 5 kA (no fuse)                                                                                                           |
| Conditional short circuit capacity UL 1077   | Icn: AC 480 V Y/277 V: 10 kA (with fuse class H/J, 4x rated current (min. 15 A))<br>Icn: AC 480 V Y/277 V: 5 kA (no fuse)<br>Icn: DC 65 V: 2 kA (no fuse) |
| Conditional short circuit capacity UL 508    | Icn: AC 480 V Y/277 V: 5 kA (no fuse)                                                                                                                     |
| Degree of Protection                         | from front side IP 40 acc. to IEC 60529                                                                                                                   |
| Lifetime                                     | 1 x Ir 6000 switching cycles                                                                                                                              |
| Dielectric Strength                          | 50Hz: > 2 kV<br>Impulse 1.2/50 µs                                                                                                                         |
| Vibration Resistance                         | ± 0.75 mm @ 5 - 60 Hz<br>acc. to IEC 60068-2-6, test Fc<br>10 G @ 60 - 500 Hz<br>acc. to IEC 60068-2-6, test Fc                                           |
| Insulation Resistance                        | 250/440 VAC > 5 MΩ                                                                                                                                        |
| Shock Resistance                             | 30 G / 18ms<br>acc. to IEC 60068-2-27, test Ea                                                                                                            |
| Ambient temperature                          | -10°C to 55°C                                                                                                                                             |
| Weight                                       | 100 - 130g                                                                                                                                                |

|                                |                                       |
|--------------------------------|---------------------------------------|
| Tripping Type                  | Positively trip free                  |
| Actuation Type                 | Manual ON/OFF                         |
| Permissible wire cross section | 1.5 - 25 mm <sup>2</sup> / 16 - 4 AWG |

#### Switched neutral

|               |                                                                                                                                   |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Rated Voltage | AC 277 V                                                                                                                          |
| Rated current | AC/DC 65 A                                                                                                                        |
| Function      | The switched neutral closes with manual closure of the poles and opens automatically with thermal magnetic tripping of the poles. |

#### Add-on modules

|                |                                                                  |
|----------------|------------------------------------------------------------------|
| Add-on modules | Technical data for the additional module see separate data sheet |
|----------------|------------------------------------------------------------------|

### Approvals and Compliances

Detailed information on product approvals, code requirements, usage instructions and detailed test conditions can be looked up in [Details about Approvals](#)

## Approvals

The approval mark is used by the testing authorities to certify compliance with the safety requirements placed on electronic products.

Approval Reference Type: AS168X

| Approval Logo                                                                    | Certificates  | Certification Body | Description                      |
|----------------------------------------------------------------------------------|---------------|--------------------|----------------------------------|
|  | VDE Approvals | VDE                | VDE Certificate Number: 40005743 |
|  | UL Approvals  | UL                 | UL File Number: E216629 / E71572 |
|  | UL Approvals  | UL                 | UL File Number: E216629 / E71572 |

## Product standards

Product standards that are referenced

| Organization                                                                     | Design                | Standard      | Description                                                           |
|----------------------------------------------------------------------------------|-----------------------|---------------|-----------------------------------------------------------------------|
|  | Designed according to | IEC 60934     | Circuit-breakers for equipment (CBE)                                  |
|  | Designed according to | UL508, UL1077 | Standard for Supplementary Protectors for Use in Electrical Equipment |
|  | Designed according to | UL 508        | Standard for Industrial Control Equipment                             |
|  | Designed according to | CSA C22.2     | Supplementary Protectors                                              |

## Application standards

Application standards where the product can be used

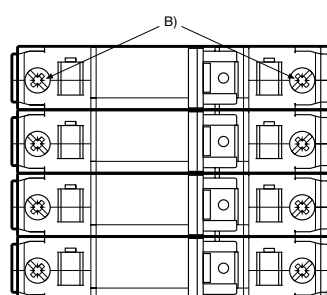
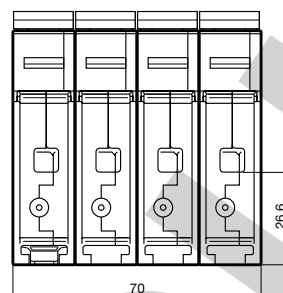
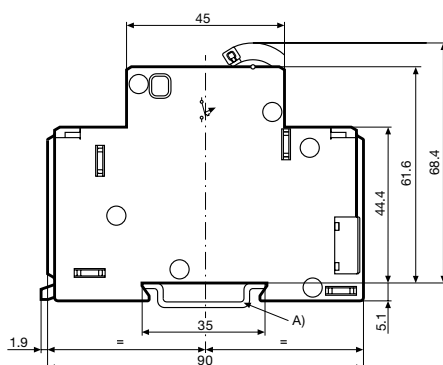
| Organization                                                                      | Design                         | Standard     | Description                                                                                     |
|-----------------------------------------------------------------------------------|--------------------------------|--------------|-------------------------------------------------------------------------------------------------|
|  | Designed for applications acc. | IEC/UL 60950 | IEC 60950-1 includes the basic requirements for the safety of information technology equipment. |

## Compliances

The product complies with following Guide Lines

| Identification                                                                     | Details                      | Initiator   | Description                                                                                                                                                                                           |
|------------------------------------------------------------------------------------|------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | CE declaration of conformity | SCHURTER AG | The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community legislation on its affixing in accordance with EU Regulation 765/2008. |
|  | RoHS                         | SCHURTER AG | EU Directive RoHS 2011/65/EU                                                                                                                                                                          |
|  | China RoHS                   | SCHURTER AG | The law SJ / T 11363-2006 (China RoHS) has been in force since 1 March 2007. It is similar to the EU directive RoHS.                                                                                  |
|  | REACH                        | SCHURTER AG | On 1 June 2007, Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals 1 (abbreviated as "REACH") entered into force.                               |

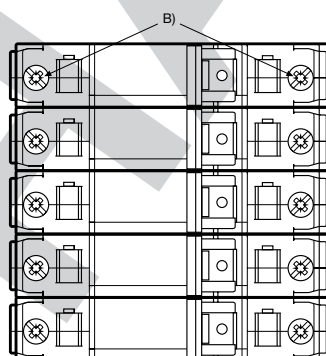
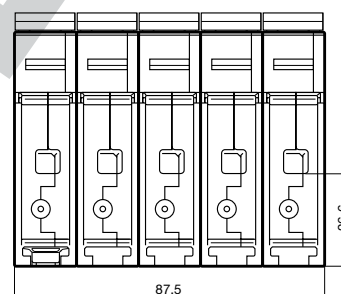
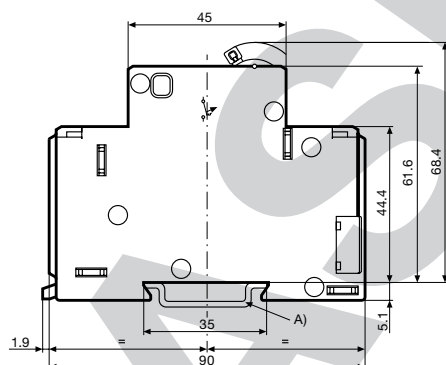
**Dimension [mm]**  
AS168X 4 pole



A) 35 mm DIN rail EN 50022

| B) Max. torque             |                 |
|----------------------------|-----------------|
| Wire crossection           | Max. torque     |
| 1.5 ... 10 mm <sup>2</sup> | 2.5 Nm          |
| 16 ... 25 mm <sup>2</sup>  | 3.1 Nm          |
| AWG #16 ... 8              | 20 ... 22 lb-in |
| AWG #6 ... 4               | 26 ... 28 lb-in |

AS168X 4 pole and switched neutral pole

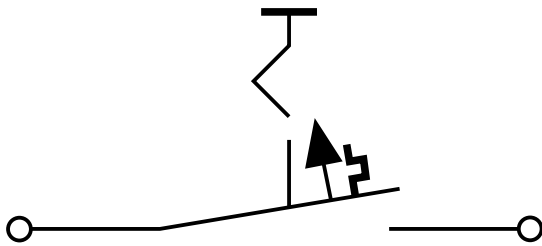


A) 35 mm DIN rail EN 50022

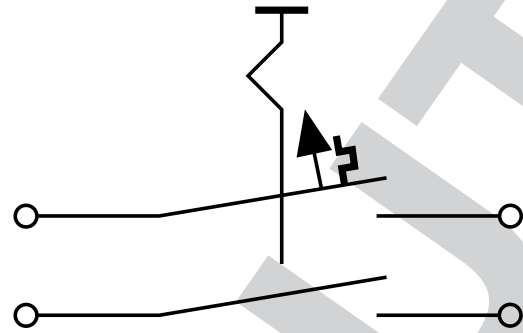
| B) Max. torque             |                 |
|----------------------------|-----------------|
| Wire crossection           | Max. torque     |
| 1.5 ... 10 mm <sup>2</sup> | 2.5 Nm          |
| 16 ... 25 mm <sup>2</sup>  | 3.1 Nm          |
| AWG #16 ... 8              | 20 ... 22 lb-in |
| AWG #6 ... 4               | 26 ... 28 lb-in |

## Diagrams

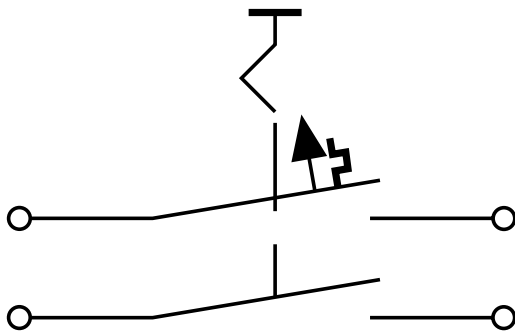
AS168X-CB1...



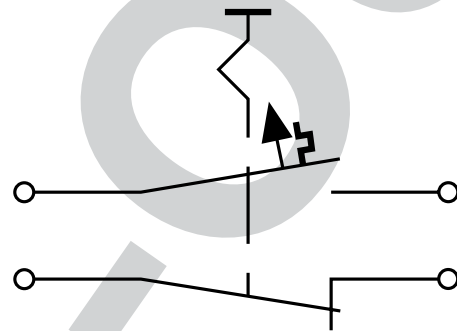
AS168X-CB1...N



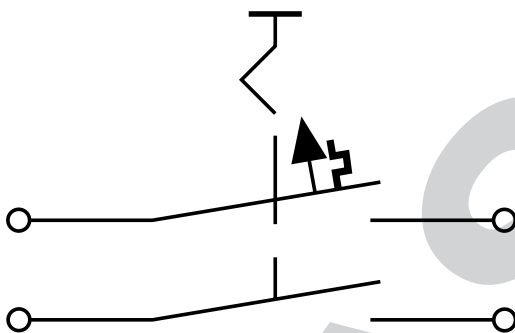
AS168X-CB1... / AS168X-ACBH1



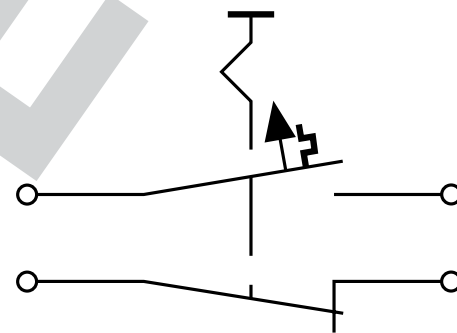
AS168X-CB1... / AS168X-ACBH2



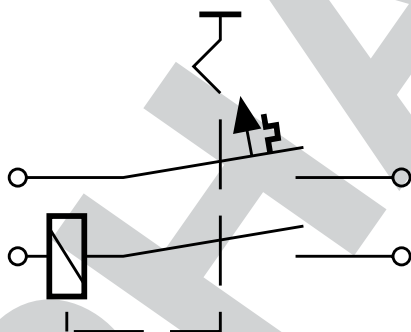
AS168X-CB1... / AS168X-ACBS1



AS168X-CB1... / AS168X-ACBS2



AS168X-CB1... / AS168X-ACBA



| Symbol                                                                            | Standard                   | Rated current | Rated voltage AC | Conditional short circuit capacity I <sub>cn</sub> | Rated voltage DC | Conditional short circuit capacity I <sub>cn</sub> |
|-----------------------------------------------------------------------------------|----------------------------|---------------|------------------|----------------------------------------------------|------------------|----------------------------------------------------|
|  | UL 508<br>CSA C22.2 no. 14 | 05 - 52 A     | 480Y/277 V       | 5 kA                                               | -                | -                                                  |
|  | UL 1077                    | 0.5 - 40 A    | 480Y/277 V       | 10 kA                                              | -                | -                                                  |
|                                                                                   | CSA C22.2 no. 235          | 0.5 - 50 A    | 480Y/277 V       | 5 kA                                               | -                | -                                                  |
|  | EN 60934                   | 0.5 - 30 A    | 240/420 V        | 4.5 kA                                             | 65 V             | 4.5 kA                                             |
|  | GB 17701                   | -             | -                | -                                                  | -                | -                                                  |

### Effect of ambient temperature

AC-breaker are calibrated for an ambient temperature of +40°C, DC-breakers for +23°C. To determine the rated current for a lower or higher ambient temperature, use a correction factor from the table below:

| Ambient temperature [°C] | Correction factor AC version | Correction factor DC version |
|--------------------------|------------------------------|------------------------------|
| -20                      | 0.78                         | 0.80                         |
| -5                       | 0.82                         | 0.87                         |
| 0                        | 0.83                         | 0.90                         |
| +10                      | 0.87                         | 0.95                         |
| +23                      | 0.91                         | 1.00                         |
| +30                      | 0.95                         | 1.05                         |
| +40                      | 1.00                         | 1.10                         |
| +50                      | 1.05                         | 1.20                         |
| +60                      | 1.11                         | 1.30                         |

Example DC version: Rated current = 10 A; Environmental temperature = 50 °C; --> Correction factor = 1.2; Resulting current = 12 A

## Ampere-Horsepower

| AS168X-CB                      | Motor Nameplate |                         | Horsepower<br>(FLA & LRC Ratings Apply where no HP Rating is given) |       |       |         |       |        |         |         |
|--------------------------------|-----------------|-------------------------|---------------------------------------------------------------------|-------|-------|---------|-------|--------|---------|---------|
|                                |                 |                         | Nominal Circuit Voltage, VAC                                        |       |       |         |       |        |         |         |
|                                |                 |                         | 110-120                                                             | 200   | 208   | 220-240 | 265   | 277    | 380-415 | 440-480 |
| Rated Current<br>(See Note #1) | FLA Rating      | Starting/<br>LRC Rating |                                                                     |       |       |         |       | 1 pole |         | 2 pole  |
| 0.5A                           | 0.5A            | 3°                      |                                                                     |       |       |         |       |        |         |         |
| 1A                             | 1A              | 6°                      |                                                                     |       |       |         |       |        | 1/10    |         |
| 1.5A                           | 1.5A            | 9°                      |                                                                     |       |       | 1/10    | 1/10  | 1/10   | 1/6     |         |
| 2A                             | 2A              | 12A                     |                                                                     |       |       | 1/8     | 1/6   | 1/6    | 1/4     |         |
| 3A                             | 3A              | 18A                     | 1/10                                                                | 1/6   | 1/6   | 1/4     | 1/4   | 1/3    | 1/3     | 1/2     |
| 4A                             | 4A              | 24A                     | 1/8                                                                 | 1/4   | 1/3   | 1/3     | 1/3   | 1/3    | 1/2     | 1       |
| 5A                             | 5A              | 30A                     | 1/6                                                                 | 1/3   | 1/3   | 1/2     | 1/2   | 1/2    | 3/4     | 1 1/2   |
| 6A                             | 6A              | 36A                     | 1/4                                                                 | 1/2   | 1/2   | 1/2     | 3/4   | 3/4    | 1       | 2       |
| 7A                             | 7A              | 42A                     | 1/4                                                                 | 1/2   | 1/2   | 3/4     | 1     | 1      | 1 1/2   | 2       |
| 8A                             | 8A              | 48A                     | 1/3                                                                 | 3/4   | 3/4   | 1       | 1     | 1      | 2       | 2       |
| 9A                             | 9A              | 54A                     | 1/3                                                                 | 3/4   | 1     | 1       | 1     | 1 1/2  | 2       | 3       |
| 10A                            | 10A             | 60A                     | 1/2                                                                 | 1     | 1     | 1 1/2   | 1 1/2 | 2      | 2       | 3       |
| 12A                            | 12A             | 72A                     | 1/2                                                                 | 1 1/2 | 1 1/2 | 2       | 2     | 2      | 3       | 3       |
| 13A                            | 13A             | 78A                     | 1/2                                                                 | 1 1/2 | 1 1/2 | 2       | 2     | 2      | 3       | 3       |
| 15A                            | 15A             | 90A                     | 3/4                                                                 | 2     | 2     | 2       | 3     | 3      | 3       | 5       |
| 16A                            | 16A             | 96A                     | 1                                                                   | 2     | 2     | 2       | 3     | 3      | 3       | 5       |
| 18A                            | 18A             | 108A                    | 1                                                                   | 2     | 2     | 3       | 3     | 3      | 5       | 5       |
| 20A                            | 20A             | 120A                    | 1 1/2                                                               | 3     | 3     | 3       | 3     | 3      | 5       | 5       |
| 23A                            | 23A             | 138A                    | 1 1/2                                                               | 3     | 3     | 3       | 3     | 3      | 5       | 7 1/2   |
| 25A                            | 25A             | 150A                    | 2                                                                   | 3     | 3     | 3       | 5     | 5      | 5       | 7 1/2   |
| 27A                            | 27A             | 162A                    | 2                                                                   | 3     | 3     | 3       | 5     | 5      | 7 1/2   | 10      |
| 30A                            | 30A             | 180A                    | 2                                                                   | 3     | 3     | 5       | 5     | 5      | 7 1/2   | 10      |

| AS168X-CB                      | Motor Nameplate |                         | Horsepower<br>(FLA & LRC Ratings Apply where no HP Rating is given) |       |       |         |         |         |        |
|--------------------------------|-----------------|-------------------------|---------------------------------------------------------------------|-------|-------|---------|---------|---------|--------|
|                                |                 |                         | Nominal Circuit Voltage, VAC                                        |       |       |         |         |         |        |
|                                |                 |                         | 110-120                                                             | 200   | 208   | 220-240 | 380-415 | 440-480 |        |
| Rated Current<br>(See Note #1) | FLA Rating      | Starting/<br>LRC Rating |                                                                     |       |       |         |         |         | 3 pole |
| 0.5A                           | 0.5A            |                         |                                                                     |       |       |         |         |         |        |
| 1A                             | 1A              |                         |                                                                     |       |       |         |         |         |        |
| 1.5A                           | 1.5A            | 10A                     |                                                                     |       |       |         | 1/2     | 1/2     |        |
| 2A                             | 2A              | 12.5A                   |                                                                     |       |       |         | 3/4     | 3/4     |        |
| 3A                             | 3A              | 20A                     |                                                                     | 1/2   | 1/2   | 1/2     | 1       | 1 1/2   |        |
| 4A                             | 4A              | 25A                     |                                                                     | 3/4   | 3/4   | 3/4     | 1 1/2   | 2       |        |
| 5A                             | 5A              | 32A                     | 1/2                                                                 | 1     | 1     | 1       | 2       | 3       |        |
| 6A                             | 6A              | 32A                     | 1/2                                                                 | 1     | 1     | 1/2     | 2       | 3       |        |
| 7A                             | 7A              | 32A                     | 3/4                                                                 | 1/2   | 1/2   | 2       | 3       | 3       |        |
| 8A                             | 8A              | 46A                     | 3/4                                                                 | 2     | 2     | 2       | 3       | 5       |        |
| 9A                             | 9A              | 46A                     | 1                                                                   | 2     | 2     | 2       | 3       | 5       |        |
| 10A                            | 10A             | 46A                     | 1                                                                   | 2     | 2     | 3       | 5       | 5       |        |
| 12A                            | 12A             | 63.5A                   | 1 1/2                                                               | 3     | 3     | 3       | 5       | 7 1/2   |        |
| 13A                            | 13A             | 63.5A                   | 1 1/2                                                               | 3     | 3     | 3       | 5       | 7 1/2   |        |
| 15A                            | 15A             | 81A                     | 2                                                                   | 3     | 3     | 3       | 7 1/2   | 10      |        |
| 16A                            | 16A             | 81A                     | 2                                                                   | 3     | 3     | 5       | 7 1/2   | 10      |        |
| 18A                            | 18A             | 81A                     | 2                                                                   | 5     | 5     | 5       | 10      | 10      |        |
| 20A                            | 20A             | 81A                     | 3                                                                   | 5     | 5     | 5       | 10      | 10      |        |
| 23A                            | 23A             | 116A                    | 3                                                                   | 5     | 5     | 7 1/2   | 10      | 15      |        |
| 25A                            | 25A             | 116A                    | 3                                                                   | 5     | 7 1/2 | 7 1/2   | 10      | 15      |        |
| 27A                            | 27A             | 145A                    | 3                                                                   | 7 1/2 | 7 1/2 | 7 1/2   | 15      | 20      |        |
| 30A                            | 30A             | 145A                    | 3                                                                   | 7 1/2 | 7 1/2 | 10      | 15      | 20      |        |

Note #1: For AC motor circuit nameplate FLA loads, AC general-use loads, AC resistance loads

## Time-Current-Curves

Version F / Magnetic 3-5  $xI_n$



Multiple of Rated Current  $I_n$

Reference Temperature +23°

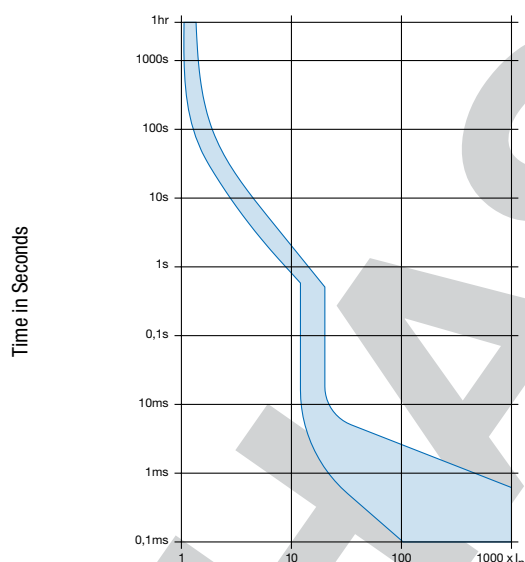
Version G / Magnetic 6-10  $xI_n$



Multiple of Rated Current  $I_n$

Reference Temperature +23°

Version H / Magnetic 12-20  $xI_n$



Multiple of Rated Current  $I_n$

Reference Temperature +23°

## Config. Code

AS168X-CB 1 DG 200 N

The characters are placeholders for the correspondingly keys of selections from the key tables.

AS168X-CB **1** DG 200 N = Number of Poles

Number of Poles

Configuration  
key

4-pole

4

## AS168X-CB 1 DG 200 N = Tripping characteristics

| Tripping characteristics          | Configuration key |
|-----------------------------------|-------------------|
| 1.0-1.25xIn / 3-5xIn / 0.5-52 A   | F                 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | G                 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | H                 |

## AS168X-CB 1 DG 200 N = Rated current

| Rated current | Configuration key |
|---------------|-------------------|
| 0.05 A        | 005               |
| 1.0 A         | 010               |
| 1.5 A         | 015               |
| 2.0 A         | 020               |
| 3.0 A         | 030               |
| 4.0 A         | 040               |
| 5.0 A         | 050               |
| 6.0 A         | 060               |
| 7.0 A         | 070               |
| 8.0 A         | 080               |
| 9.0 A         | 090               |
| 10.0 A        | 100               |

Other rated currents on request

| Rated current | Configuration key |
|---------------|-------------------|
| 12.0 A        | 120               |
| 15.0 A        | 150               |
| 16.0 A        | 160               |
| 18.0 A        | 180               |
| 20.0 A        | 200               |
| 23.0 A        | 230               |
| 25.0 A        | 250               |
| 27.0 A        | 270               |
| 30.0 A        | 300               |
| 32.0 A        | 320               |
| 35.0 A        | 350               |
| 40.0 A        | 400               |
| 45.0 A        | 450               |
| 50.0 A        | 500               |
| 52.0 A        | 520               |

Other rated currents on request

## AS168X-CB 1 DG 200 N = Switched neutral

| Switched neutral      | Configuration key |
|-----------------------|-------------------|
| Switched neutral pole | N                 |

## Variants

| Tripping characteristics         | Rated current | Switched neutral | Config. Code   | Order Number |
|----------------------------------|---------------|------------------|----------------|--------------|
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 50.0 A        |                  | AS168X-CB4G500 | 4420.0389    |

Availability for all products can be searched real-time: <https://www.schurter.com/en/Stock-Check/Stock-Check-SCHURTER>

Packaging Unit 1 Pcs

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Schurter:

4429.0004