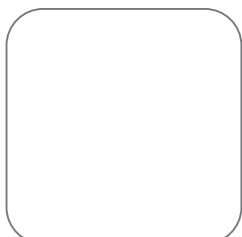
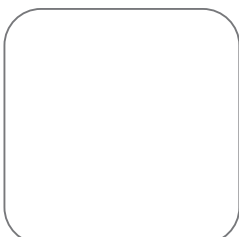
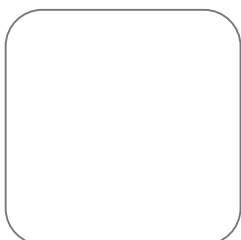
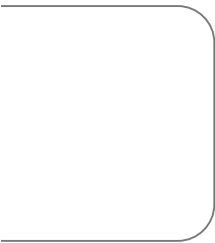
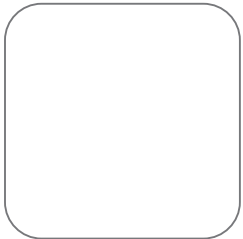




h3e

Molded case circuit breaker 300A to 800A





The specialist for electrical installations

Since 1955 Hager is the specialist for electrical installations in residential and commercial sectors, as a standard you can receive everything from one source: systems and solutions with high quality, reliability and ease of installation.

New ideas for the customers' benefit

Together with customers from industry and the electrical trade, Hager Group is working on future topics such as electro-mobility, Ambient Assisted Living, where building automation facilitates the everyday life of the elderly and individuals who require care, and on the networking

of energy-efficient housing, which will provide greater comfort while requiring less energy consumption. The link between many of these technologies will be the distribution board, the product with which the company achieved its growth.

A leading group

The Hager brand represents the core business of Hager Group.

The company was founded in 1955 by Hermann Hager and Dr. Oswald Hager together with their father Peter and today remains an independent business, owned and run by members of the Hager family, with its head office in Blieskastel, Germany. The organisation of the company as a European Company (Societas Europaea, SE) underlines both its cultural diversity and its European roots. Hager Group is, though, a worldwide business venture: 11,400 employees and generates a turnover of around 1.6 billion euros.

Highly innovative achievements provide a market edge with more than 830 employees working in R&D. With more than 5% of turnover reinvested in R&D, Hager Group filed a total of 1513 patents to date.

Components and solutions are produced in 22 production sites around the globe and customers in more than 80 countries all over the world trust in them.

h3e MCCB

Delight the style

The h3e MCCB range perfectly meets reliability requirements for main incoming devices in commercial premises; strength, reliability, efficient protection and standards compliant selections.

The style is reminiscent the H3 range and is perfectly integrated in the MCCB Hager offer.

With configurations of 3 and 4 pole offered across the range, all sizes of MCCB's have an extensive range of internal and external accessories available such as; auxiliary switches, shunt trips, undervoltage releases, terminal kits, and rotary handles.



| | |
|---------------------------|------|
| Technical characteristics | P.08 |
| <hr/> | |
| Reference guide | P.08 |
| <hr/> | |
| Reference guide | P.09 |
| <hr/> | |
| Reference structure | P.09 |
| <hr/> | |
| h400e | P.10 |
| <hr/> | |
| h400e accessories | P.10 |
| <hr/> | |
| h800e | P.11 |
| <hr/> | |
| h800e accessories | P.11 |
| <hr/> | |
| Technical information | P.12 |



h3e MCCB

Molded case circuit breaker

The h3 range of MCCBs provides safe and easy solutions for low voltage electrical circuit protection. The state of the art circuit breakers offer both designers and installers a wide range of features and benefits.

Rated current from 300A to 800A with breaking capacity up to 50kA.

Delight in style



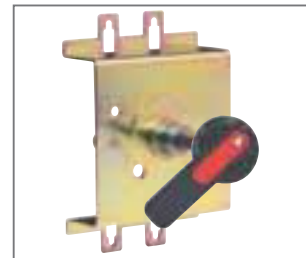
1



Style

In harmony with H3 MCCBs offer.

2



Full accessory range

Rotary handles, motor operators ...

3



Thermal-magnetic trip unit

Basic trip unit for providing overload and short-circuit protection. This has been developed for implementing economical, cost-efficient installations.

4



Quick Installation

Accessories

Easy opening of secondary cover, clip-in type auxiliaries.

5



Flexible connection

Collar terminals, front and rear connections, straight connections, spreaders, plug in...

6



Earth leakage protection

Earth leakage relays devices can be used to prevent any injuries to personnel and protect the installations.

| | | |
|--|-----------------|---------------------|
| Products | h400e | h800e |
| Number of poles | 3 & 4 | 3 & 4 |
| Electrical Characteristics | | |
| Rated current In (A) | 300-320-350-400 | 450-500-600-630-800 |
| Rated service voltage, (AC) Ue [Vac] | 415 | 415 |
| Frequency f [Hz] | 50 | 50 |
| Rated insulation voltage (AC) Ui [Vac] | 690 | 690 |
| Rated impulse withstand voltage(A) Uimp [KV] | 8 | 8 |
| Rated ultimate short-circuit breaking capacity Icu | | |
| (AC) 50 Hz 415Vac Icu[kA] | 50 | 50 |
| Rated short-circuit breaking capacity Ics | | |
| (AC) 50 Hz 415Vac Ics[kA] | 36 | 36 |
| Utilization category | A | A |
| Derating | | |
| 40°C | 100% | 100% |
| 50°C | 92% | 94% |
| 55°C | 88% | 86% |
| 60°C | 83% | 82% |
| Suitability for isolation | OK | OK |
| Electric endurance (nb of cycles) | 2000 | 1500 |
| Mechanical endurance (nb of operation) | 4000 | 4000 |
| Operating temperature | -5°C to +60°C | -5°C to +60°C |
| Storage temperature | -25°C to +70°C | -25°C to +70°C |
| Size | | |
| Height mm | 257 | 275 |
| Width 3 pole mm | 140 | 210 |
| 4 pole mm | 184 | 280 |
| Depth mm | 155 | 155 |
| Weight 3 pole kg | 4.3 | 6.6 |
| 4 pole kg | 5.2 | 8.9 |

Reference guide

| Frame | Poles | Rated current | Icu : 50kA / Ics : 36kA |
|-------|-------|---------------|-----------------------------|
| | | | Thermal magnetic protection |
| h400e | 3 | 300A | HND300P |
| | | 320A | HND320P |
| | | 350A | HND350P |
| | | 400A | HND400P |
| | 4 | 300A | HND301P |
| | | 320A | HND321P |
| | | 350A | HND351P |
| | | 400A | HND401P |
| h800e | 3 | 450A | HNE450P |
| | | 500A | HNE500P |
| | | 600A | HNE600P |
| | | 630A | HNE630P |
| | | 800A | HNE800P |
| | 4 | 450A | HNE451P |
| | | 500A | HNE501P |
| | | 600A | HNE601P |
| | | 800A | HNE801P |

| Type of accessories | Accessory specifications | Characteristics | Pole | h400e | h800e |
|---|--------------------------|-----------------|-------|---------|---------|
| Internal auxiliaries & external accessories | Shunt trip release | 24V DC | 3/4 P | HXD006P | HXE006P |
| | | 220V AC | | HXD004P | HXE004P |
| | | 380V AC | | HXD005P | HXE005P |
| | Under voltage release | 220V AC | 3/4 P | HXD014P | HXE014P |
| | | 380V AC | | HXD015P | HXE015P |
| | Auxiliary contacts | 2NO+2NC | 3/4 P | HXD022P | HXE022P |
| | Alarm Contact | 1NO+1NC | 3/4 P | HXD024P | HXE024P |
| | Auxiliary / alarm switch | 1NO+1NC/1NO+1NC | 3/4 P | HXD023P | HXE023P |
| | Extended rotary handle | | 3/4 P | HXD031P | HXE031P |
| | Electric operation | 220VAC | 3/4 P | HXD042P | HXE042P |
| | | 380VAC | 3/4 P | HXD044P | HXE044P |
| Connection | Rear connections | | 3P | HYD031P | HYE031P |
| | | | 4P | HYD032P | HYE032P |
| | Plug-in kit | | 3P | HYD200P | HYE200P |
| | | | 4P | HYD201P | HYE201P |

Reference structure

| H | N | D | 350 | P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----|-----|---|---|--|----|----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|------|-----|-----|
| 1 | 2 | 3 | 4 | 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div>1. Breaker Series Name h3e series MCCB</div> | | | <div>5. Name of series P = h3e range</div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div>2. Breaking capacity N = Icu 50 kA</div> | | | <div>4. Poles & Rated current :</div> <table><tr><td></td><td>3P</td><td>4P</td></tr><tr><td>300A</td><td>300</td><td>301</td></tr><tr><td>320A</td><td>320</td><td>321</td></tr><tr><td>350A</td><td>350</td><td>351</td></tr><tr><td>400A</td><td>400</td><td>401</td></tr><tr><td>450A</td><td>450</td><td>451</td></tr><tr><td>500A</td><td>500</td><td>501</td></tr><tr><td>600A</td><td>600</td><td>601</td></tr><tr><td>630A</td><td>630</td><td>631</td></tr><tr><td>800A</td><td>800</td><td>801</td></tr></table> | | | 3P | 4P | 300A | 300 | 301 | 320A | 320 | 321 | 350A | 350 | 351 | 400A | 400 | 401 | 450A | 450 | 451 | 500A | 500 | 501 | 600A | 600 | 601 | 630A | 630 | 631 | 800A | 800 | 801 |
| | 3P | 4P | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 300A | 300 | 301 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 320A | 320 | 321 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 350A | 350 | 351 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 400A | 400 | 401 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 450A | 450 | 451 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 500A | 500 | 501 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 600A | 600 | 601 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 630A | 630 | 631 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 800A | 800 | 801 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div>3. Frame size D = h400e E = h800e</div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | |
|--|---|--|
| Description: Hager MCCBs with fixed thermal-magnetic trip unit. Supplied with spreaders, extended handle, interphase barriers for top and bottom | terminals, terminals and fixation screws as standard. | Technical parameters: compliance with IEC60947-2 Rated ultimate short-circuit breaking capacity Icu: 50kA |
|--|---|--|

| Description | In | Cat. Ref. 3P | Cat. Ref. 4P |
|--|------|-----------------|-----------------|
| Icu = 50 kA (415 Vac) Thermal fixed (1.05x In to 1.3 x In) Magnetic fixed: 10x In (+/- 20%) | 300A | HND300P | HND301P |
| | 320A | HND320P | HND321P |
| | 350A | HND350P | HND351P |
| | 400A | HND400P | HND401P |



HND400P



HND400P



h400e MCCB's accessories

| Description | Ue | Cat. Ref. |
|--|---------|----------------|
| Shunt trip | 220V AC | HXD004P |
| Shunt trip | 380V AC | HXD005P |
| Shunt trip | 24V DC | HXD006P |
| Undervoltage release | 230V AC | HXD014P |
| Undervoltage release | 380V AC | HXD015P |
| Auxiliary contact 2 changeover 2NO + 2NC | | HXD022P |
| Auxiliary and alarm contact 2 changeovers 1NO + 1NC / 1NO + 1NC | | HXD023P |
| Alarm contact 1 changeover 1NO + 1NC | | HXD024P |
| External rotary handle | | HXD031P |
| Motor operator | 230V AC | HXD042P |
| Motor operator | 380V AC | HXD044P |
| 1 set of 3 rear connections | | HYD031P |
| 1 set of 4 rear connections | | HYD032P |
| Plug in 3P | | HYD200P |
| Plug in 4P | | HYD201P |

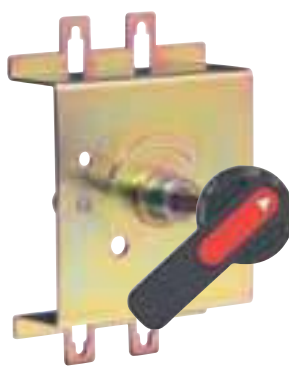


HXD042P

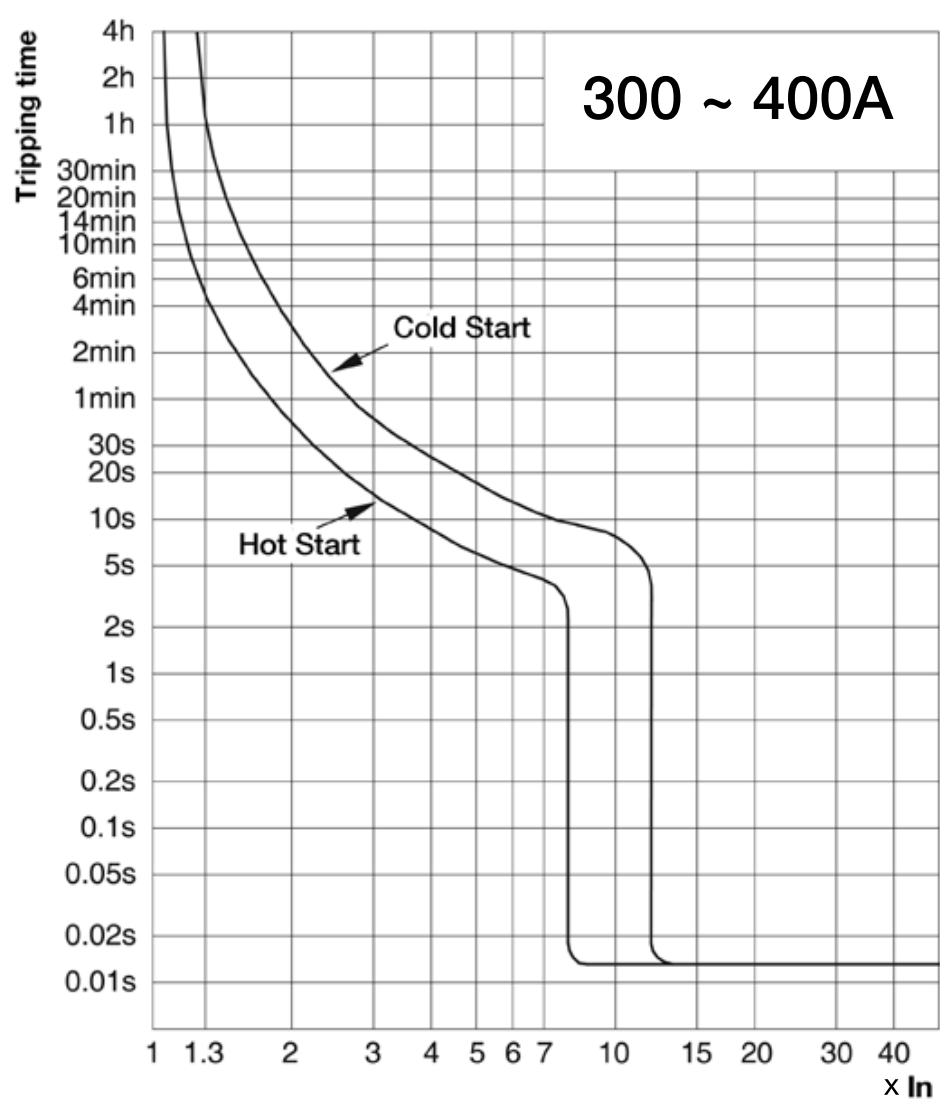
| | | |
|--|---|--|
| Description: Hager MCCBs with fixed thermal-magnetic trip unit. Supplied with extended straight connections, extended handle, interphase | barriers for top and bottom terminals, terminals and fixation screws as standard. | Technical parameters: compliance with IEC60947-2 Rated ultimate short-circuit breaking capacity Icu: 50kA |
|--|---|--|

| | Description | In | Cat. Ref. 3P | Cat. Ref. 4P |
|--|--|------|-----------------|-----------------|
| | Icu = 50 kA (415 Vac) Thermal fixed (1.05x In to 1.3 x In) Magnetic fixed: 10x In (+/- 20%) | | | |
|  HNE630P | | 450A | HNE450P | HNE451P |
| | | 500A | HNE500P | HNE501P |
| | | 600A | HNE600P | HNE601P |
| | | 630A | HNE630P | HNE631P |
| | | 800A | HNE800P | HNE801P |
|  HNE631P | | | | |

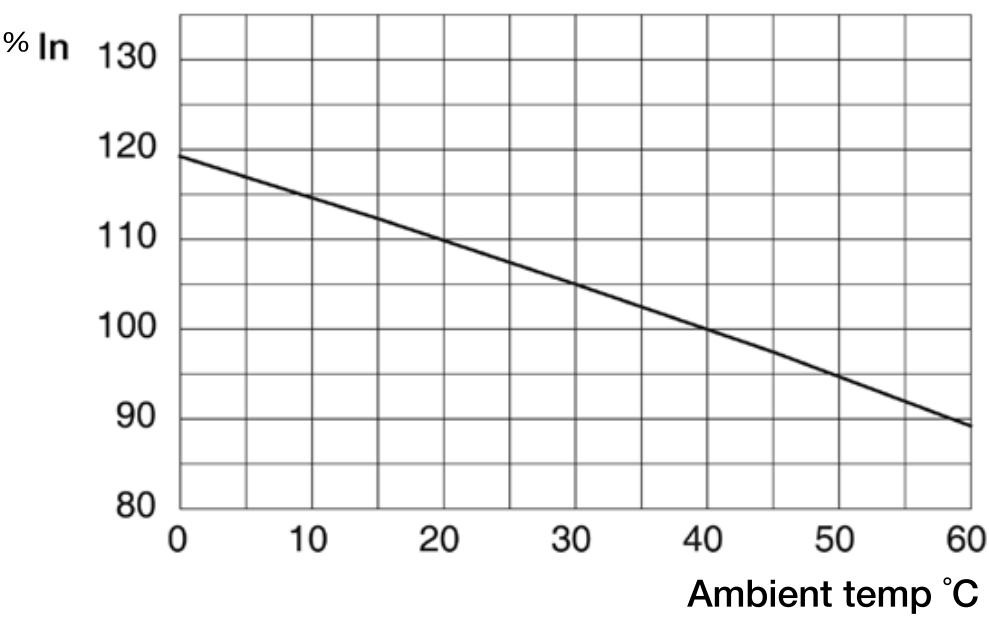
h800e MCCB's accessories

| | Description | In | Cat. Ref. |
|--|---|---------|----------------|
|  HXE004P | Shunt trip | 220V AC | HXE004P |
| | Shunt trip | 380V AC | HXE005P |
| | Shunt trip | 24V DC | HXE006P |
| | Undervoltage release | 230V AC | HXE014P |
| | Undervoltage release | 380V AC | HXE015P |
| | Auxiliary contact 2 changeover 2NO + 2NC | | HXE022P |
| | Auxiliary and alarm contact 2 changeovers1NO + 1NC / 1NO + 1NC | | HXE023P |
| | Alarm contact 1 changeover 1NO + 1NC | | HXE024P |
| | External rotary handle | | HXE031P |
| | Motor operator | 230V AC | HXE042P |
| | Motor operator | 380V AC | HXE044P |
| | 1 set of 3 rear connections | | HYE031P |
| | 1 set of 4 rear connections | | HYE032P |
| | Plug in 3P | | HYE200P |
| | Plug in 4P | | HYE201P |

Tripping curve (front connection)

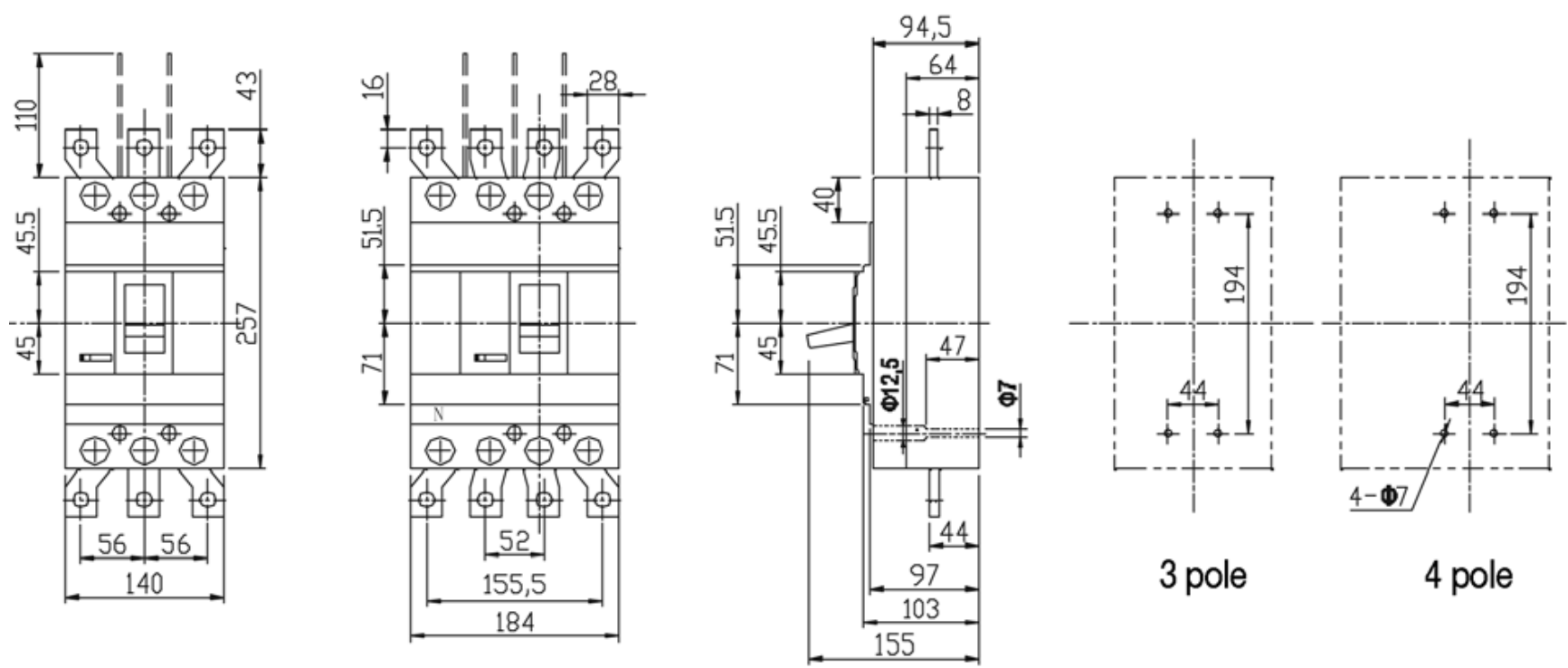


Temperature compensation curve (front connection)

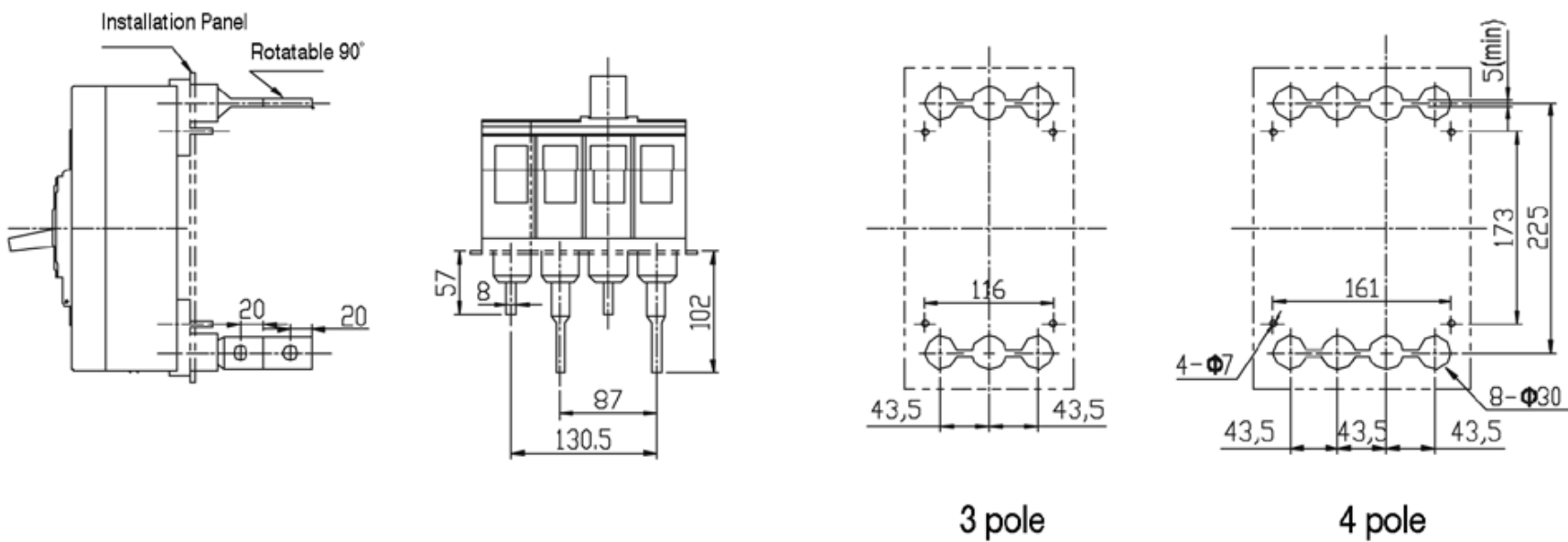


Dimensions

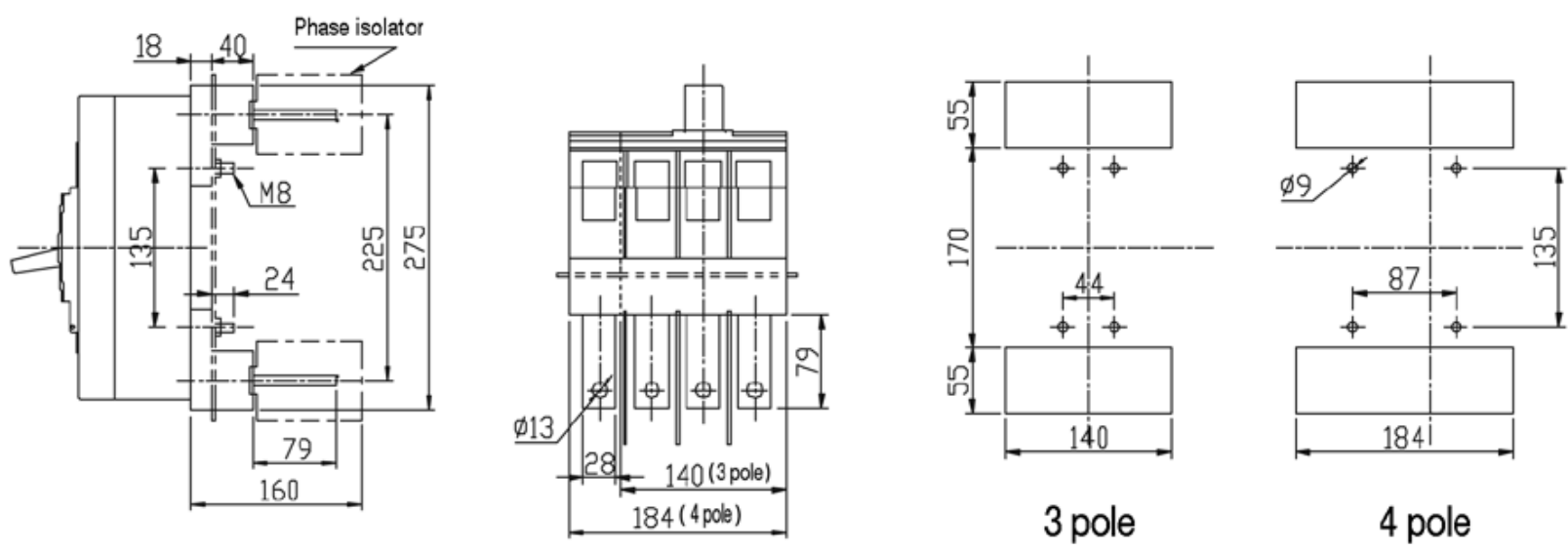
Front connection



Rear connection

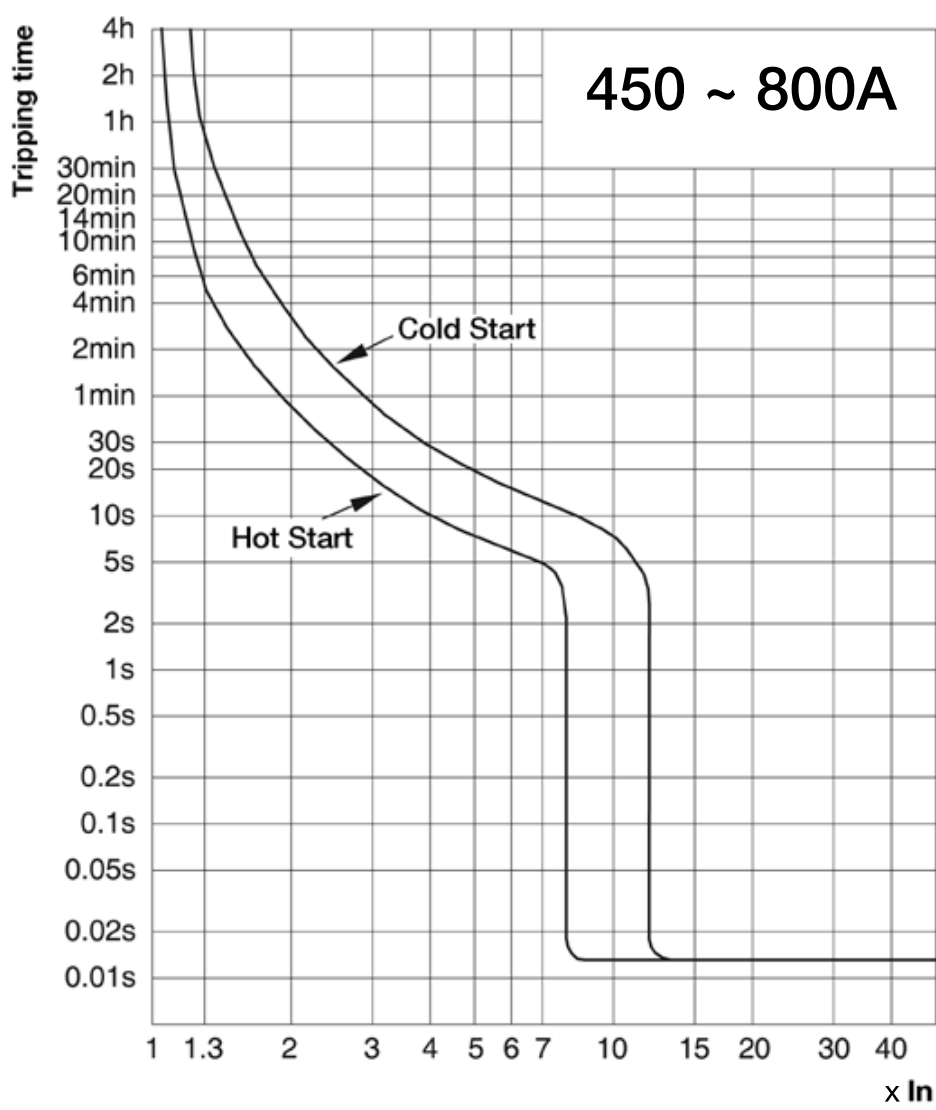


Plug-in connection

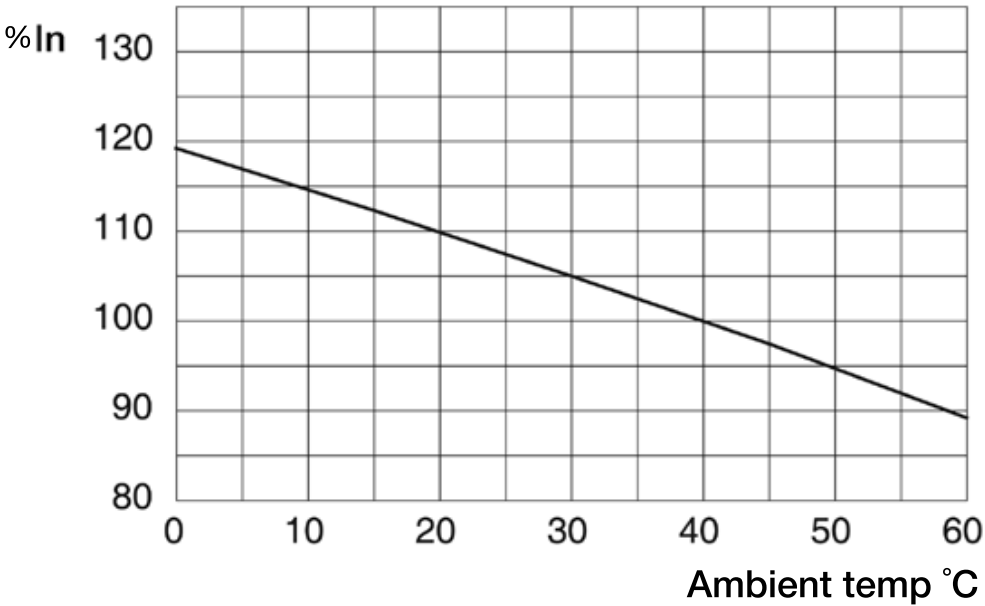


MCCB 800A

Tripping curve (front connection)

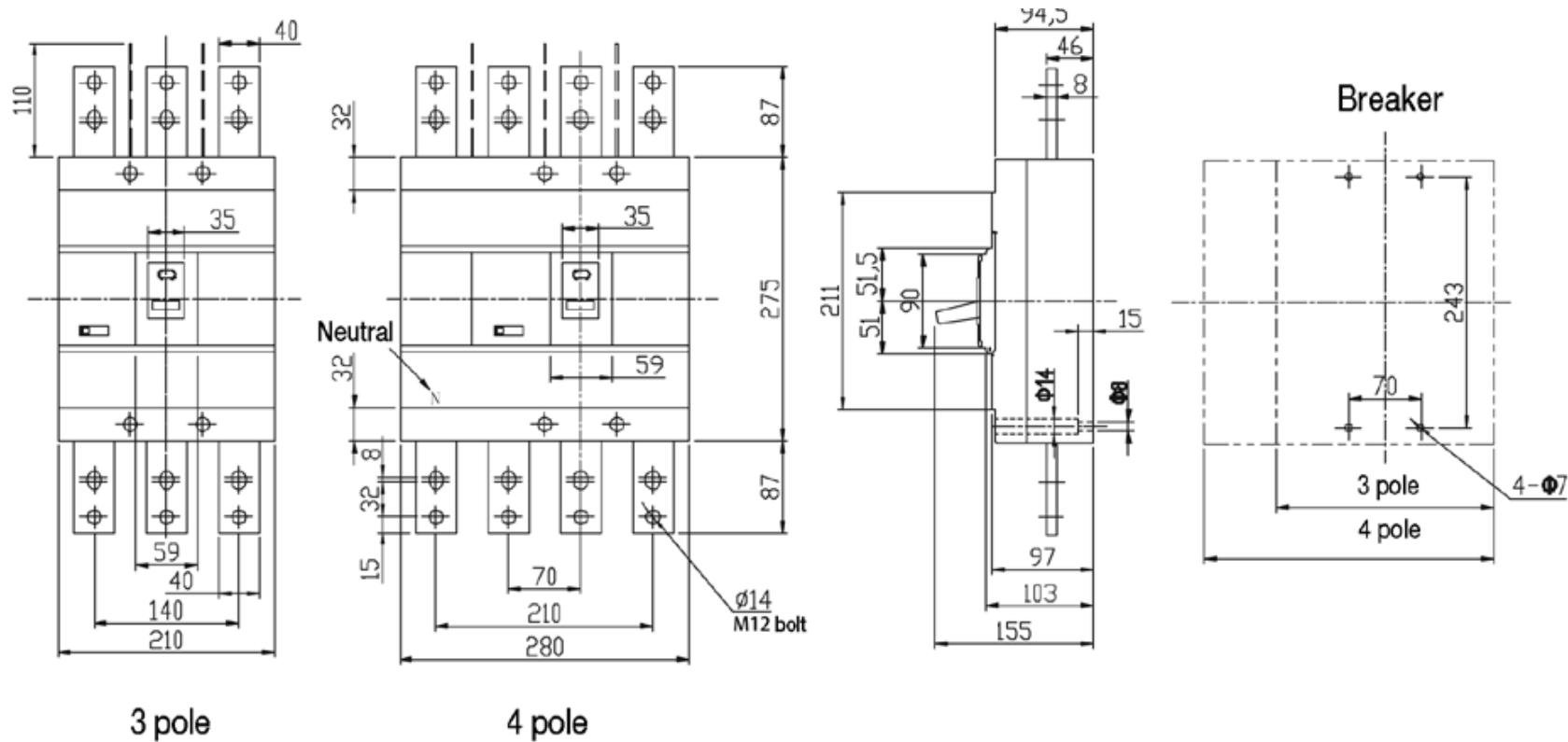


Temperature compensation curve (front connection)

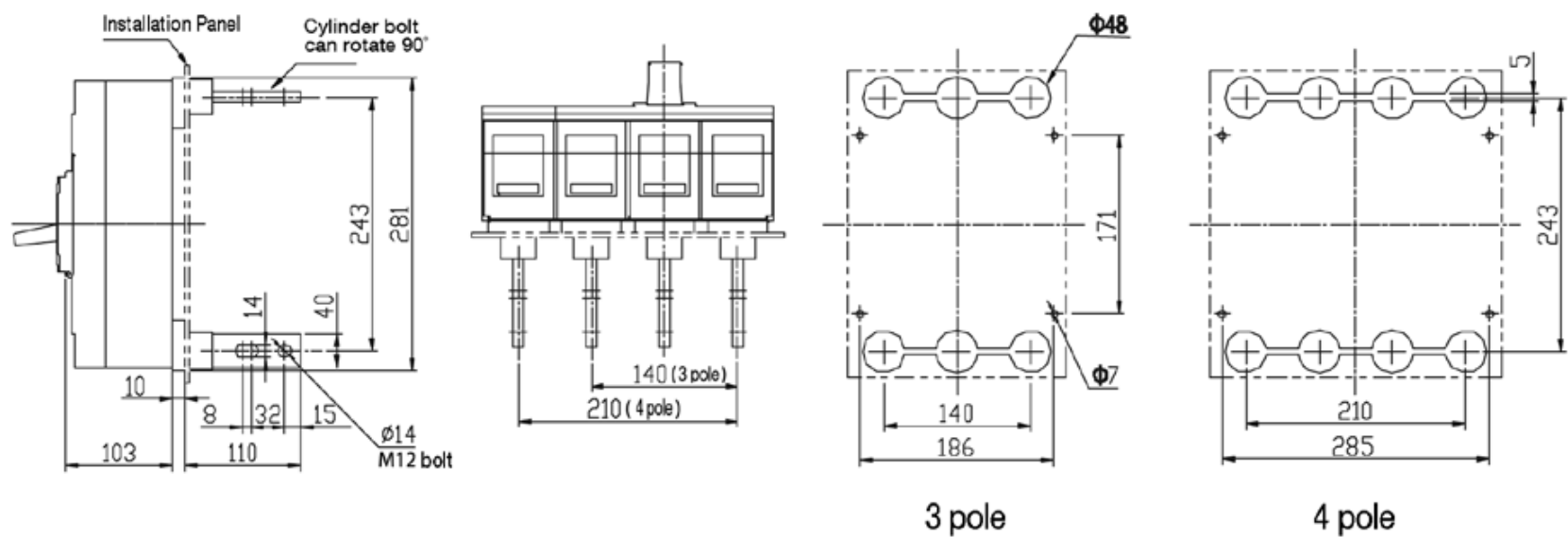


Dimensions

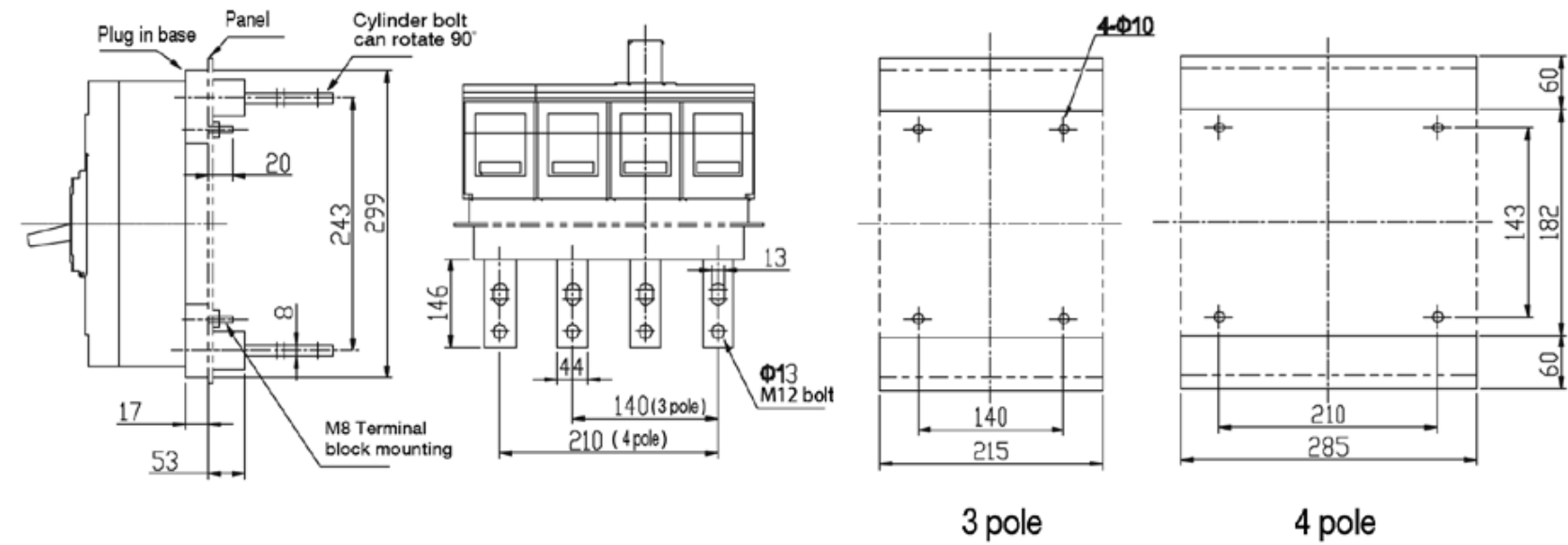
Front connection



Rear connections







Plug-in kits







- Undervoltage release:**
- Allows the tripping of MCCBs when voltage level drops between 35 and 70% of Un.
 - Pick up voltage 0.85 x Un

- Shunt release:**
- Remote tripping of MCCBs or trip-free switches.
 - Operating voltage: 0.7 to 1.1 x Un

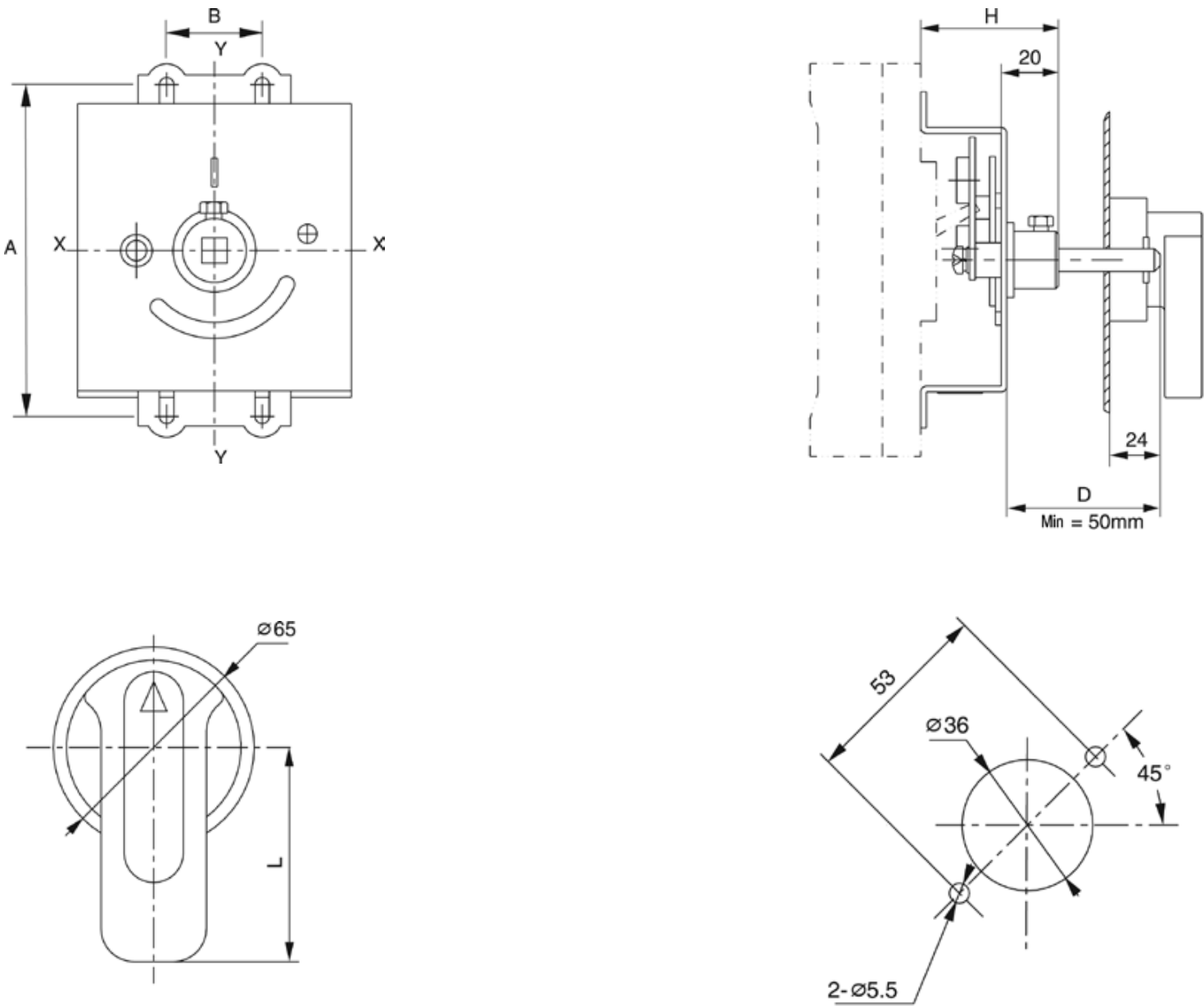
Alarm contact:
The device give the information of the tripping of the breaker

| Type | off / on | Trip |
|---------------|---|---|
| Alarm contact | <div>B14 —  B11</div> <div>B12 —  B11</div> | <div>B14 —  B11</div> <div>B12 —  B11</div> |

Aux contact:
Changeover switch indicates the position of the MCCB: "open" or "closed".

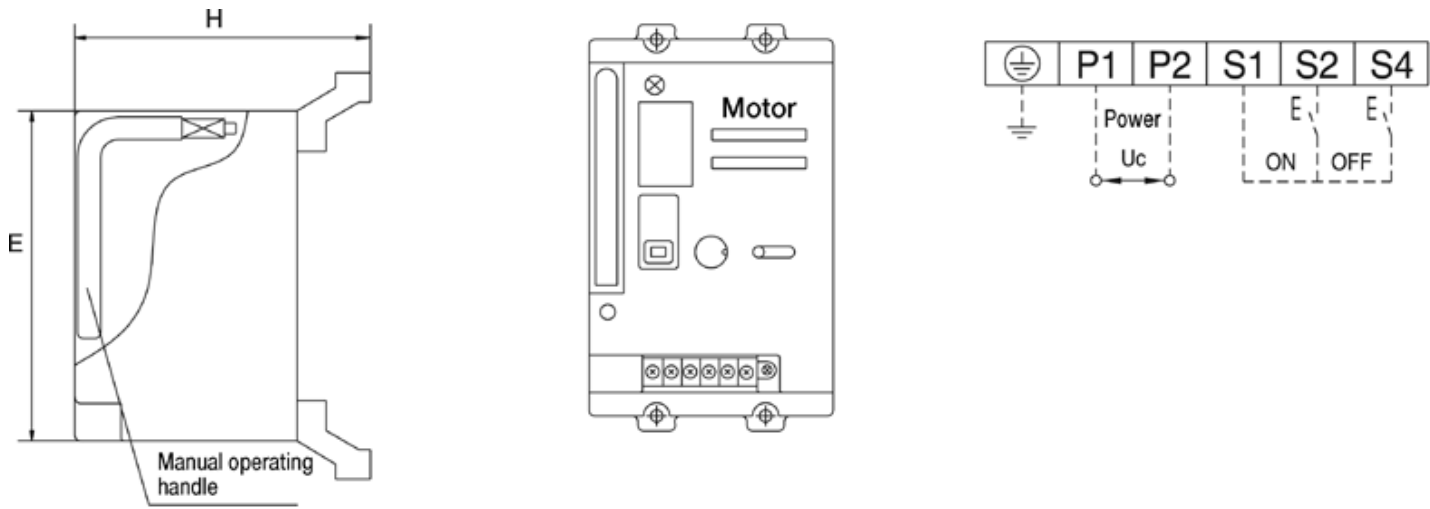
| Type | Open position | closed position |
|---------------|---|---|
| Alarm contact | <div>B14 —  B11</div> <div>B12 —  B11</div> | <div>B14 —  B11</div> <div>B12 —  B11</div> |

Rotary handle



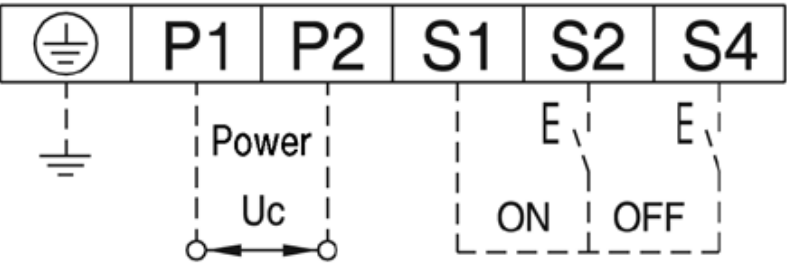
Shaft lenght 200mm

| MCCB | Rotary handle ref. | Installation dimensions | | | | |
|-------|-----------------------|-------------------------|-----|----|----|--|
| | | A | B | H | L | the distance D of rotary handle to MCCB center (mm) |
| h400e | HXD031P | 194 | 128 | 86 | 96 | +5 |
| h800e | HXE031P | 243 | 198 | 86 | 96 | +10 |



| MCCB | Ref. | Control voltage | Ie | Motor power | Dimension (mm) | |
|-------|---------|-----------------|-----|-------------|----------------|-----|
| | | | | | E | H |
| h400e | HXD042P | 220V AC | ≤2A | 35W | 176 | 151 |
| | HXD044P | 380V AC | | | | |
| h800e | HXE042P | 220V AC | | | 176 | 153 |
| | HXE044P | 380V AC | | | | |

Terminal contact



- Note:
1. P1, P2 connect to power source, S1, S2 connect to closing button S1, S4 connect to opening button.
 2. In case of manual operating, operate clockwise.
 3. In dielectric test, P1, P2 can be connected normally withstanding 50Hz, 1500V. while S1, S2, S4 must be disconnected.

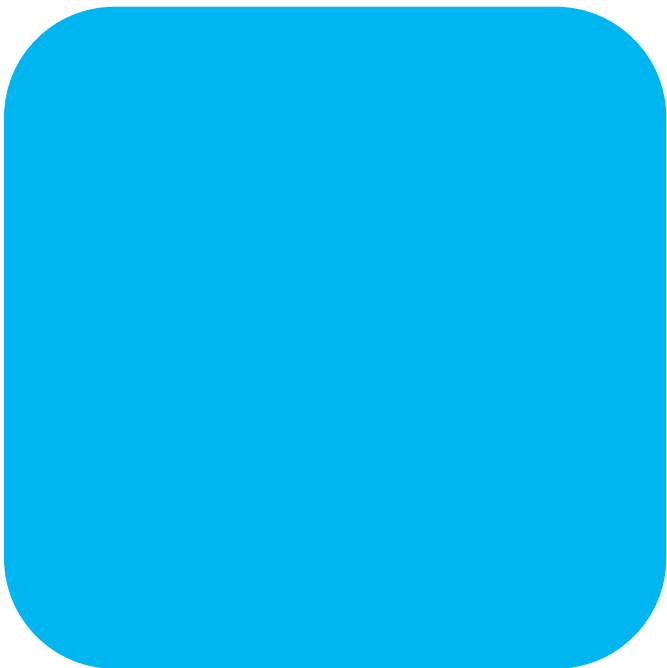
Hager Electro Systems Pte Ltd
21 Serangoon North Ave 5,
#06-03 Ban Teck Han Building
Singapore 554864
Phone: +(65) 6383 1030
Fax: +(65) 6383 0230
e-mail: sales@hager.sg
www.hager.sg

Hager Engineering (M) Sdn. Bhd
Level 5, Lot 8, Jalan Astaka 8/84
Seksyen U8, Bukit Jelutong, 40150
Shah Alam
Selangor Darul Ehsan, Malaysia
Phone: +(603) 7859 1935
Fax: +(603) 7859 1945
e-mail: general@hager.my
www.hager.my

Hager Electro Ltd
Unit 815, 8/F, Trade Square,
681 Cheung Sha Wan Road,
Kowloon, Hong Kong
Phone: +(852) 2688 0228
Fax: +(852) 2688 0336
e-mail: sales@hager.hk
www.hager.hk

Representative office in Ho Chi Minh City
3/F, CNC Building,
No. 8-10 Nguyen Ba Tuyen St,
Ward 12 Tan Binh District,
Ho Chi Minh City, Vietnam
Phone: +(848) 3811 3549/50/51
Fax: +(848) 3811 3552
e-mail: sales@hager.com.vn
www.hager.hk

Representative office in Hanoi City
3/F, Toserco Building
273 Kim Ma
Giang Vo Ward, Ba Dinh Dist,
Hanoi City, Vietnam
Phone: +(844) 3783 5542
Fax: +(844) 3783 5543
e-mail: sales@hager.com.vn
www.hager.hk



Zone distributeur