

Manual Motor Controller / Circuit Breaker for Equipment thermal-magnetic, 1 pole



## 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

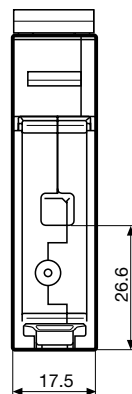
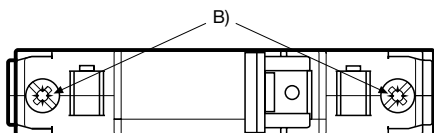
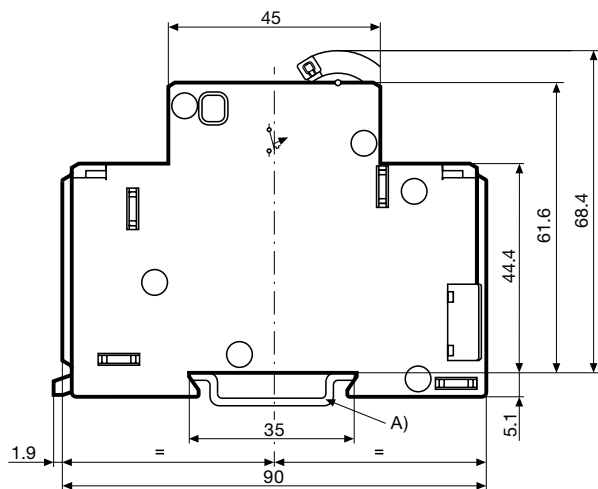
### General data

|                                              |                                                                                                                                                                             |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated Voltage AC                             | IEC : 240 V; 50/60 Hz<br>UL/CSA : 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 240 V / DC 65 V: 5 kA (no fuse)                                                                                                                                     |
| Conditional short circuit capacity UL 1077   | Icn: AC 277 V: 10 kA (with fuse class H/J, 4x rated current (min. 15 A))<br>Icn: AC 125 V: 10 kA (no fuse)<br>Icn: AC 277 V: 5 kA (no fuse)<br>Icn: DC 65 V: 2 kA (no fuse) |
| Conditional short circuit capacity UL 508    | Icn: AC 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 - 57 Hz<br>acc. to IEC 60068-2-6, test Fc<br>10 G @ 57 - 500 Hz<br>acc. to IEC 60068-2-6, test Fc                                                             |
| Insulation Resistance                        | 250/440 VAC > 5 MΩ                                                                                                                                                          |
| Shock Resistance                             | 25 G / 10 ms<br>acc. to IEC 60068-2-27, test Ea                                                                                                                             |
| Ambient temperature                          | -20°C to 60°C                                                                                                                                                               |
| Weight                                       | 100 - 130g                                                                                                                                                                  |

|                                |                                                                                                                                   |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Tripping Type                  | 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 1 pole

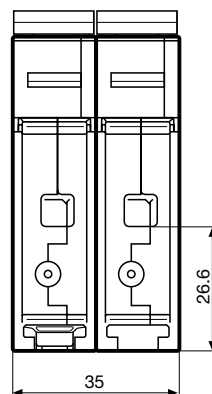
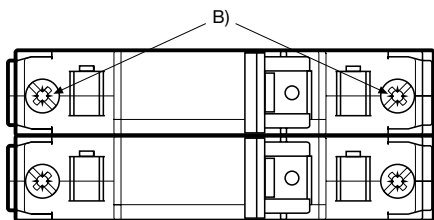
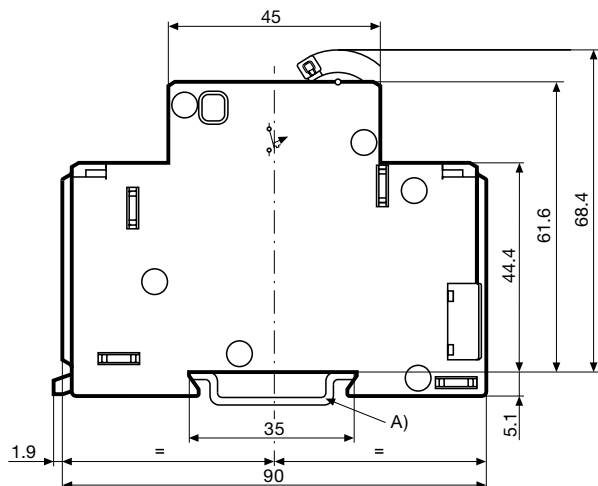


A) 35 mm DIN rail EN 50022

B) Max. torque

| Wire crosssection          | 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 1 pole and switched neutral pole



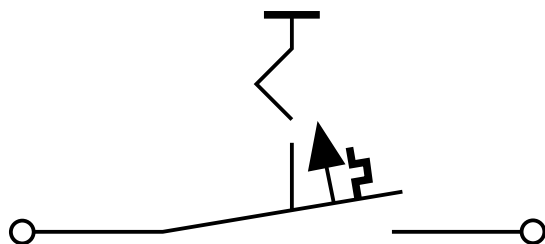
A) 35 mm DIN rail EN 50022

B) Max. torque

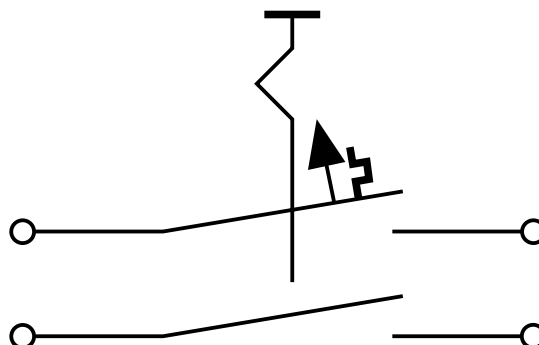
| Wire crosssection          | Max. torque     |
|----------------------------|-----------------|
| 1.5 ... 10 mm <sup>2</sup> | 2.5 Nm          |
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## Diagrams

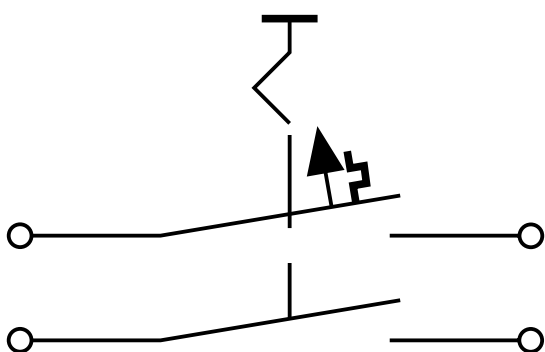
AS168X-CB1...



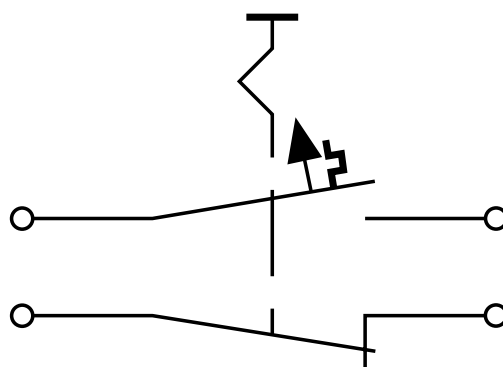
AS168X-CB1...N



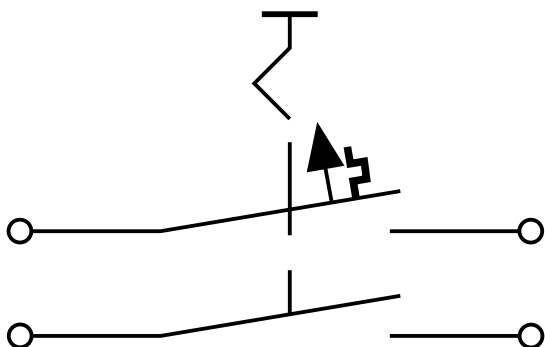
AS168X-CB1... / AS168X-ACBH1



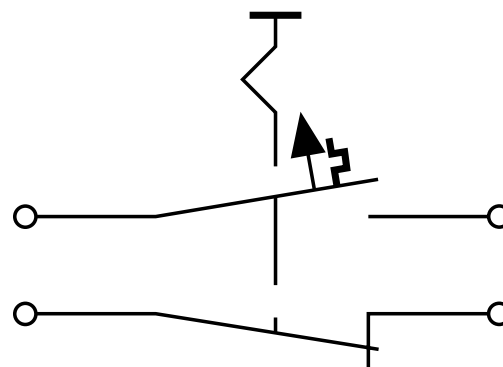
AS168X-CB1... / AS168X-ACBH2



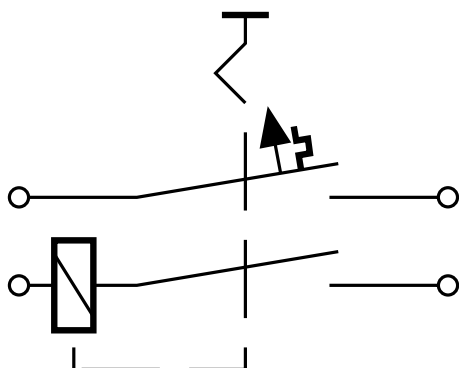
AS168X-CB1... / AS168X-ACBS1



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    | 277 V            | 5 kA                                               | -                | -                                                  |
|  | UL 1077                    | 0.5 - 40 A    | 240 V            | 10 kA                                              | -                | -                                                  |
|                                                                                  | CSA C22.2 no. 235          | 0.5 - 50 A    | 277 V<br>125 V   | 5 kA<br>10 kA                                      | 65 V             | 2 kA                                               |
|  | EN 60934                   | 0.5 - 30 A    | 240 V            | 4.5 kA                                             | 65 V             | 4.5 kA                                             |
|  | GB 17701                   | -             | -                | -                                                  | -                | -                                                  |

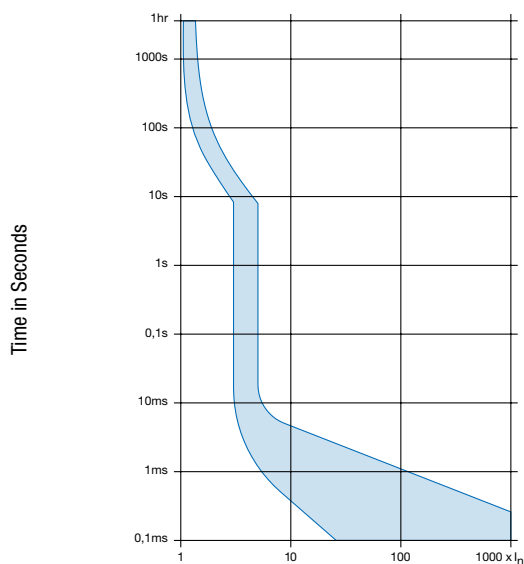
## Effect of ambient temperature

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:

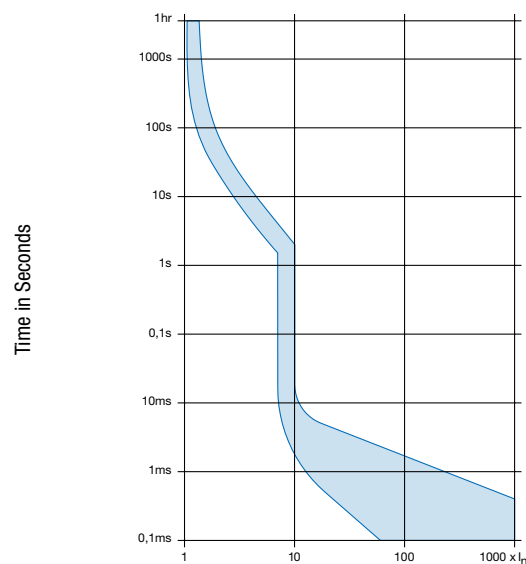
| Ambient temperature [°C] | Correction factor AC version | Correction factor DC version |
|--------------------------|------------------------------|------------------------------|
| -20                      | 0.78                         | 0.80                         |
| -5                       | 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

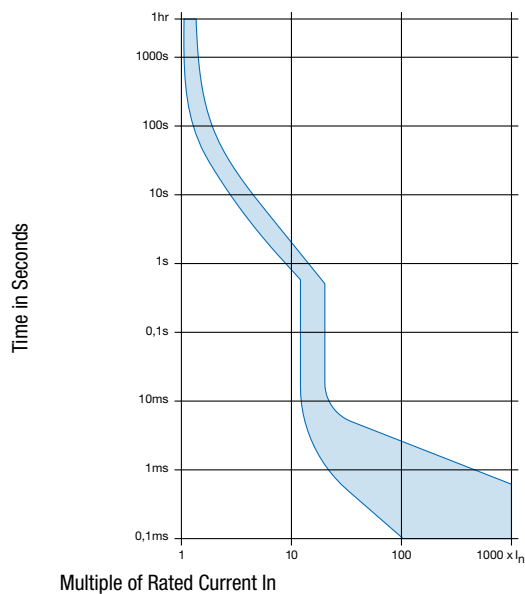
Version F / Magnetic 3-5 x I<sub>n</sub>Multiple of Rated Current I<sub>n</sub>

Reference Temperature +23°

Version G / Magnetic 6-10 x I<sub>n</sub>Multiple of Rated Current I<sub>n</sub>

Reference Temperature +23°

Version H / Magnetic 12-20 xI<sub>n</sub>



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 |
|-----------------|-------------------|
| 1               | 1                 |

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 / 6-10xIn / 0.5-52 A  | 1.0 A         |                       | AS168X-CB1G010  | 4420.0206    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 2.0 A         |                       | AS168X-CB1G020  | 4420.0230    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 3.0 A         |                       | AS168X-CB1G030  | 4420.0229    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 3.0 A         | Switched neutral pole | AS168X-CB1G030N | 4420.0973    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 4.0 A         |                       | AS168X-CB1G040  | 4420.0231    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 5.0 A         |                       | AS168X-CB1G050  | 4420.0202    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 6.0 A         |                       | AS168X-CB1G060  | 4420.0201    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 7.0 A         |                       | AS168X-CB1G070  | 4420.0329    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 8.0 A         |                       | AS168X-CB1G080  | 4420.0228    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 10.0 A        |                       | AS168X-CB1G100  | 4420.0261    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 10.0 A        | Switched neutral pole | AS168X-CB1G100N | 4420.0512    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 12.0 A        |                       | AS168X-CB1G120  | 4420.0597    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 15.0 A        |                       | AS168X-CB1G150  | 4420.0248    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 16.0 A        |                       | AS168X-CB1G160  | 4420.0260    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 20.0 A        |                       | AS168X-CB1G200  | 4420.0262    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 25.0 A        |                       | AS168X-CB1G250  | 4420.0232    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 30.0 A        |                       | AS168X-CB1G300  | 4420.0233    |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A  | 35.0 A        |                       | AS168X-CB1G350  | 4420.0839    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 1.0 A         |                       | AS168X-CB1H010  | 4420.0595    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 3.0 A         |                       | AS168X-CB1H030  | 4420.0694    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 4.0 A         |                       | AS168X-CB1H040  | 4420.0173    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 6.0 A         |                       | AS168X-CB1H060  | 4420.0596    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 8.0 A         |                       | AS168X-CB1H080  | 4420.0714    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 10.0 A        |                       | AS168X-CB1H100  | 4420.0572    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 15.0 A        |                       | AS168X-CB1H150  | 4420.0675    |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 16.0 A        |                       | AS168X-CB1H160  | 4420.0768    |

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