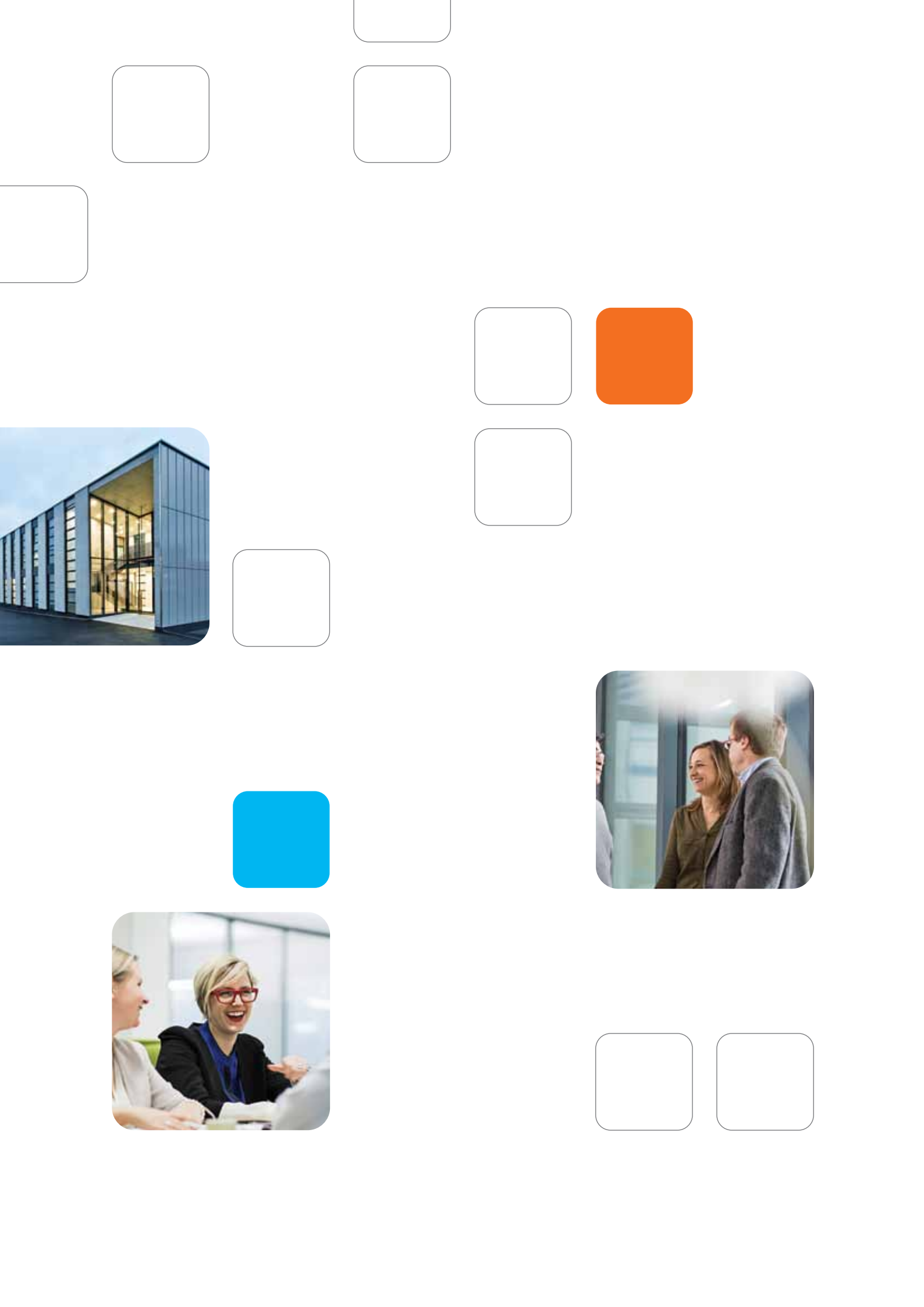




h3e

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.



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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



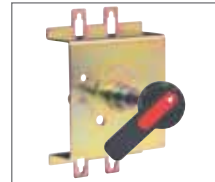
1



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 I_n (A)	300-320-350-400	450-500-600-630-800
Rated service voltage, (AC) U_e [Vac]	415	415
Frequency f [Hz]	50	50
Rated insulation voltage (AC) U_i [Vac]	690	690
Rated impulse withstand voltage(A) U_{imp} [KV]	8	8
Rated ultimate short-circuit breaking capacity I_{cu} (AC) 50 Hz 415Vac I_{cu} [kA]	50	50
Rated short-circuit breaking capacity I_{cs} (AC) 50 Hz 415Vac I_{cs} [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	I_{cu} : 50kA / I_{cs} : 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																														
1. Breaker Series Name h3e series MCCB		5. Name of series P = h3e range																																
2. Breaking capacity N = Icu 50 kA		4. Poles & Rated current :<table><tr><th></th><th>3P</th><th>4P</th></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																																
3. Frame size D = h400e E = h800e																																		

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



HND400P



HND400P

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

h400e MCCB's accessories



HXD042P

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

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 I_{cu} : 50kA



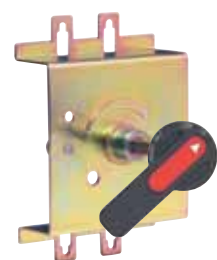
HNE630P



HNE631P

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

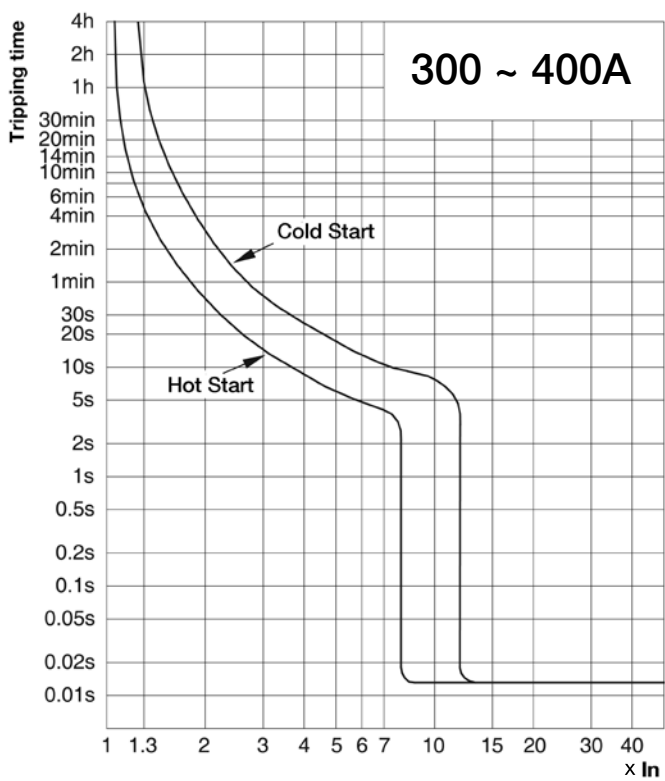
h800e MCCB's accessories



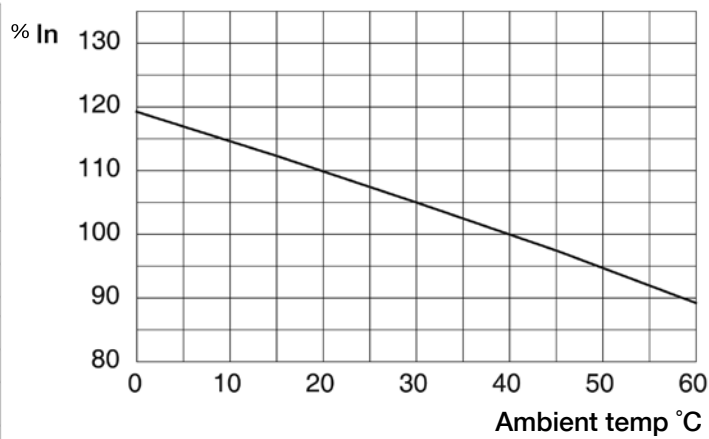
HXE004P

Description	In	Cat. Ref.
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 changeovers 1NO + 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)

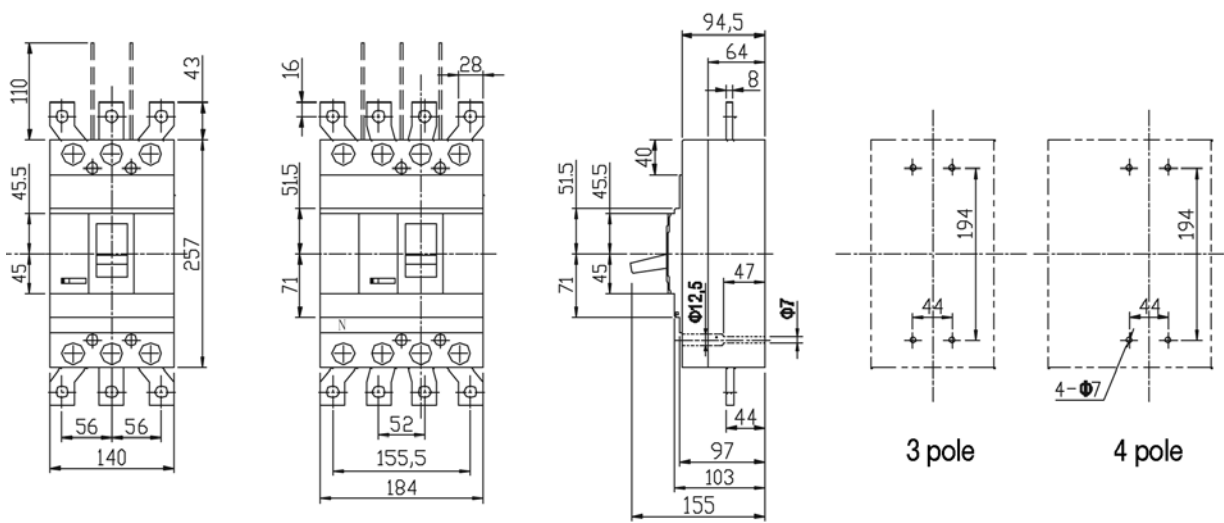


Temperature compensation curve (front connection)

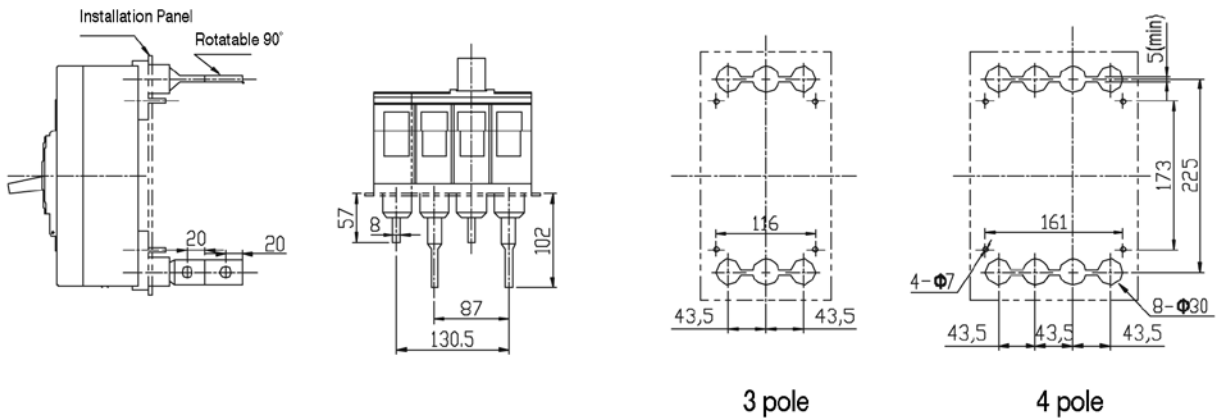


Dimensions

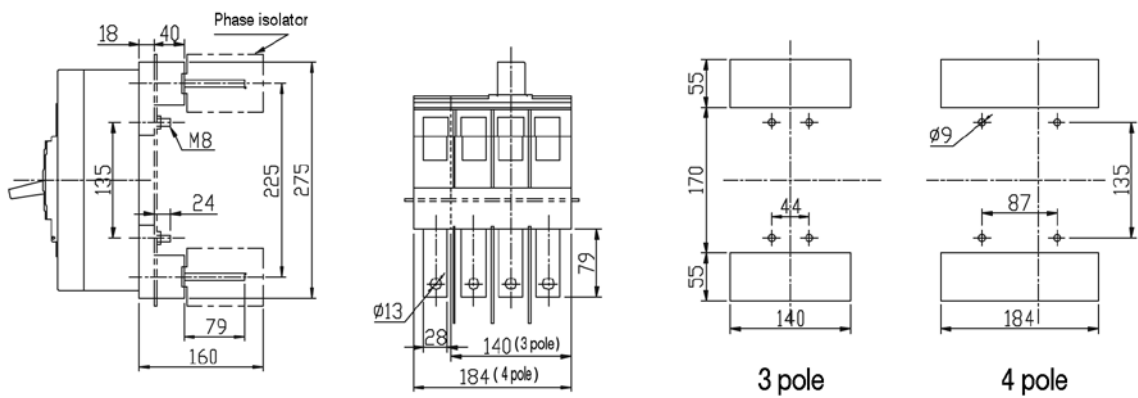
Front connection



Rear connection

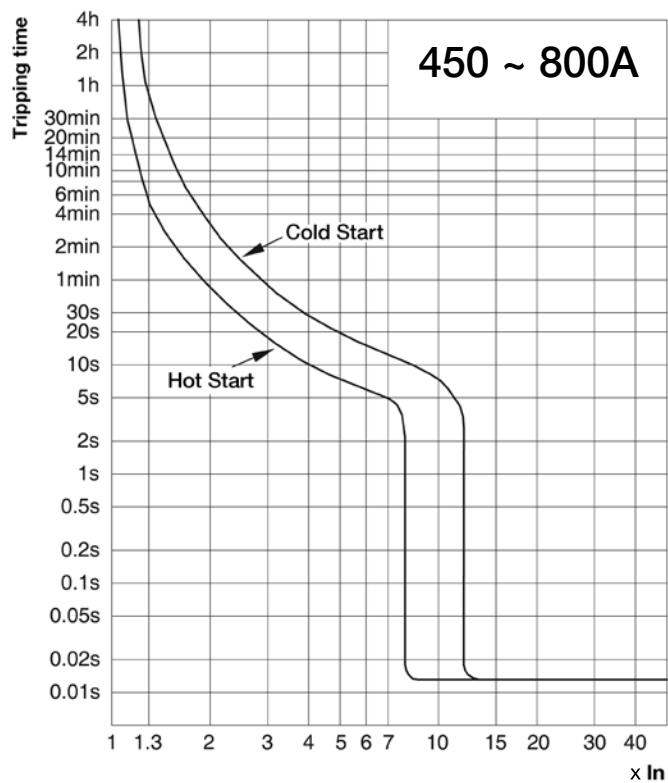


Plug-in connection

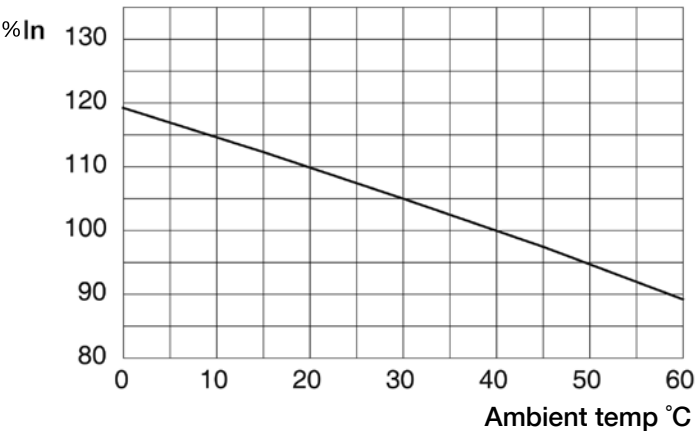


MCCB 800A

Tripping curve (front connection)

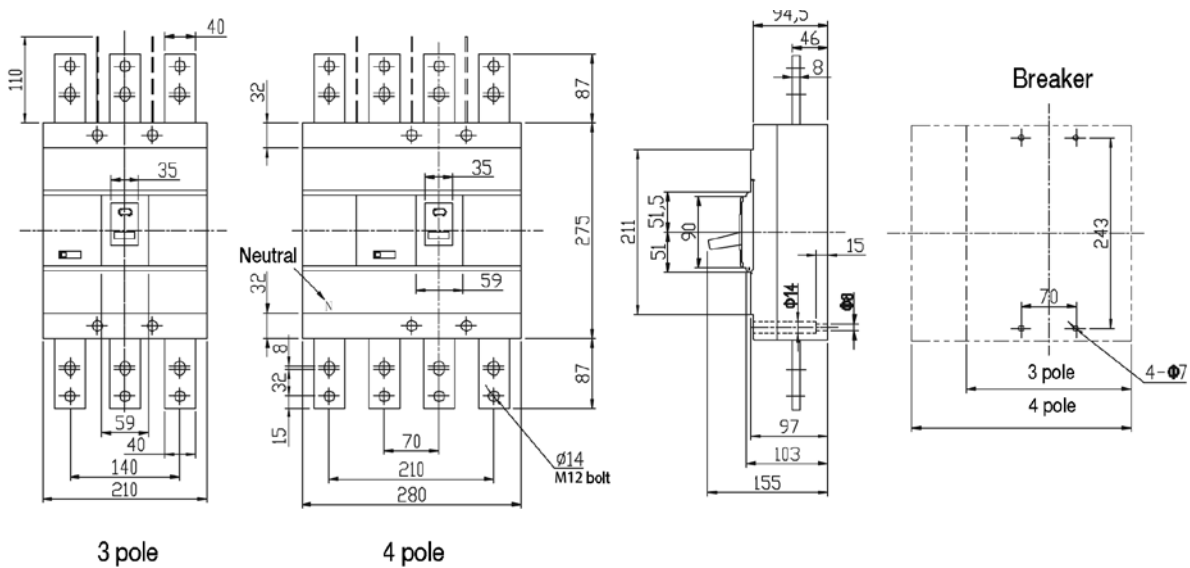


Temperature compensation curve (front connection)

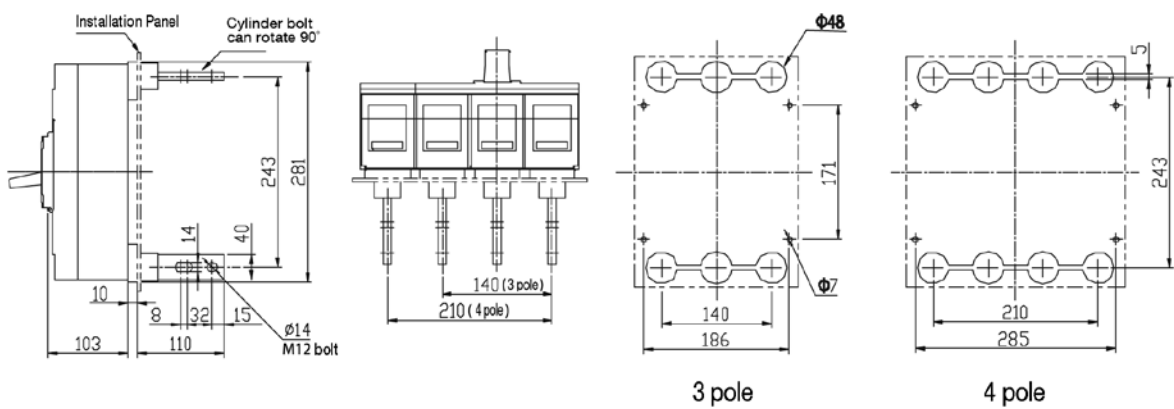


Dimensions

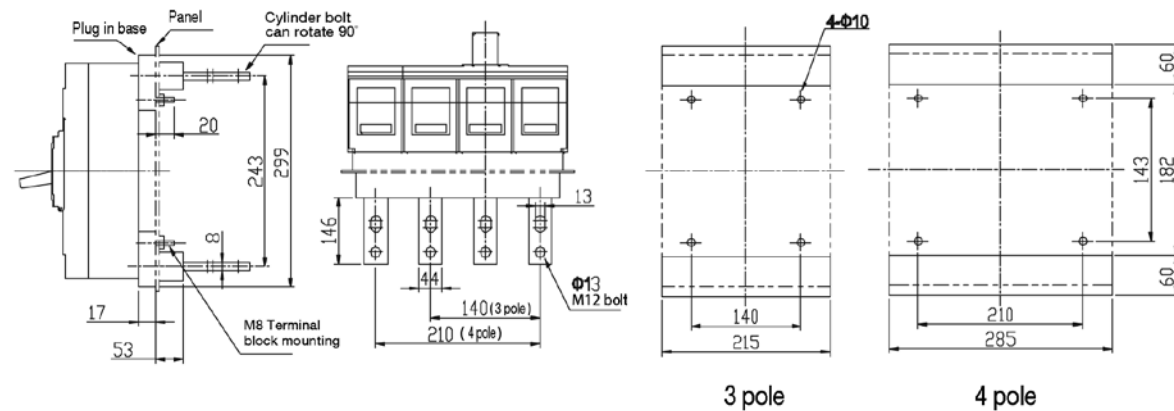
Front connection



Rear connections



Plug-in kits



Undervoltage release:

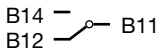
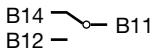
- Allows the tripping of MCCBs when voltage level drops between 35 and 70% of U_n .
- Pick up voltage $0.85 \times U_n$

Shunt release:

- Remote tripping of MCCBs or trip-free switches.
- Operating voltage: 0.7 to $1.1 \times U_n$

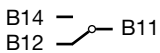
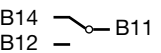
Alarm contact:

The device give the information of the tripping of the breaker

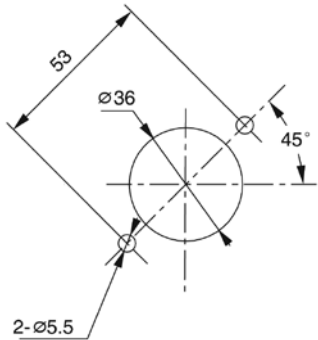
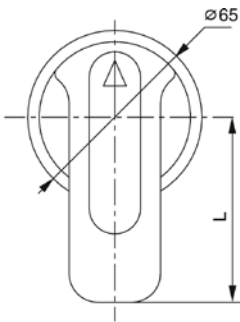
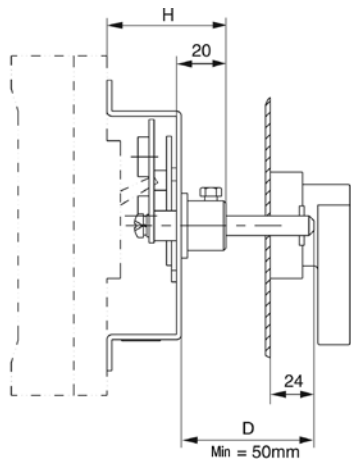
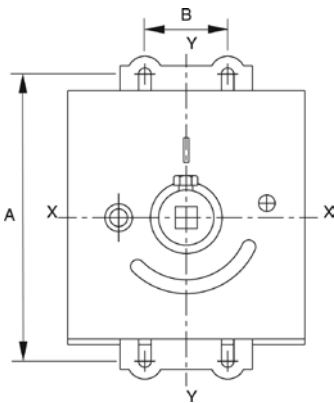
Type	off / on	Trip
Alarm contact		

Aux contact:

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

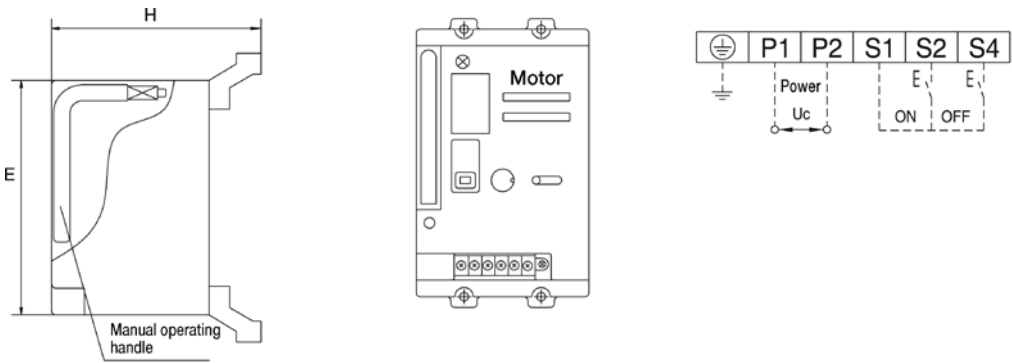
Type	Open position	closed position
Alarm contact		

Rotary handle



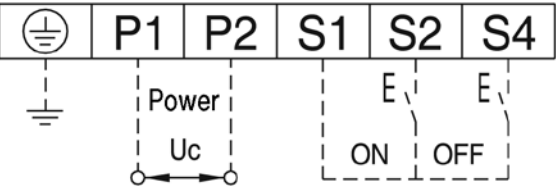
Shaft lenght 200mm

MCCB	Rotary handle ref.	Installation dimensions					the distance D of rotary handle to MCCB center (mm)
		A	B	H	L		
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.

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