

Manual Motor Controller / Circuit Breaker for Equipment thermal-magnetic, 2 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
- IEC 60934
- UL508, UL1077
- CSA C22.2

Applications

- Industrial appliances

Weblinks

[pdf-datasheet](#), [html-datasheet](#), [General Product Information](#), [Approvals](#), [CE declaration of conformity](#), [RoHS](#), [CHINA-RoHS](#), [REACH](#), [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 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 / DC 65 V: 5 kA (no fuse) |
| Conditional short circuit capacity UL 1077 | Icn: AC 480 V: 10 kA (with fuse class H/J, 4x rated current (min. 15 A)) Icn: AC 480 V: 5 kA (no fuse) Icn: DC 65 V: 2 kA (no fuse) |
| Conditional short circuit capacity UL 508 | Icn: AC 480 V: 5 kA (no fuse) |
| Degree of Protection | from front side IP 40 acc. to IEC 60529 |
| Lifetime | 1 x I _r 6000 switching cycles |
| Dielectric Strength | 50Hz: > 2kV Impulse 1.2/50 μs |
| Vibration Resistance | ± 0.75 mm @ 5 - 60 Hz acc. to IEC 60068-2-6, test Fc 10 G @ 60 - 500 Hz acc. to IEC 60068-2-6, test Fc |
| Insulation Resistance | 250/440VAC > 5 MΩ |
| Shock Resistance | 30 G / 18ms 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 ² / 16 - 4 AWG |

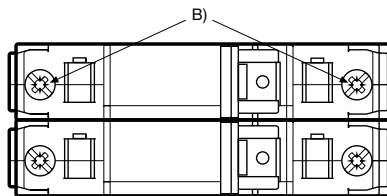
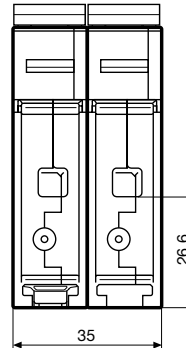
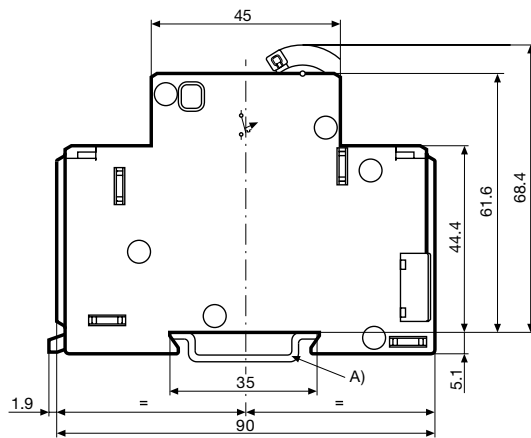
Switched neutral

| | |
|---------------|---|
| 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 |
|----------------|--|

Dimension
AS168X 2 pole

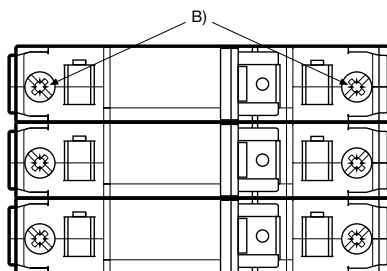
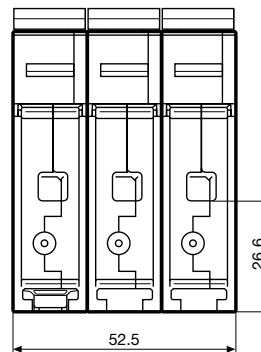
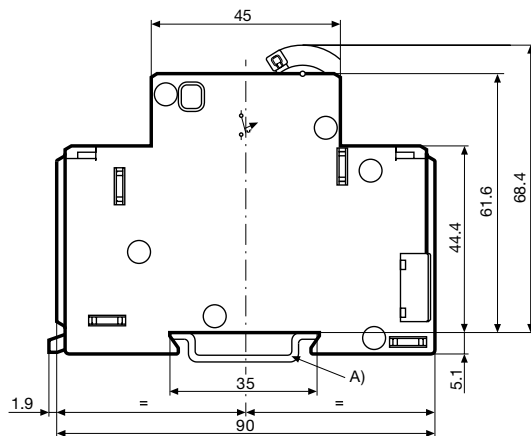


A) 35 mm DIN rail EN 50022

B) Max. torque

| Wire crosssection | Max. torque |
|----------------------------|-----------------|
| 1.5 ... 10 mm ² | 2.5 Nm |
| 16 ... 25 mm ² | 3.1 Nm |
| AWG #16 ... 8 | 20 ... 22 lb-in |
| AWG #6 ... 4 | 26 ... 28 lb-in |

AS168X 2 pole and switched neutral pole



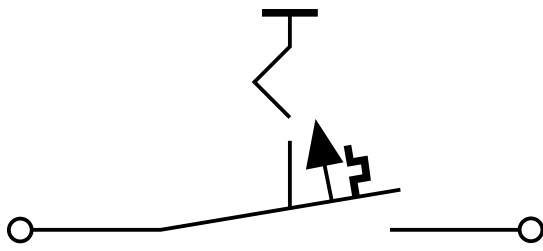
A) 35 mm DIN rail EN 50022

B) Max. torque

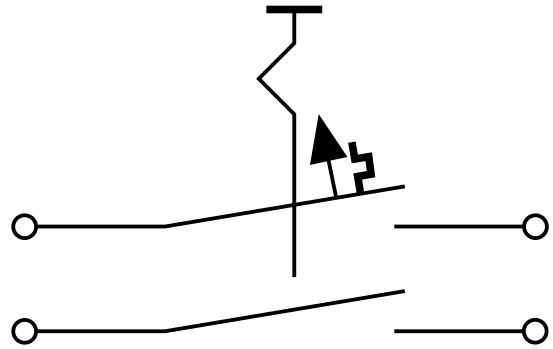
| Wire crosssection | Max. torque |
|----------------------------|-----------------|
| 1.5 ... 10 mm ² | 2.5 Nm |
| 16 ... 25 mm ² | 3.1 Nm |
| AWG #16 ... 8 | 20 ... 22 lb-in |
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Diagrams

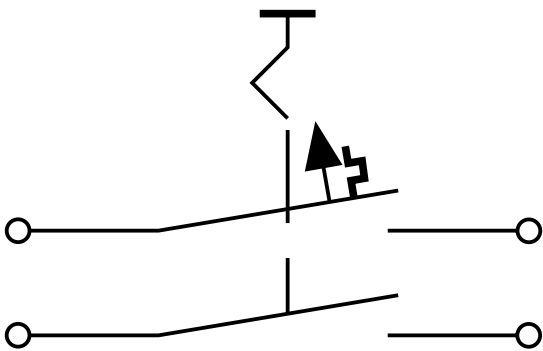
AS168X-CB1...



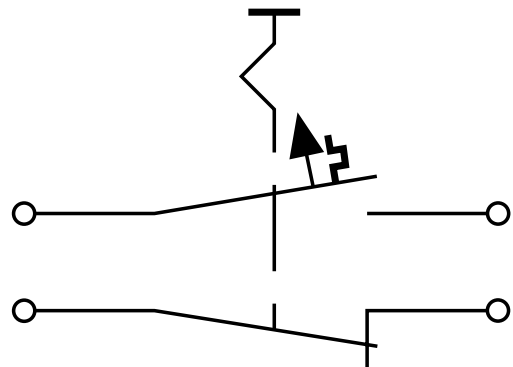
AS168X-CB1...N



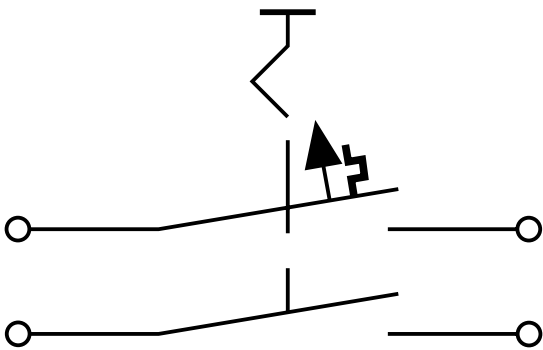
AS168X-CB1... / AS168X-ACBH1



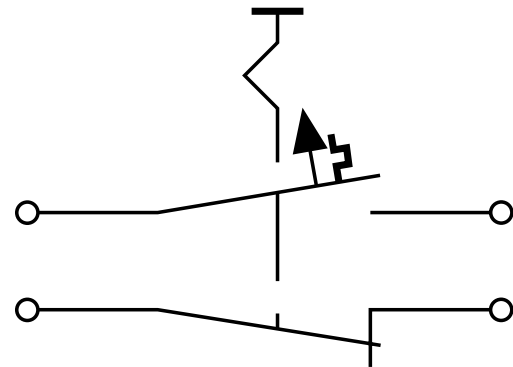
AS168X-CB1... / AS168X-ACBH2



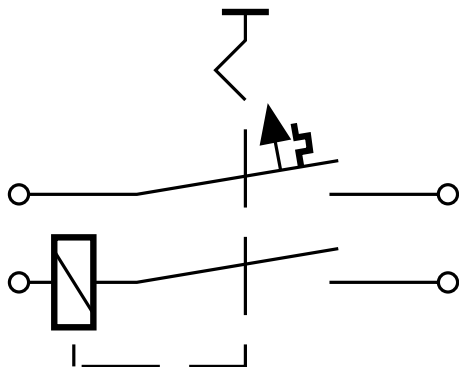
AS168X-CB1... / AS168X-ACBS1








AS168X-CB1... / AS168X-ACBS2



AS168X-CB1... / AS168X-ACBA



| Symbol | Standard | Rated current | Rated voltage AC | Conditional short circuit capacity Icn | Rated voltage DC | Conditional short circuit capacity Icn |
|--|----------------------------|---------------|------------------|--|------------------|--|
|  | UL 508 CSA C22.2 no. 14 | 0.5 - 52 A | 480Y/277 V | 5 kA | - | - |
|  | UL 1077 | - | - | - | - | - |
|  | 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

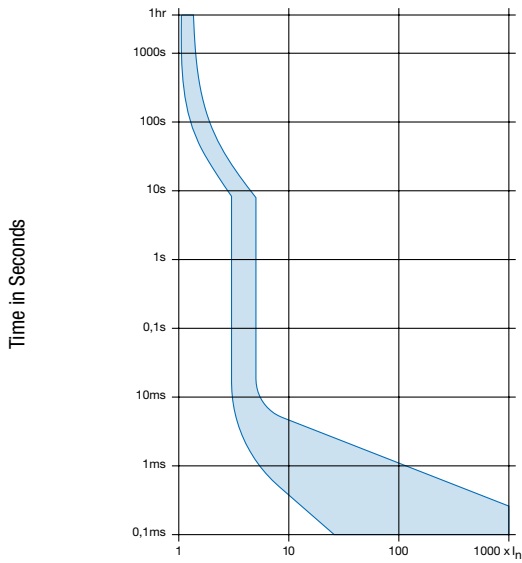
| AS168X-CB | Motor Nameplate | | Horsepower (FLA & LRC Ratings Apply where no HP Rating is given) | | | | | | | |
|--------------------------------|-----------------|-------------------------|---|-------|-------|---------|-------|--------|---------|---------|
| | | | Nominal Circuit Voltage, VAC | | | | | | | |
| | | | 110-120 | 200 | 208 | 220-240 | 265 | 277 | 380-415 | 440-480 |
| Rated Current (See Note #1) | FLA Rating | Starting/ 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 (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 (See Note #1) | FLA Rating | Starting/ 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 1/2 |
| 4A | 4A | 25A | | 3/4 | 3/4 | 3/4 | 1 1/2 | 2 | 2 |
| 5A | 5A | 32A | 1/2 | 1 | 1 | 1 | 2 | 3 | 3 |
| 6A | 6A | 32A | 1/2 | 1 | 1 | 1/2 | 2 | 3 | 3 |
| 7A | 7A | 32A | 3/4 | 1/2 | 1/2 | 2 | 3 | 3 | 3 |
| 8A | 8A | 46A | 3/4 | 2 | 2 | 2 | 3 | 5 | 5 |
| 9A | 9A | 46A | 1 | 2 | 2 | 2 | 3 | 5 | 5 |
| 10A | 10A | 46A | 1 | 2 | 2 | 3 | 5 | 5 | 5 |
| 12A | 12A | 63.5A | 1 1/2 | 3 | 3 | 3 | 5 | 7 1/2 | 7 1/2 |
| 13A | 13A | 63.5A | 1 1/2 | 3 | 3 | 3 | 5 | 7 1/2 | 7 1/2 |
| 15A | 15A | 81A | 2 | 3 | 3 | 3 | 7 1/2 | 10 | 10 |
| 16A | 16A | 81A | 2 | 3 | 3 | 5 | 7 1/2 | 10 | 10 |
| 18A | 18A | 81A | 2 | 5 | 5 | 5 | 10 | 10 | 10 |
| 20A | 20A | 81A | 3 | 5 | 5 | 5 | 10 | 10 | 10 |
| 23A | 23A | 116A | 3 | 5 | 5 | 7 1/2 | 10 | 15 | 15 |
| 25A | 25A | 116A | 3 | 5 | 7 1/2 | 7 1/2 | 10 | 15 | 15 |
| 27A | 27A | 145A | 3 | 7 1/2 | 7 1/2 | 7 1/2 | 15 | 20 | 20 |
| 30A | 30A | 145A | 3 | 7 1/2 | 7 1/2 | 10 | 15 | 20 | 20 |

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

Time-Current-Curves

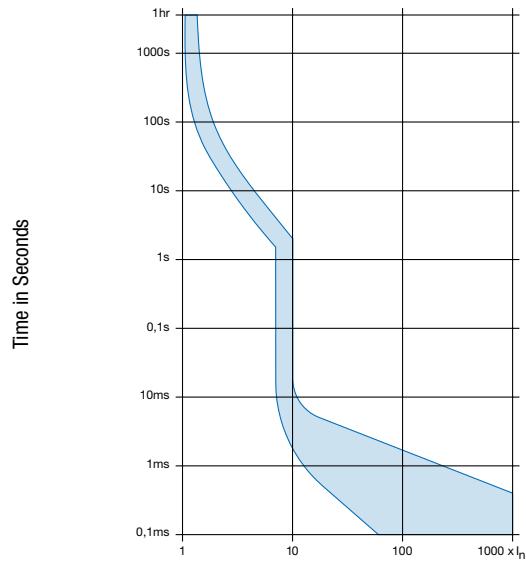
Version F / Magnetic 3-5 xI_n



Multiple of Rated Current I_n

Reference Temperature +23°

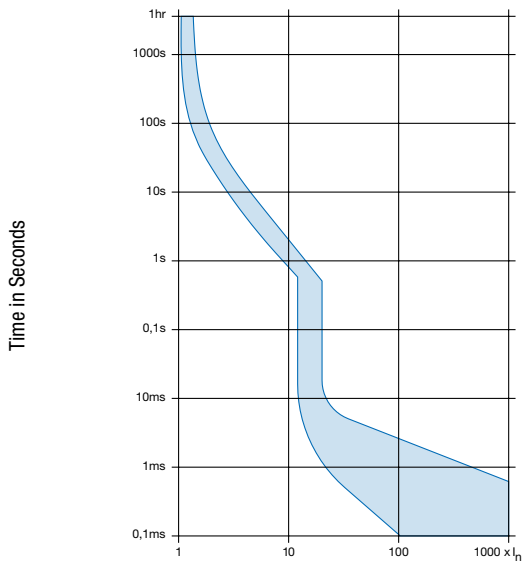
Version G / Magnetic 6-10 xI_n



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

2-pole

2

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 / 3-5xIn / 0.5-52 A | 15.0 A | | AS168X-CB2F150 | 4420.0251 |
| 1.0-1.25xIn / 3-5xIn / 0.5-52 A | 20.0 A | | AS168X-CB2F200 | 4420.0371 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 1.0 A | | AS168X-CB2G010 | 4420.0370 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 2.0 A | | AS168X-CB2G020 | 4420.0235 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 4.0 A | | AS168X-CB2G040 | 4420.0236 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 5.0 A | | AS168X-CB2G050 | 4420.0237 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 6.0 A | | AS168X-CB2G060 | 4420.0281 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 7.0 A | | AS168X-CB2G070 | 4420.0396 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 10.0 A | | AS168X-CB2G100 | 4420.0238 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 12.0 A | | AS168X-CB2G120 | 4420.0227 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 15.0 A | | AS168X-CB2G150 | 4420.0205 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 16.0 A | | AS168X-CB2G160 | 4420.0225 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 18.0 A | | AS168X-CB2G180 | 4420.0819 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 20.0 A | | AS168X-CB2G200 | 4420.0239 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 25.0 A | | AS168X-CB2G250 | 4420.0240 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 30.0 A | | AS168X-CB2G300 | 4420.0221 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 40.0 A | | AS168X-CB2G400 | 4420.0200 |
| 1.0-1.25xIn / 6-10xIn / 0.5-52 A | 50.0 A | | AS168X-CB2G500 | 4420.0380 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 1.0 A | | AS168X-CB2H010 | 4420.0325 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 2.0 A | | AS168X-CB2H020 | 4420.0335 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 3.0 A | | AS168X-CB2H030 | 4420.0273 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 4.0 A | | AS168X-CB2H040 | 4420.0605 |

| Tripping characteristics | Rated current | Switched neutral | Config. Code | Order Number |
|-----------------------------------|---------------|------------------|----------------|--------------|
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 6.0 A | | AS168X-CB2H060 | 4420.0207 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 7.0 A | | AS168X-CB2H070 | 4420.0317 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 8.0 A | | AS168X-CB2H080 | 4420.0272 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 10.0 A | | AS168X-CB2H100 | 4420.0174 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 12.0 A | | AS168X-CB2H120 | 4420.0416 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 15.0 A | | AS168X-CB2H150 | 4420.0296 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 16.0 A | | AS168X-CB2H160 | 4420.0670 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 20.0 A | | AS168X-CB2H200 | 4420.0220 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 30.0 A | | AS168X-CB2H300 | 4420.0223 |
| 1.0-1.25xIn / 12-20xIn / 0.5-52 A | 50.0 A | | AS168X-CB2H500 | 4420.0560 |

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Packaging Unit 1 Pcs