

Manual Motor Controller / Circuit Breaker for Equipment thermal-magnetic, 3 poles



## Description

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

## Standards

- Approval Reference Type: AS168X
- VDE Certificate Number: IEC 60934
- UL File Number: UL508, UL1077
- CSA File Number: CSA C22.2

## Applications

- Industrial appliances

## Weblinks

[pdf-datasheet](#), [html-datasheet](#), [General Product Information](#), [Approvals](#), [CE declaration of conformity](#), [RoHS](#), [CHINA-RoHS](#), [REACH](#), [e-Shop](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#), [Detailed request for product](#), [Product News](#)

## Technical Data

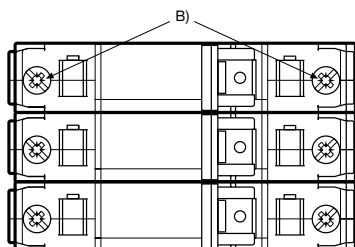
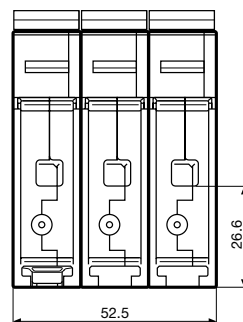
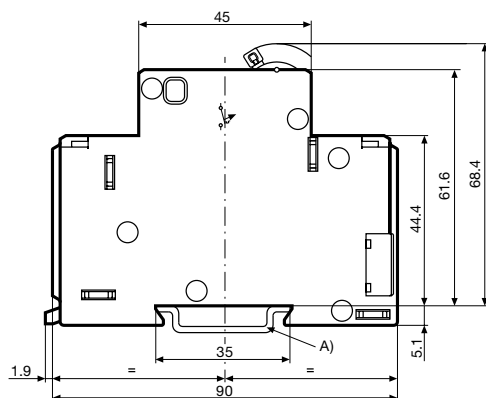
### General data

|                                              |                                                                                                                                                           |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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                          | 50 Hz: > 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 / 18 ms<br>acc. to IEC 60068-2-27, test Ea                                                                                                           |
| Ambient temperature                          | -10 °C to 55 °C                                                                                                                                           |
| Weight                                       | 100 - 130 g                                                                                                                                               |

|                                |                                                                                                                                   |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Tripping Type                  | Thermal-Magnetic<br>Positively trip free                                                                                          |
| Actuation type                 | Manual ON/OFF                                                                                                                     |
| Permissible wire cross section | 1.5 - 25 mm² / 16 - 4 AWG                                                                                                         |
| <b>Switched neutral</b>        |                                                                                                                                   |
| 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. |
| <b>Add-on modules</b>          |                                                                                                                                   |
| Add-on modules                 | Technical data for the additional module see separate data sheet                                                                  |

## Dimension

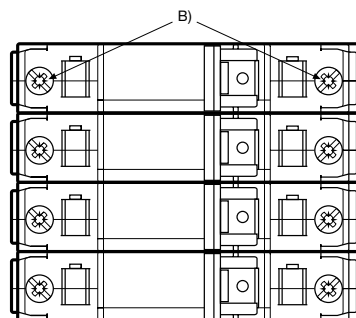
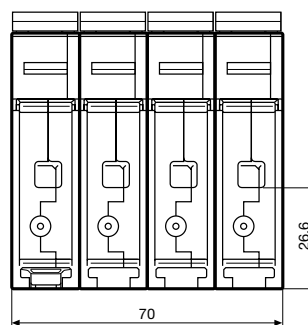
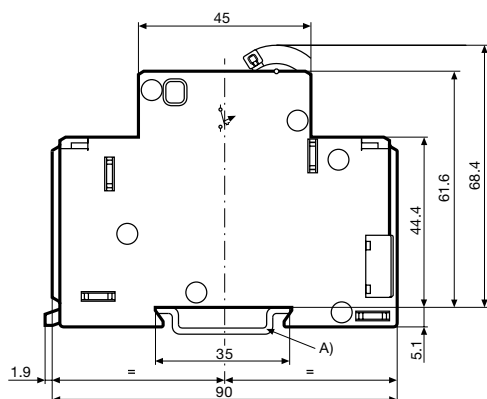
AS168X 3 pole



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 3 pole and switched neutral pole

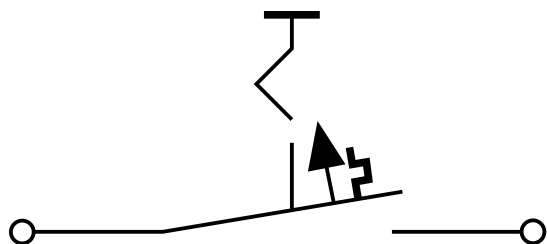


A) 35 mm DIN rail EN 50022

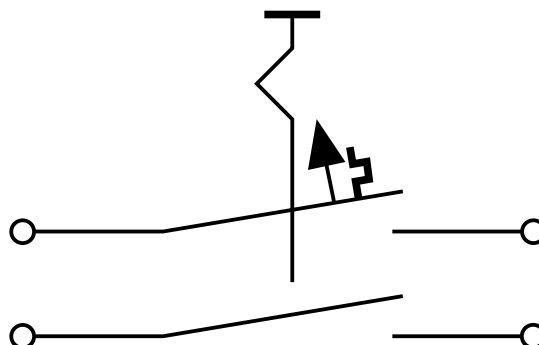
| B) Max. torque             |                 |
|----------------------------|-----------------|
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| AWG #16 ... 8              | 20 ... 22 lb-in |
| AWG #6 ... 4               | 26 ... 28 lb-in |

## Diagrams

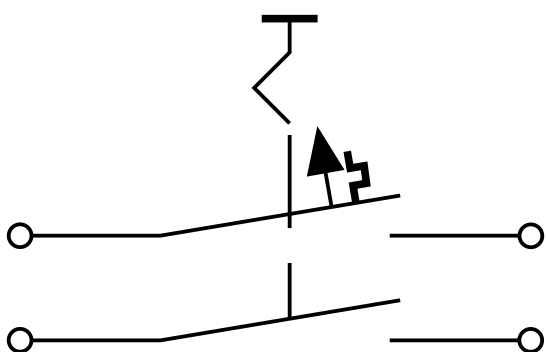
AS168X-CB1...



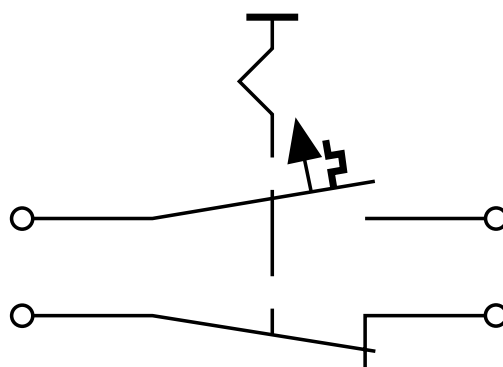
AS168X-CB1...N



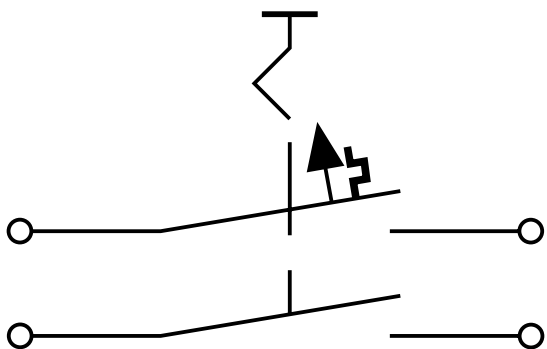
AS168X-CB1... / AS168X-ACBH1



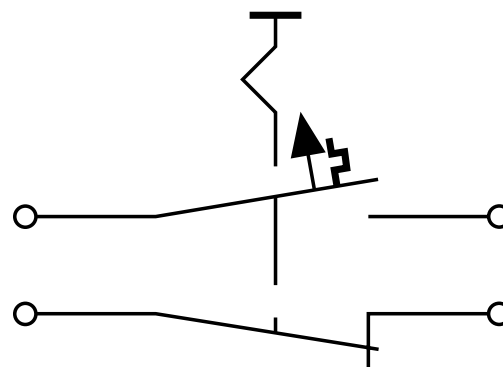
AS168X-CB1... / AS168X-ACBH2



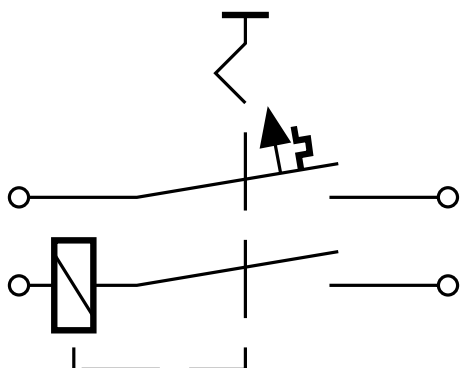
AS168X-CB1... / AS168X-ACBS1



AS168X-CB1... / AS168X-ACBS2



AS168X-CB1... / AS168X-ACBA



## Approvals

| 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 | 0.5 - 52 A    | 480Y/277 V       | 5 kA                                               | -                | -                                                  |
|  | UL 1077                    | 0.5 - 40 A    | 480 V            | 10 kA                                              | -                | -                                                  |
|  | CSA C22.2 no. 235          | 0.5 - 50 A    | 480 V            | 5 kA                                               | 65 V             | 2 kA                                               |
|  | EN 60934                   | 0.5 - 30 A    | 240/420 V        | 4.5 kA                                             | 65 V             | 4.5 kA                                             |
|  | GB 17701                   | -             | -                | -                                                  | -                | -                                                  |

## Effect of ambient temperature

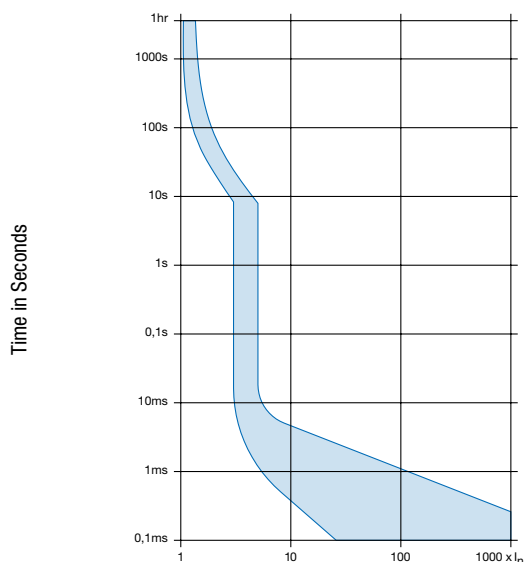
AC-breaker are calibrated for an ambient temperature of +40°C, DC-breakers for +23°C. To determine the rated current for a lower or higher ambient temperature, use a correction factor from the table below:

| 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

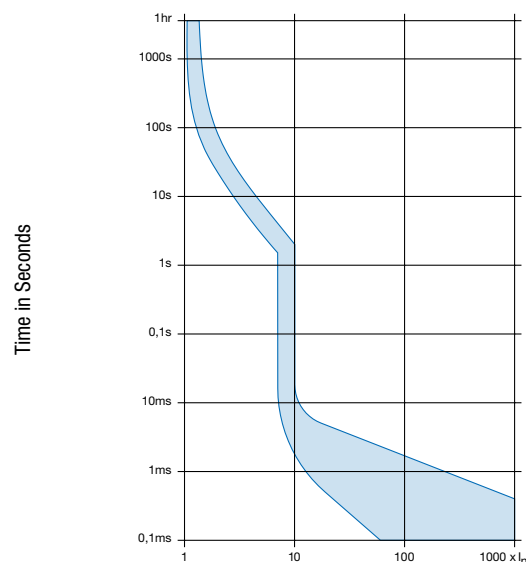
## Time-Current-Curves

Version F

Multiple of Rated Current I<sub>n</sub>

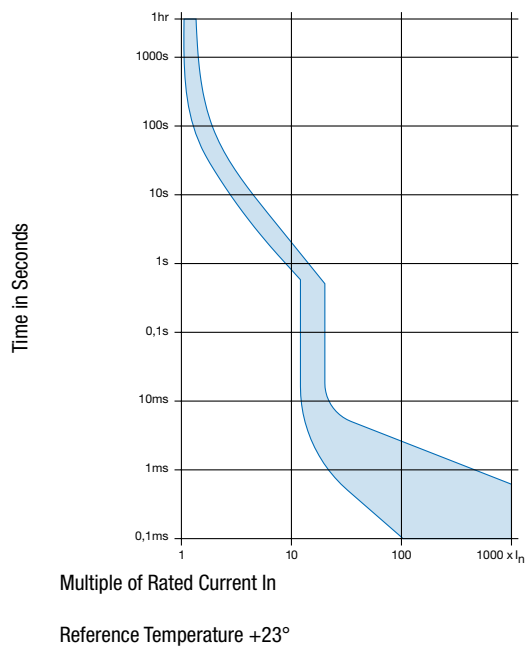
Reference Temperature +23°

Version G

Multiple of Rated Current I<sub>n</sub>

Reference Temperature +23°

## Version H



## 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 |
|-----------------|-------------------|
| 3               | 3                 |

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

| Tripping characteristics                                  | Configuration key |
|-----------------------------------------------------------|-------------------|
| 1.0-1.25xI <sub>n</sub> / 3-5xI <sub>n</sub> / 0.5-52 A   | F                 |
| 1.0-1.25xI <sub>n</sub> / 6-10xI <sub>n</sub> / 0.5-52 A  | G                 |
| 1.0-1.25xI <sub>n</sub> / 12-20xI <sub>n</sub> / 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               |

Other rated currents on request

| Rated current | Configuration key |
|---------------|-------------------|
| 8.0 A         | 080               |
| 9.0 A         | 090               |
| 10.0 A        | 100               |
| 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 / 3-5xIn / 0.5-52 A   | 30.0 A        |                  | AS168X-CB3F300 | 4420.0742    |
| 1.0-1.25xIn / 3-5xIn / 0.5-52 A   | 35.0 A        |                  | AS168X-CB3F350 | 4420.0994    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 2.0 A         |                  | AS168X-CB3G020 | 4420.0402    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 3.0 A         |                  | AS168X-CB3G030 | 4420.0400    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 4.0 A         |                  | AS168X-CB3G040 | 4420.0388    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 5.0 A         |                  | AS168X-CB3G050 | 4420.0301    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 10.0 A        |                  | AS168X-CB3G100 | 4420.0241    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 15.0 A        |                  | AS168X-CB3G150 | 4420.0204    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 20.0 A        |                  | AS168X-CB3G200 | 4420.0198    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 25.0 A        |                  | AS168X-CB3G250 | 4420.0242    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 30.0 A        |                  | AS168X-CB3G300 | 4420.0210    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 32.0 A        |                  | AS168X-CB3G320 | 4420.0323    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 40.0 A        |                  | AS168X-CB3G400 | 4420.0199    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 15.0 A        |                  | AS168X-CB3H150 | 4420.0569    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 20.0 A        |                  | AS168X-CB3H200 | 4420.0308    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 25.0 A        |                  | AS168X-CB3H250 | 4420.0542    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 30.0 A        |                  | AS168X-CB3H300 | 4420.0287    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 40.0 A        |                  | AS168X-CB3H400 | 4420.0372    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 50.0 A        |                  | AS168X-CB3H500 | 4420.0762    |

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#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.