Moulded Case Circuit Breakers h1000
- 3P & 4P
- Adjustable neutral 0 - 50% - 100%
- Mechanical test button, lockable settings.

Connection
- Direct on copper terminal, with end lug max. width: 50mm
- Comply with IEC60947-2.

Electronic trip unit LSI
- Long delay (thermal equivalent) adjustable:
  Ir= 0,4 to 1 x In
- Short delay (magnetic equivalent) adjustable:
  2,5 to 10 x Ir (630-800A)
  2.5 to 8 x Ir (1000A)
- Time delay: 0.1-0.2s

Technical information: Page 179

*Please check availability with your local Hager sales office at time of order


HNE970H

MCCBs h1000 50kA LSI

Description	In	Cat ref. 3P	Cat ref. 4P*
- Breaking capacity Icu: 50 kA (400/415V AC) Ics: 50 kA - Adjustable thermal Ir = 0,4 to 1 x In - Adjustable magnetic 2,5 to 10 x Ir (800A) 2,5 to 8 x Ir (1000A) - Time delay: 0.1-0.2s - Neutral setting from 0-50 to 100%	800A	**HNE800H**	**HNE801H**
	1000A	**HNE970H**	**HNE971H**


HEE801H

MCCBs h1000 70kA LSI

Description	In	Cat ref. 3P	Cat ref. 4P*
- Breaking capacity Icu: 70 kA (400/415V AC) Ics: 50 kA - Adjustable thermal Ir = 0,4 to 1 x In - Adjustable magnetic 2,5 to 10 x Ir (800A) 2,5 to 8 x Ir (1000A) - Time delay: 0,1-0,2s - Neutral setting from 0-50 to 100%	800A	**HEE800H**	**HEE801H**
	1000A	**HEE970H**	**HEE971H**

Indication Contacts
- 1 changeover switch (ON/OFF): indicates the position of the MCCB is “open” or “closed”.
- 1 changeover alarm contact: indicates MCCB tripping.

Coil Connection
- Connection capacity: 0.75mm² flexible or rigid cables
- Optional connection cables. The cable capacity of the terminals is 0.5 to 1.25mm².

Shunt Trip
- Remote tripping of MCCBs. Operating voltage: 0.7 to 1.1 x Un.

Under Voltage Release
- Allows the tripping of MCCBs when voltage level drops between 35 and 70% of Un.
- Pick up voltage 0.85 x Un.

Direct Rotary Handle
- Padlockable
- Equipped with front cover and handle
- Fixing without any additional screw.

Extended Rotary Handle
- IP55
- Supplied complete with shaft and handle.

Technical information: Page 180

Accessories

Description	Characteristics	Cat ref.
Auxiliary contacts AX AL	1 changeover contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	**HXC021H**
	1 changeover alarm contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	**HXC024H**
Shunt trips SH	24V DC	**HXC001H**
	48V DC	**HXC002H**
	100 - 120V AC	**HXC003H**
	200 - 240V AC	**HXC004H**
	380 - 450V AC	**HXC005H**
Undervoltage releases UV	24V DC	**HXE011H**
	100 - 120V AC	**HXE013H**
	200 - 240V AC	**HXE014H**
	380 - 450V AC	**HXE015H**
Direct rotary handle Padlockable		**HXE030H**
Extended rotary handles Padlockable	Max Ø 8mm 320mm	**HXE031H**
Padlocking device To mount on MCCB for handle locking 3 padlocks	Max Ø 8 mm	**HXD039H**
Motor operators	24 - 48V DC	**HXE040H**
	100 - 240V AC	**HXE042H**
Interlocking Wire type		**HXE065H**


HXC021H


HXC024H


HXC004H



HXE014H


HXD039H

Accessories

Description		In	Cat ref. 3P	Cat ref. 4P*
Terminal covers - 2 pcs	For extended connections		**HYE021H**	**HYE022H**
	For rear connections		**HYE025H**	**HYE026H**
Rear connections	Set of 3 or 4	800A	**HYE031H**	**HYE032H**
		1000A	**HYE033H**	**HYE034H**


HYE031H

Direct rotary handle
- padlockable
- equipped with front cover and handle
- fixing without any additional screw.

Extended rotary handle
- IP 55
- supplied complete with shaft and handle.

Designation	Characteristics	In	Cat. ref. 3P	Cat. ref. 4P
Electrical interlock	for motor type A (between 2 630/1000A)		**HXD068H**	**HXD068H**
	for motor type B (between 1000A and 250A)		**HXB069H**	**HXB069H**
Collar terminals	Terminals for aluminium / copper conductors 4 x 35 - 240 mm²	630-800A	**HYE007H**	**HYE008H**
Connecting kits	0,75 mm² set of 3 x 2 wires length: 1,30m		**HYA035H**	**HYA035H**
Interphase barrier	set of 4 pieces		**HYD019H**	**HYD019H**
Terminal covers	for extended connections		**HYE021H**	**HYE022H**
	for rear connections		**HYE025H**	**HYE026H**
Rear connections		630-800A	**HYE031H**	**HYE032H**
		1000A	**HYE033H**	**HYE034H**



HYE031H

Designation	Characteristics	Cat. ref.
Direct rotary handles	padlockable handle	**HXE030H**
Extended rotary handles	padlockable handle	**HXE031H**
Padlocks	to mount on MCCB for handle locking for 3 padlocks max Ø 8 mm	**HXD039H**
Motor operators	24 - 48V DC	**HXE040H**
	100 - 240V AC	**HXE042H**
Interlocking kit	wire type set of 2 pieces and cable	**HXE065H**
Interlocking unit	wire type	**HXE066H**
Interlocking mechanical cable	1 m	**HXB070H**
	1,5 m	**HXB071H**

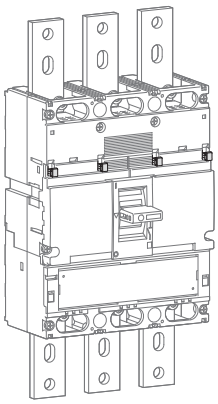


HXE030H

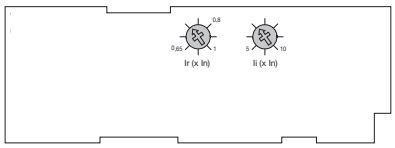


HXD039H

MCCBs

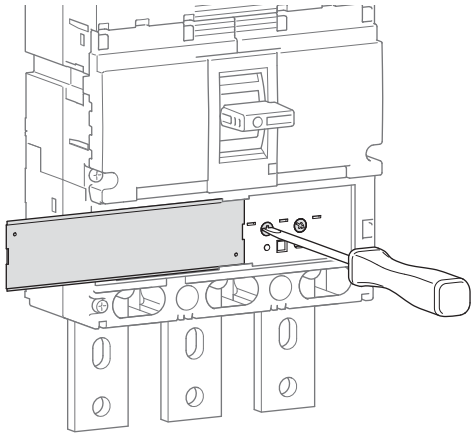


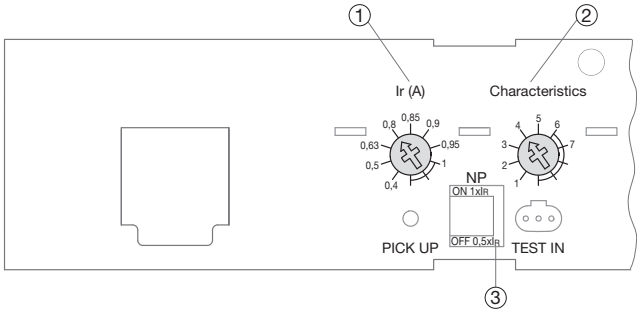
Magnetic and thermal settings



		220/240 V AC		380/415 V AC	660/690 V AC
		630 / 800A	1000A	630 / 800 / 1000A	630 / 800 / 1000A
LSI **HNE**	Icu (kA)	85	75	50	20
	Ics (kA)	85	75	50	20
LSI **HEE**	Icu (kA)	100	100	70	20
	Ics (kA)	100	75	50	20
TM **HNK**	Icu (kA)	85	-	50	20
	Ics (kA)	85	-	50	20
TM **HEK**	Icu (kA)	100	-	70	20
	Ics (kA)	75	-	50	20
HCE	Icm (kA)	-	-	17	-
	Icw (kA)	-	-	10kA - 0,3s	-

Electronic trip unit settings (LSI)

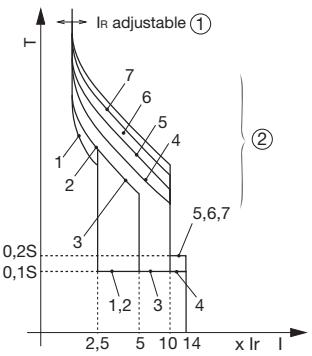




L - Long delay - protection against overloads: Ir and tr settings

S - Short delay - protection against short circuits: Isd and tsd settings

I - Instantaneous - max. instantaneous threshold (< 10 ms) in case of short circuit: 2,5 to 10 x Ir (630-800A) and 2,5 to 8 x Ir (1000A).

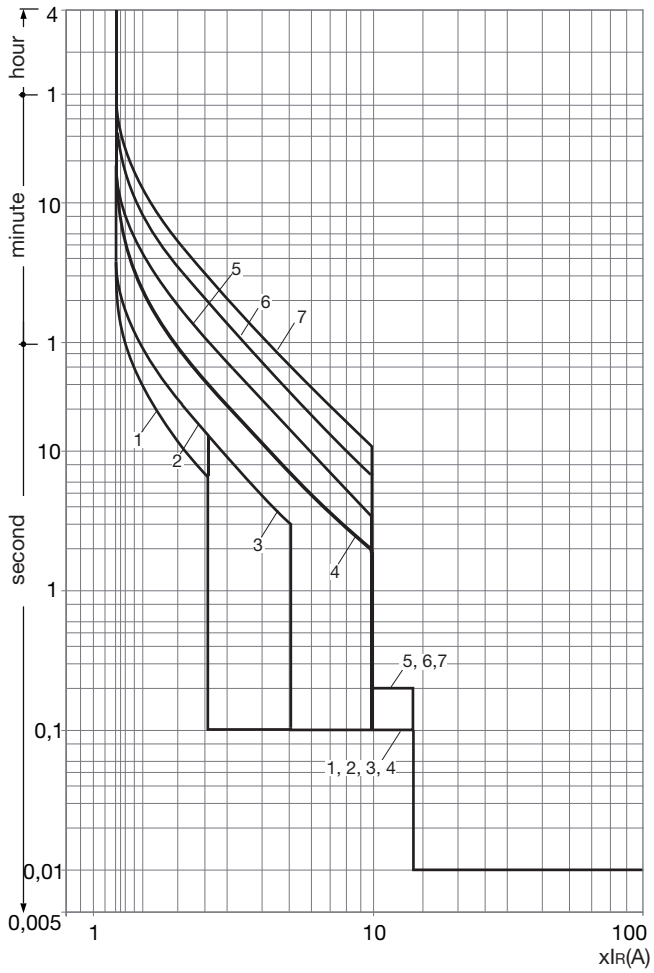


LSI		In A									
		630-800 A					1000 A				
		Long Time Delay		Short Time Delay		Inst	Long Time Delay		Short Time Delay		Inst
		Ir (x In)	tr (s)	isd (xIr)	tsd (s)	Ii (xIr)	Ir (x In)	tr (s)	isd (xIr)	tsd (s)	Ii (xIr)
① Ir (x In)	**0,4**	OK					OK				
	0,5	OK					OK				
	0,63	OK					OK				
	0,8	OK					OK				
	0,9	OK					OK				
	0,95	OK					OK				
	1	OK					OK				
② Characteristics*	**1**		11s at 2 xIr	2,5	0,1	14 (max 12 x In)		11s at 2 xIr	2,5	0,1	14 (max 10 x In)
	2		21s at 2 xIr					21s at 2 xIr			
	3			5					5		
	4		5 s at 6 xIr	10				5 s at 6 xIr	8		
	5		10 s at 6 xIr		0,2			10 s at 6 xIr		0,2	
	6		19 s at 6 xIr					16 s at 6 xIr			
	7		29 s at 6 xIr					–		–	–
③ Neutral protection	0% 50% 100%										

(*) Characteristic 1 : use for generators protection.
Characteristic 2 to 4 - standard protection : options allow coordination optimisation with other products.
Characteristic 5 to 7 - motor protection: use positions according to motor starting characteristics.

Tripping curve

MCCB h1000 LSI (630-800A)



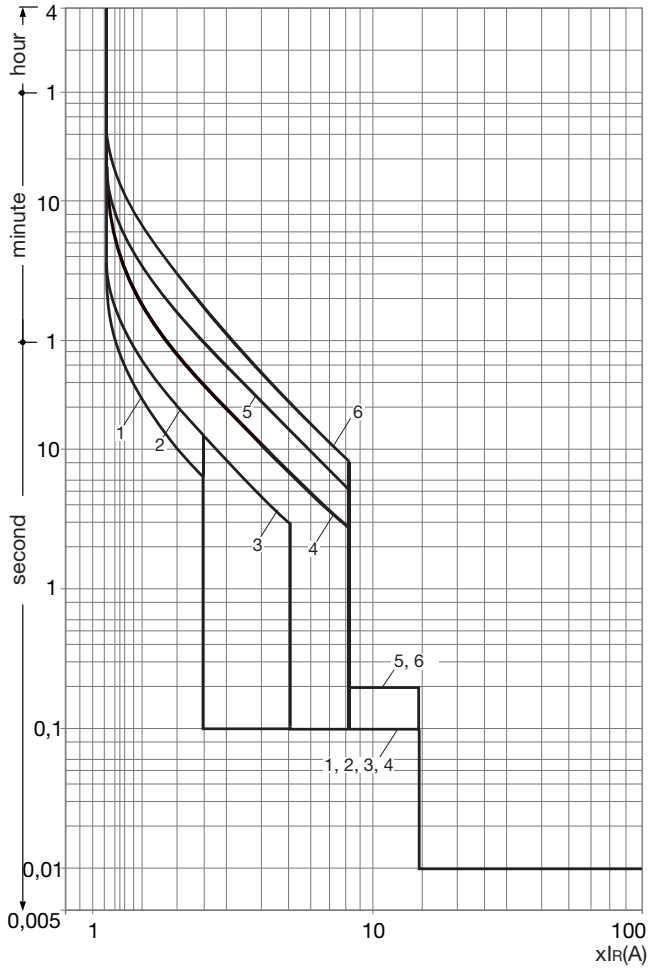
Electronic trip unit setting (LSI)

MCCBs 630-800A electronic

I_R (A)										
LTD Pick-up current		**I_R**	x In	0,4	0,5	0,63	0,8	0,9	0,95	1
Characteristics			No.	1	2	3	4	5	6	7
Standard	**LTD**	**t_R**	(s)	11	21	21	5	10	19	29
				200% x I_R			600% x I_R			
	STD	**Isd**	x I_R	2,5		5	10			
		tsd	(s)	0,1				0,2		
	INST	**Ii**	x I_R	14 (max : 12 x In)						
Optional	**NP**	**I_N**	x In	0 - 0,5 - 1						
		t_N	(s)	I_N=t_R						

Tripping curve

MCCB h1000 LSI (1000A)



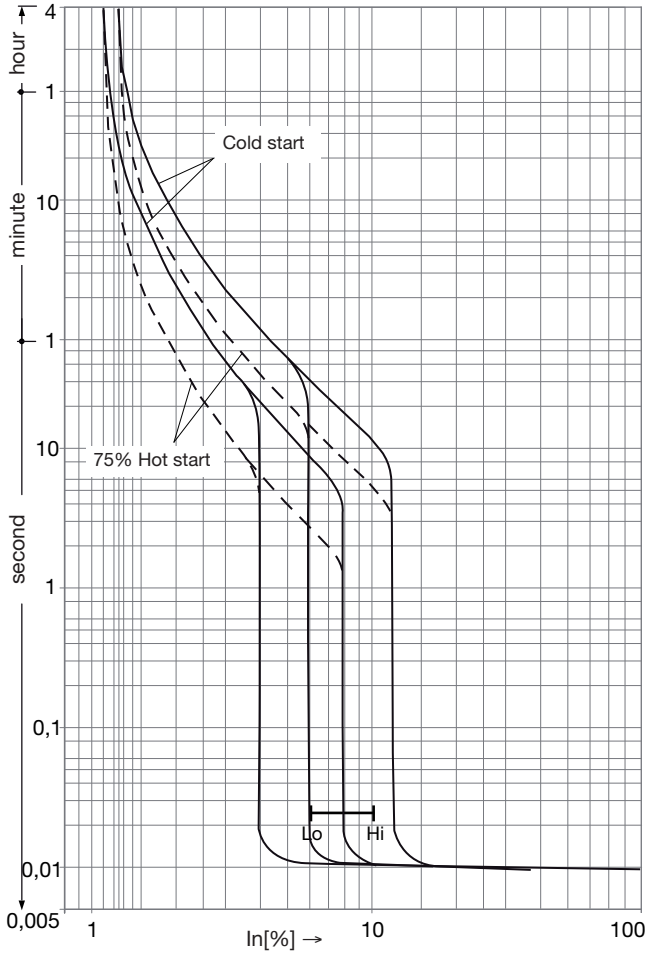
Electronic trip unit setting (LSI)

MCCBs 1000A electronic

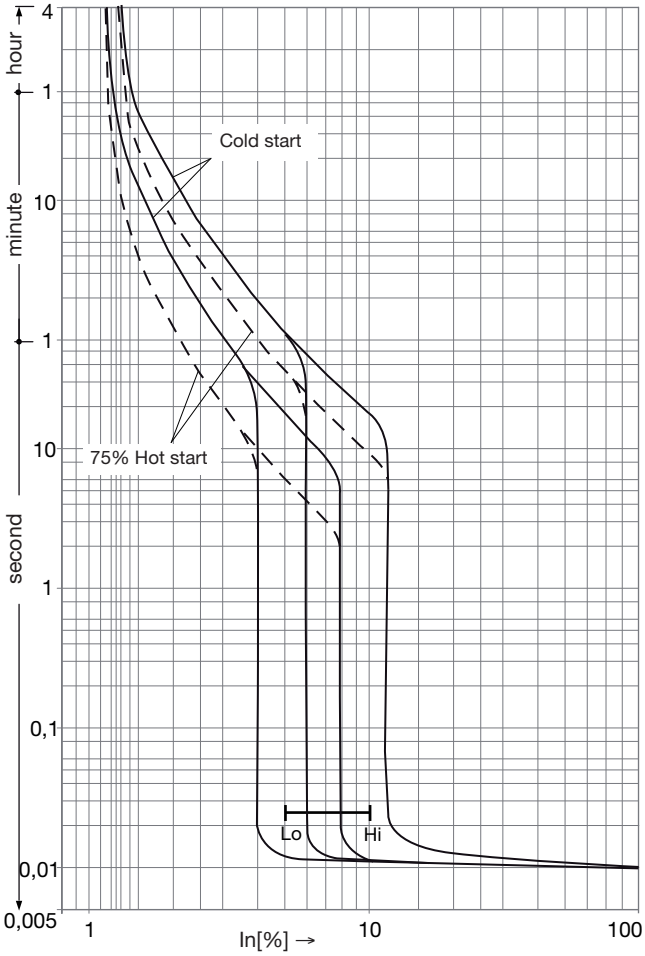
I_R (A)												
LTD Pick-up current		**I_R**	x In	0,4	0,5	0,63	0,8	0,9	0,95	1		
Characteristics			No.	1	2	3	4	5	6			
Standard	**LTD**	**t_R**	(s)	11	21	21	5	10	16			
				200% x I_R			600% x I_R					
	STD	**Isd**	x I_R	2,5		5	8					
		tsd	(s)	0,1				0,2				
	INST	**Ii**	x I_R	14 (max : 10 x In)								
Optional	**NP**	**I_N**	x In	0 - 0,5 - 1								
		t_N	(s)	I_N=t_R								

Tripping curve

MCCB h800 TM (630A)

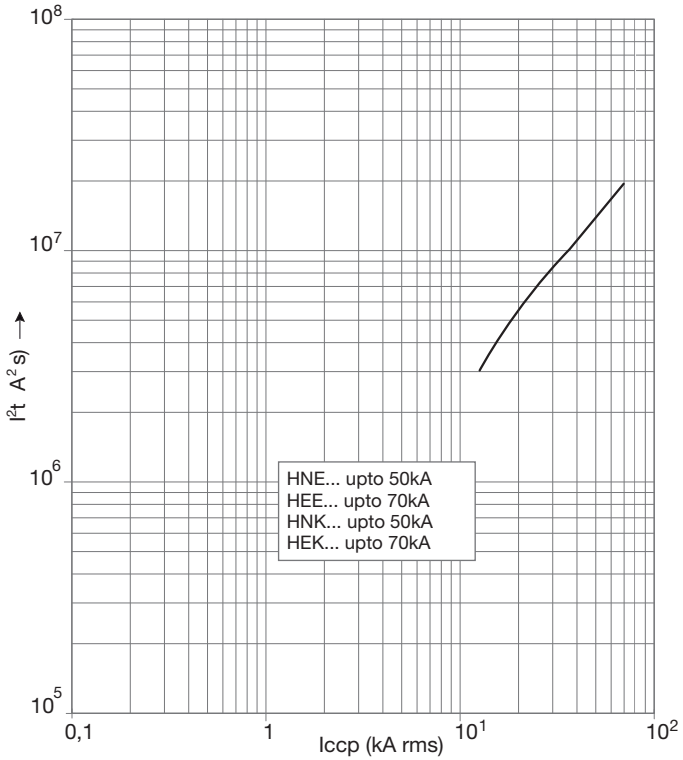


MCCB h800 TM (800A)



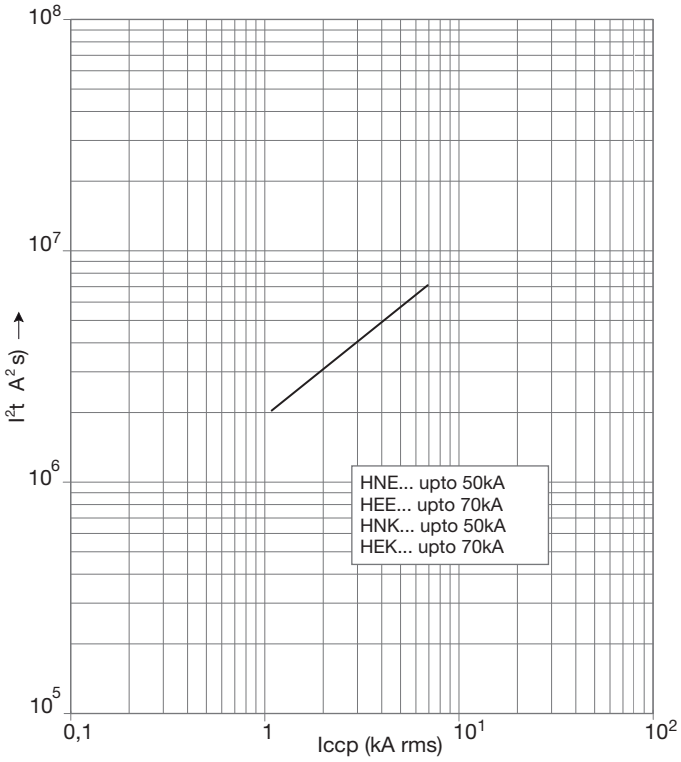
Thermal constraint curve at 400V (Let-through energy)

MCCB h1000



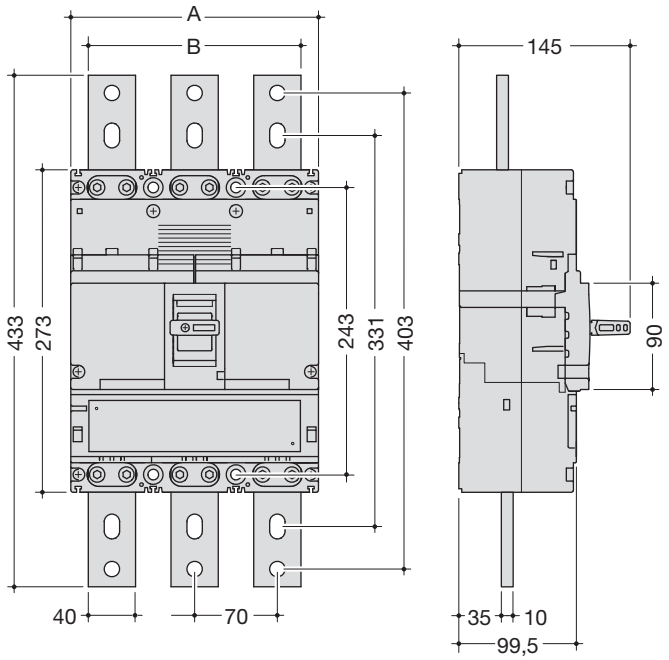
Current limiting curve at 400V (Let-through peak current)

MCCB h1000



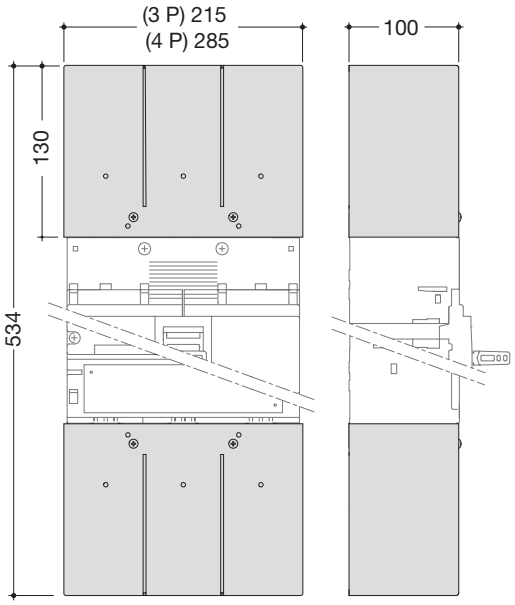
Dimensions

MCCBs

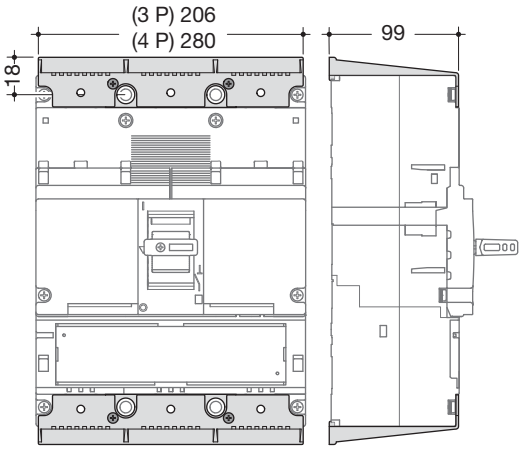


	A (mm)	**B** (mm)
3P	210	180
4P	280	250

Terminal covers for extended straight connections

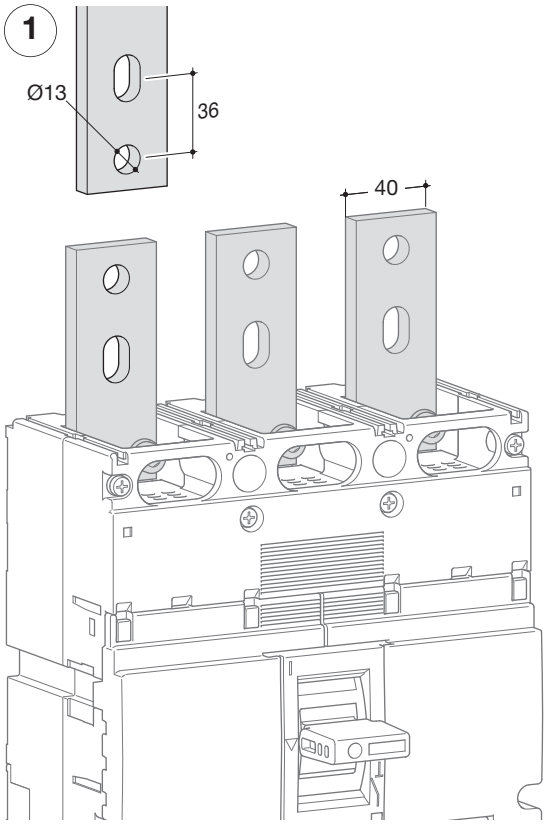


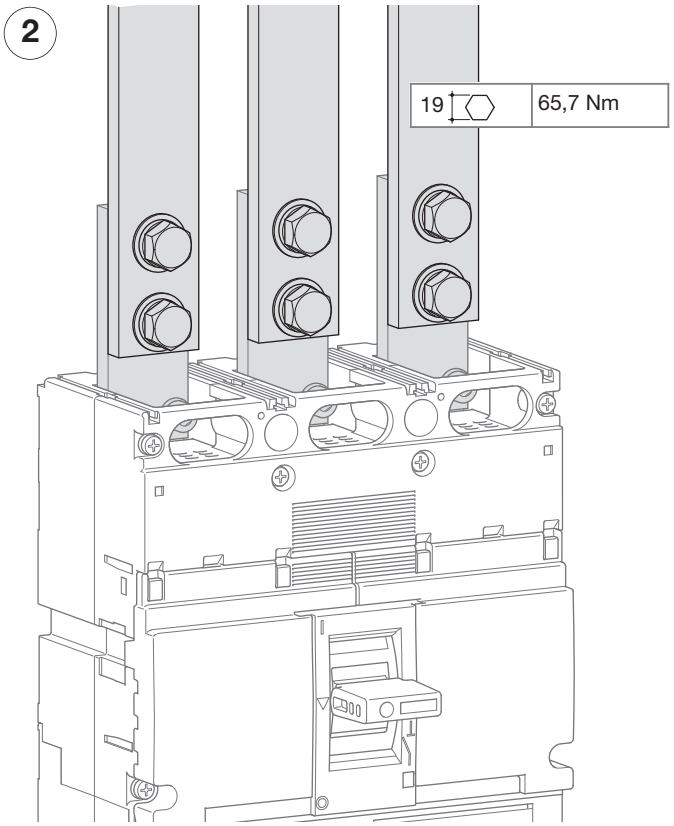
Terminal covers for rear connections



Connection

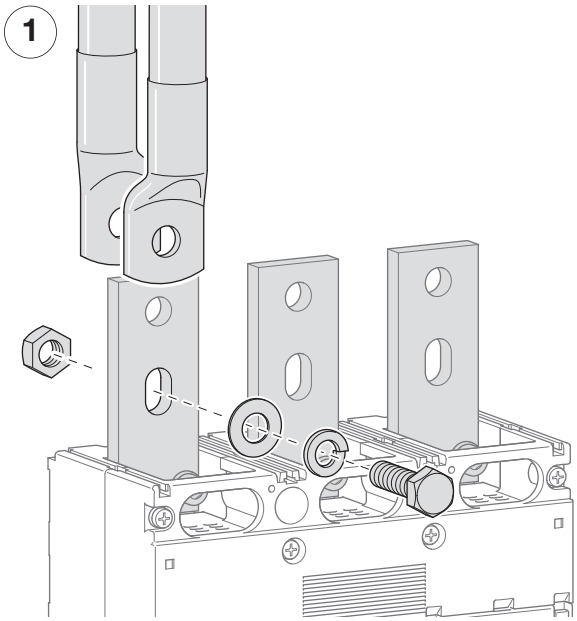
Extended straight connections

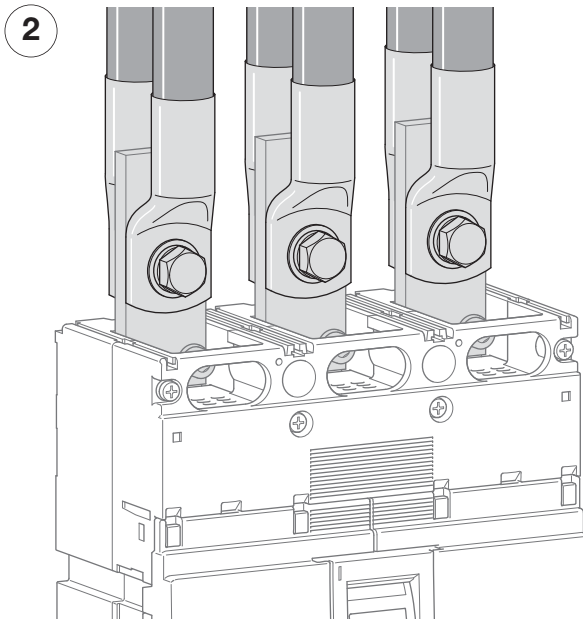




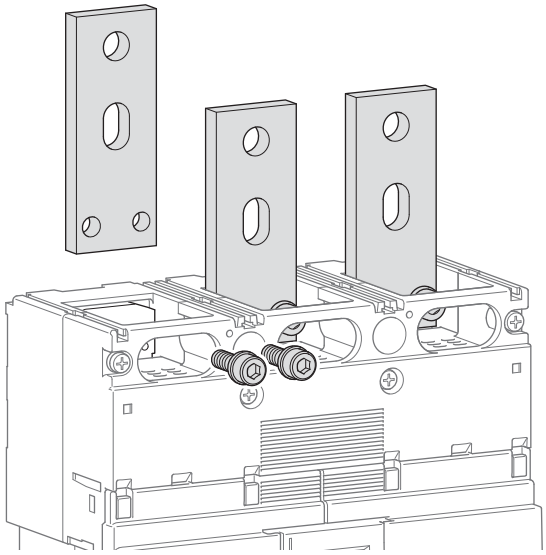
Direct cable connection on terminal
Copper with conductor max. width: 50 mm

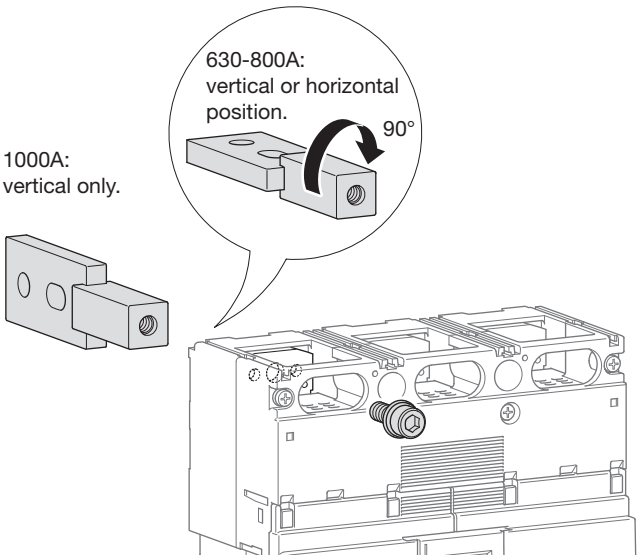
Connection with end lugs

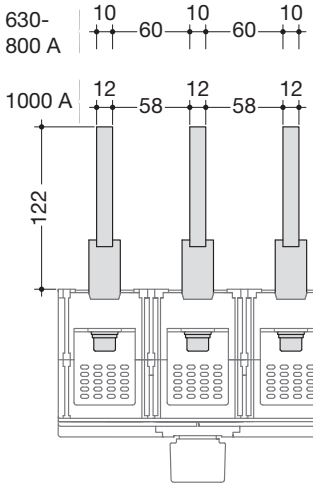


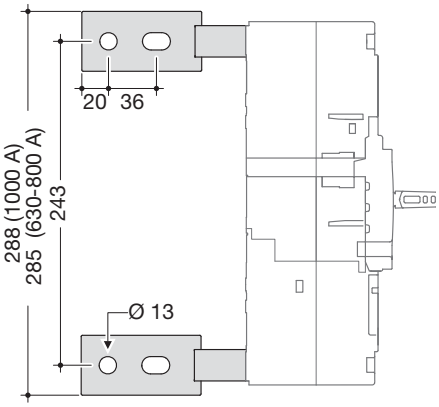


Rear connections

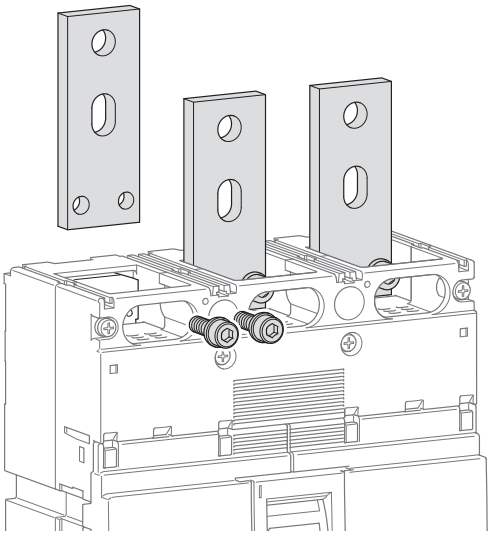




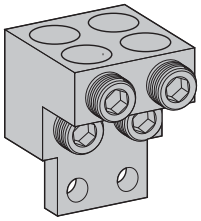


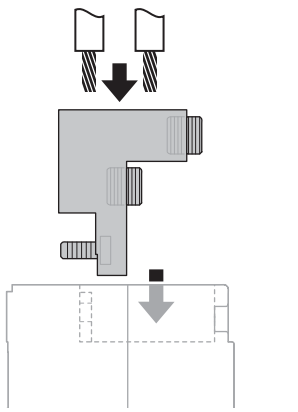


Connection for aluminium / copper conductors (h1000)



HYE007 (3P) - HYE008H (4P)

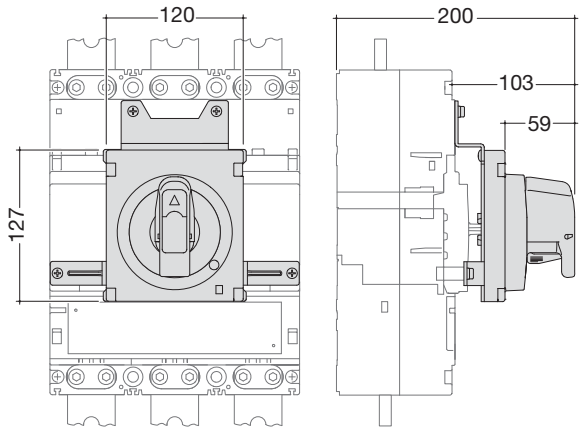




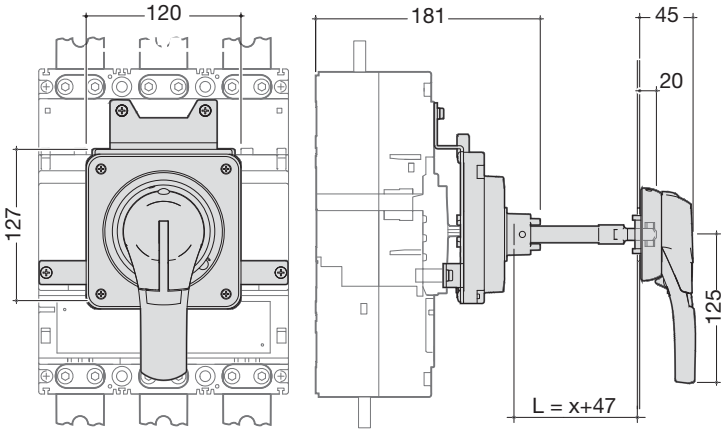
	max. 4x240 mm²
10	25 Nm

Accessories

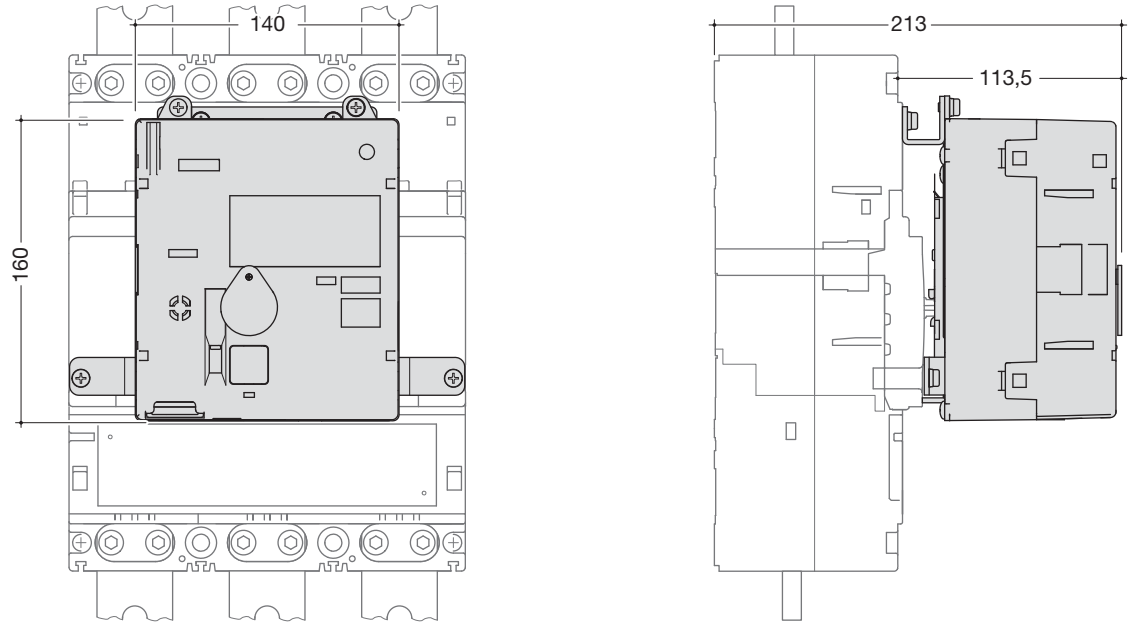
Direct rotary handle



Extended rotary handle

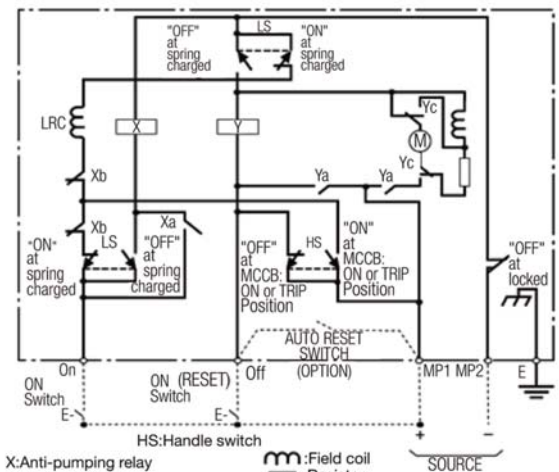


Motor operator



		HXE040H	HXE042H
Operating voltage		24-48V DC	100-240V AC
Operating current/starting current peak value (A)	24V DC	-/12 (ON) 6/11,5 (OFF, RESET)	-
	48V DC	-/7 (ON) 3,2/6,5 (OFF, RESET)	-
	100-110V AC	-	-/2,2 (ON) 1,7/3,5 (OFF, RESET)
	200-240V AC	-	-/2,2 (ON) 1,3/3,5 (OFF, RESET)
Operating time (s)	(ON)	0,1s	
	(OFF)	1,5 s	
	(RESET)	1,5 s	
Power supply required		300VA min.	
Dielectric properties (1 min)		1000V AC	1500V AC

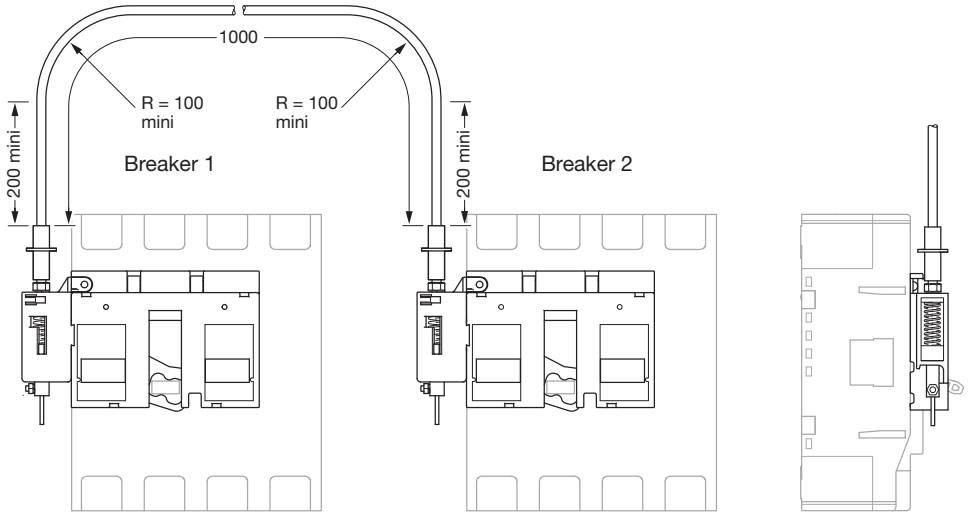
Wiring diagram



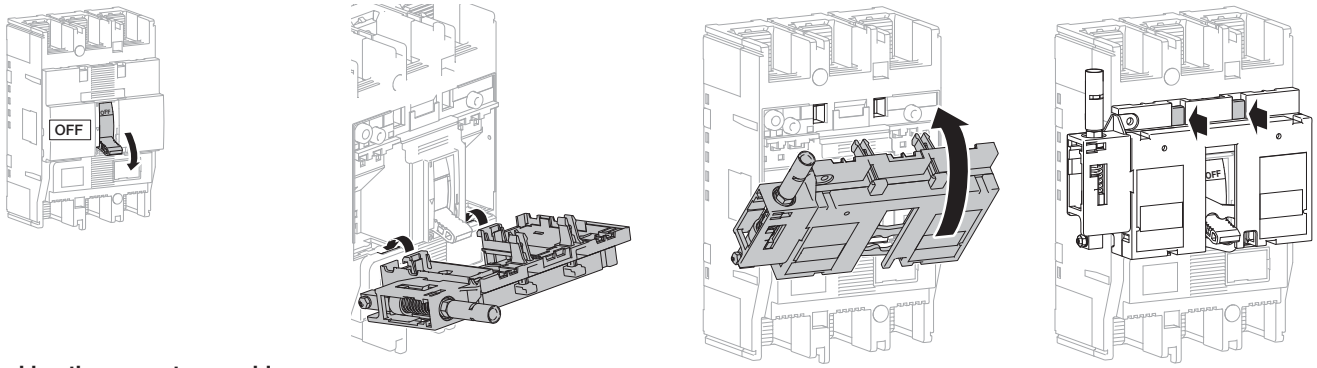
Interlocking system

Suitable with motor operator HXE04xH.
With electrical interlock for motor operator HXD068H (for 630/1000A) or HXB069H (for 250A).

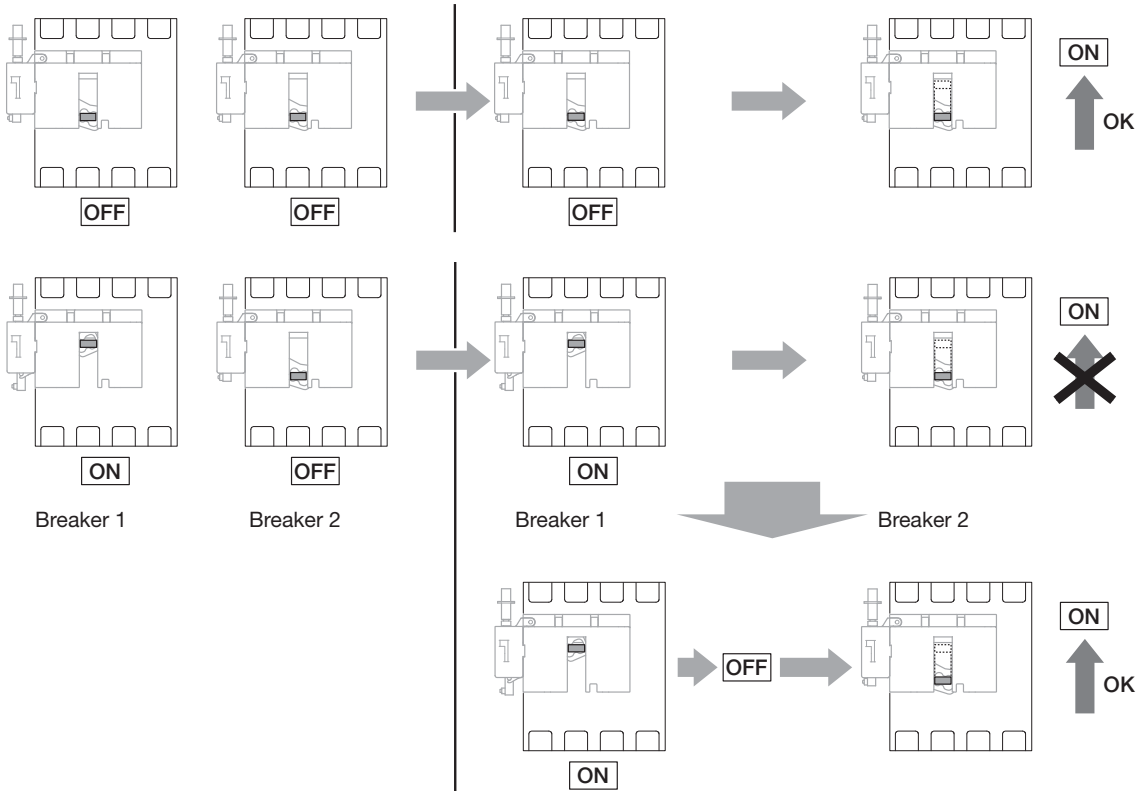
- Length HXD068H: 2100 mm
- Length HXB069H: 2100 mm



Mounting

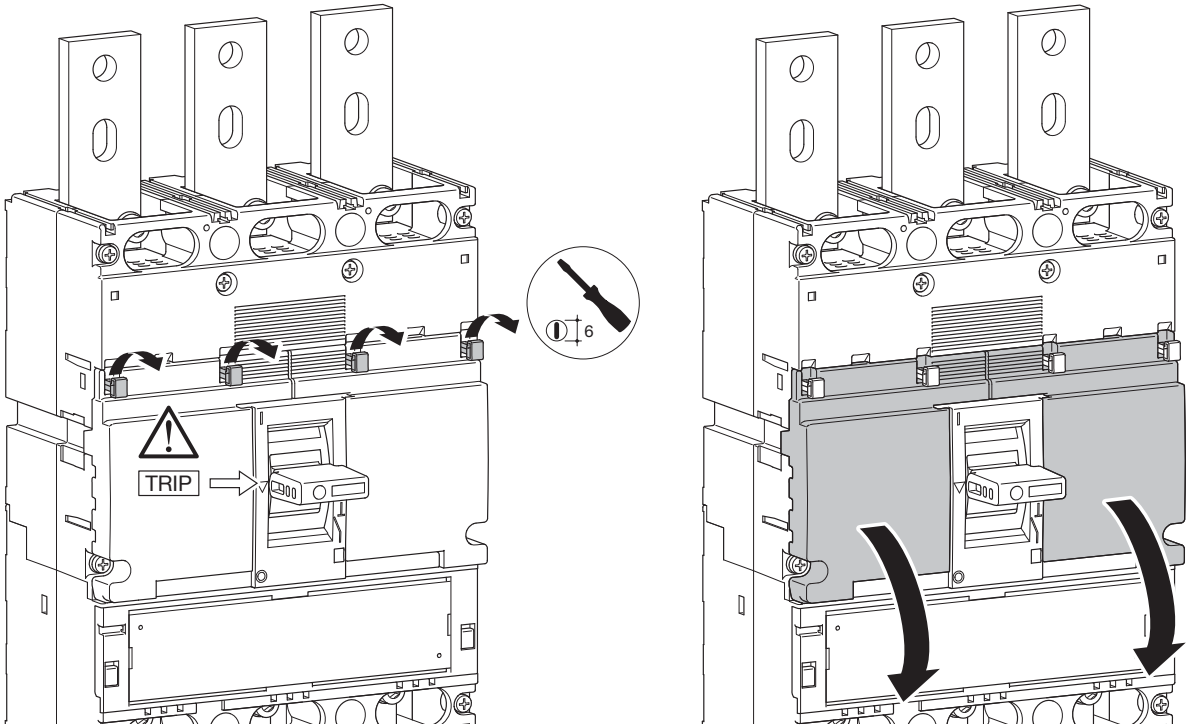


Checking the correct assembly



Auxiliaries

Auxiliaries for MCCBs and free tripping switches



Mounting combination for auxiliaries and releases

