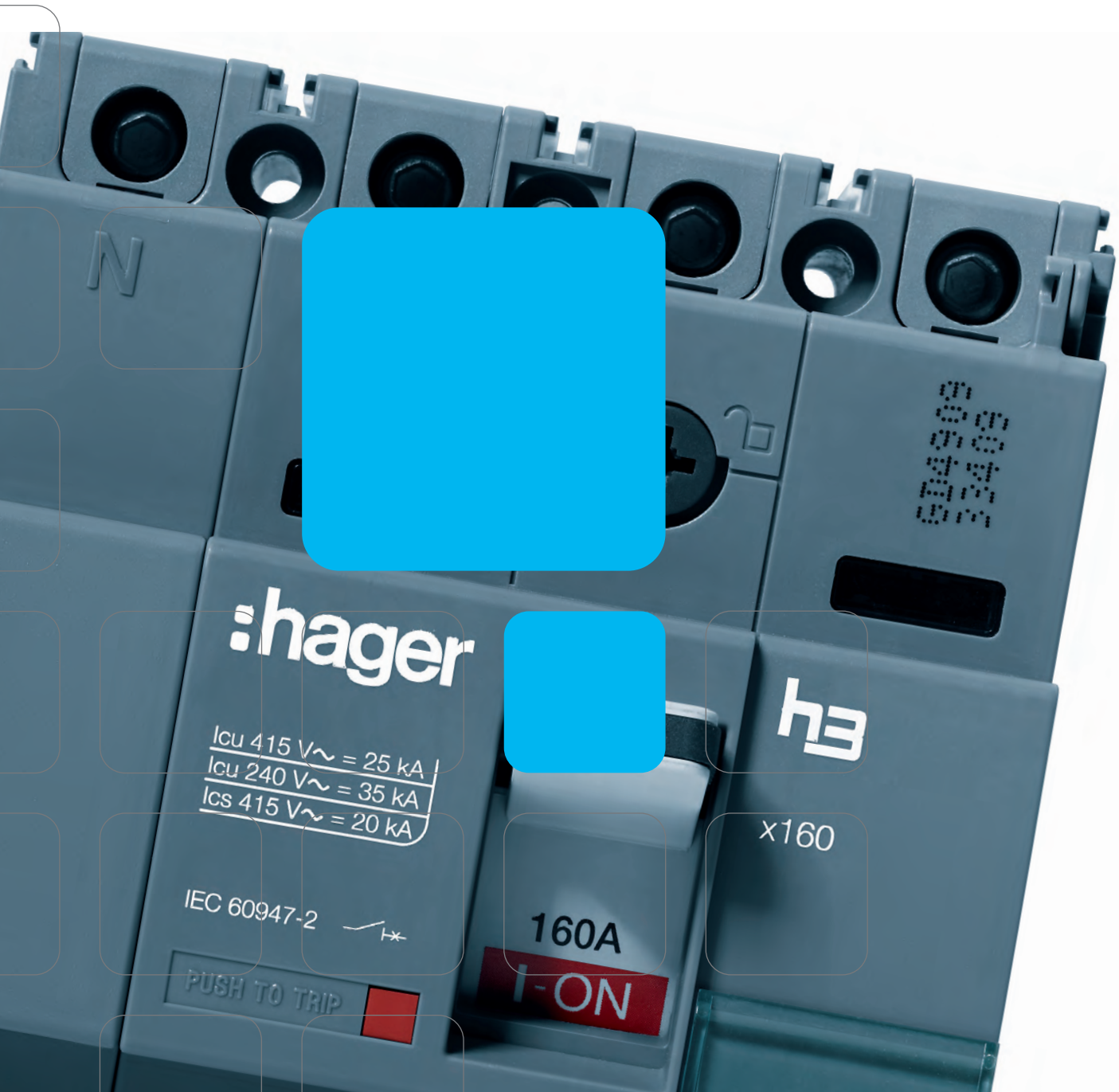


Main switches & isolators

h3 MCCBs, load break switches & isolating switches

This section includes moulded case circuit breakers and load break switches which are utilised for the switching, protection and distribution of low voltage installations.



Expert tips - h3	C.2
MCCBs h3 characteristics	C.4
MCCBs h3 & accessories selection guide	C.6
MCCBs x160	C.10
MCCBs x250	C.12
MCCBs h250	C.14
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Load break switches	C.23
Load break switches characteristics	C.25
Earth leakage relays and toroids	C.26

h3 MCCBs

16A to 1600A

Easy mounting and safety

The new **h3** range of MCCBs provide safe and easy solutions for low voltage electrical circuits protection. The state of the art circuit breakers offer both designers and installers a wide range of features and benefits. With special attention being given to ergonomics, the **h3** range perfectly meets reliability requirements for main incoming devices in commercial premises: strength, reliability, efficient protection and standards compliant selection.



The advantages for you:

- Easy to install
- Quick, easy and safe mounting of accessories
- Wide range of rated current ratings and breaking capacities
- Range of termination accessories
- DIN rail profile up to 250A

Technical data:

- Comply with IEC 60947-2
- 6 frame sizes: x160, x250, h250, h630, h1000, h1600
- Breaking capacity: 25, 40, 50, 70kA
- Thermal magnetic and electronic trip units
- 1 pole to 4 poles
- Current limiting type
- Complete range of accessories
- International certification and approvals

Expert tips

1



Design by Hager

In harmony with Hager enclosures and modular products.

5



Visibility of auxiliaries

A clear window indicates the type of auxiliary mounted in the breaker.

2



Electronic trip unit (LSI)

Provides total selectivity along with generator protection.

6



Integrated padlocking

Provides a convenient solution for maintenance.

3



Breaking capacity

25 to 70kA, Icu 415V AC, covers all applications.

7



Full accessory range

Rotary handles, padlocks, motor operators, terminal covers...

4



Easy auxiliary mounting

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

8



Flexible connection

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

MCCBs - characteristics

Product			x160 TM MCCB		x250 TM MCCB
Reference			HHA	HNA	HNB
Number of poles	[No.]		3-4		3-4
Electrical characteristics					
Rated current	In	[A]	160		250
Current rated range			16-160		100-250
Rated service voltage, (AC)	Ue	[V]	220-440		220-440
Frequency	f	[Hz]	50/60		50/60
Rated insulation voltage	Ui	[V]	690		800
Rated impulse withstand voltage	Uimp	[kV]	8		8
Rated ultimate short-circuit breaking capacity, (Icu)					
(AC) 50-60 Hz 220/230 V	Icu	[kA]	35	85	85
(AC) 50-60 Hz 380/415 V	Icu	[kA]	25	40	40
(AC) 50-60 Hz 480/500/525 V	Icu	[kA]	-	-	-
(AC) 50-60 Hz 660/690 V	Icu	[kA]	-	-	-
(DC) 250 V - 2 poles in series	Icu	[kA]	10	10	9
Rated service short-circuit breaking capacity, (Ics)					
(AC) 50-60 Hz 220/230 V	Ics	[kA]	25	40	40
(AC) 50-60 Hz 380/415 V	Ics	[kA]	20	20	20
(AC) 50-60 Hz 480/500/525 V	Ics	[kA]			
(AC) 50-60 Hz 660/690 V	Ics	[kA]			
(DC) 250 V - 2 poles in series	Ics	[kA]	5	5	5
Rated short-circuit making capacity	Icm	[kA]	-	-	-
Rated short-time withstand current for 1s	Icw	[kA]	-	-	-
Category of use (EN 60947-2)			A		A
Calibration temperature			50°C		50°C
Derating	40°C		100%		100%
	50°C		100%		100%
	55°C		95%		94%
	60°C		93%		91%
	65°C		90%		88%
Suitability for isolation			ok		ok
Electric endurance in number of cycles			10000		10000
Mechanical endurance in number of operations			20000		20000
Operating temperature			-25 to +70°C		-25 to +70°C
Storage temperature			-35 to +70°C		-35 to +70°C
Power loss (at In for 3P)	[W]		39		60
Reference standard			IEC 60947-2		IEC 60947-2
Releases: switch			-		-
Releases: TM (thermomagnetic)			ok		ok
T fixed, M fixed			ok		ok
T adjustable, M fixed			ok		-
T adjustable, M adjustable			-		ok
Thermal adjustment value			0,63 to 0.8 to 1 x In		0,63 to 0.8 to 1 x In
Magnetic adjustment value			-		6-8-10-13 x In (200A) 5-7-9-11 In (250A)
Releases: LSI (electronic)			-		-
Long delay			-		-
Short delay			-		-
Time delay			-		-
Terminations					
Standard terminal type			cage		lugs
Maximum terminal capacity			95 mm ²		185 mm ² (cage)
Terminal width	mm		-		25
Terminal shields			ok		ok
Cage terminal			integrated		ok
Extended connections			ok		ok
Rear connections			no		ok
Dimensions					
Height	mm		130		165
Width	3P	mm	75		105
	4P	mm	100		140
Depth	mm		68		68
Weight	3P	kg	0,715		1,3
	4P	kg	0,95		1,6

h250 LSI MCCB		h400 TM MCCB		h630 LSI MCCB		h1000 LSI MCCB		h1600 LSI MCCB	
HNC	HEC	HND		HND	HED	HNE	HEE	HNF	HEF
3-4		3-4		3-4		3-4		3-4	
250		400		630		1000		1600	
40-125-250		250-400		250-630		800-1000		1250-1600	
220-690		220-690		220-690		220-690		220-690	
50/60		50/60		50/60		50/60		50/60	
800		800		800		800		800	
8		8		8		8		8	
85	100	85		85	100	85 (800A) 75 (1000A)	100	100	100
50	70	50		50	70	50	70	50	70
25	45	30		30	30	30	30	45	65
7,5	20	20		20	20	20	20	25	45
-	-	40				-	-	-	-
85	100	85		85	85	85 (800A) 75 (1000A)	100 (800A) 75 (1000A)	75	75
25	70	50		50	50	50	50	50	50
10	45	30		30	30	30	30	45	50
7,5	15	15		15	15	20	20	25	34
-	-	40				-	-	-	-
-	-	-		-	-	-	-	-	-
-	-	-		-	-	-	-	-	-
B		A		B (400A) - A (630A)		B (800A) - A (1000A)		B	
40°C		50°C		40°C		40°C		40°C	
100%		100%		100%		100%		100%	
95%		100%		100%		100%		100%	
90%		95%		95%		95%		95%	
80%		92%		90%		90%		90%	
80%		89%		80%		80%		80%	
ok		ok		ok		ok		ok	
10000		4500		4500		4500		4500	
30000		15000		15000		15000		15000	
-25 to +70°C		-25 to +70°C		-25 to +70°C		-25 to +70°C		-25 to +70°C	
-35 to +70°C		-35 to +70°C		-35 to +70°C		-35 to +70°C		-35 to +70°C	
75		75		150		150		170	
IEC 60947-2		IEC 60947-2		IEC 60947-2		IEC 60947-2		IEC 60947-2	
-		-		-		-		-	
-		ok		-		-		-	
-		-		-		-		-	
-		-		-		-		-	
-		ok		-		-		-	
-		0,63 to 0.8 to 1 x In		-		-		-	
-		6-8-10-12 x In		-		-		-	
-		-		ok		ok		ok	
0,4 to 1 x Ir		-		0,4 to 1 x Ir		0,4 to 1 x Ir		0,4 to 1 x In	
2,5 to 10 x Ir		-		2,5 to 10 x Ir (400A) 2,5 to 8 x Ir (630A)		2,5 to 10 x Ir (800A) 2,5 to 8 x Ir (1000A)		2,5 to 10 x Ir	
0,1 - 0,2s		-		0,1 - 0,2s		0,1 - 0,2s		0,1 - 0,2s	
lugs		lugs		lugs		lugs		lugs	
120 mm ² (cage)		240 mm ² (cage)		-		-		-	
25		30		30		45		45	
ok		ok		ok		ok		ok	
ok		ok		-		-		-	
ok		ok		integrated		integrated		integrated	
ok		ok		ok		ok		ok	
165		260		260		273/433		370/570	
105		140		140		210		210	
140		185		185		280		280	
97		97		97		99,5		140	
2,5		4,2		4,3		11		27	
3,3		5,6		5,7		14,8		31	

MCCBs **h3** & accessory selection guide

MCCB's



HHA125U



HNB160U

Terminal connectors



HYB031H



HYA015H

Frame	Trip Unit	Pole	In (A)	25 kA	40 kA	Terminal connectors			
						Collar	Straight	Spreader	Rear
X160	TM	3	25	HHA025U	HNA025U	HYA005H	HYA013H	HYA014H	-
			40	HHA040U	HNA040U				
			63	HHA063U	HNA063U				
			80	HHA080U	HNA080U				
			100	HHA100U	HNA100U				
			125	HHA125U	HNA125U				
			160	HHA160U	HNA160U				
		4	25	HHA026U	HNA026U	HYA006H	HYA013H	HYA015H	-
			40	HHA041U	HNA041U				
			63	HHA064U	HNA064U				
			80	HHA081U	HNA081U				
			100	HHA101U	HNA101U				
			125	HHA126U	HNA126U				
			160	HHA161U	HNA161U				
x250		3	160	-	HNB160U	HYB001H	HYB010H	HYB011H	HYB031H
			200	-	HNB200U				
			250	-	HNB250U				
		4	160	-	HNB161U	HYB002H	HYB010H	HYB012H	HYB032H
			200	-	HNB201U				
			250	-	HNB251U				

Shunt Trips - SH



HXA004H

Under Voltage - UV



HXA014H

Motor Operator



HXB040H

Auxiliary Contact (1C/O)



HXA021H



HXA024H

Frame	Operating Voltage	Shunt Trips - SH	Under Voltage - UV	Motor Operator	Auxiliary Contact (1C/O)	
					AUX, AX (1NO + 1NC)	Alarm, AL (1NO +1NC)
x160	24V DC	HXA001H	HXA011H	-	HXA021H	HXA024H
	48V DC	HXA002H	-	-		
	100 - 120V AC	HXA003H	HXA013H	-		
	200 - 240V AC	HXA004H	HXA014H	-		
	380 - 450V AC	HXA005H	HXA015H	-		
x250	24V DC	HXA001H	HXA011H	HXB040H	HXA021H	HXA024H
	48V DC	HXA002H	-	-		
	100 - 120V AC	HXA003H	HXA013H	-		
	230 - 240V AC	-	-	HXB042H		
	200 - 240V AC	HXA004H	HXA014H	-		
	380 - 450V AC	HXA005H	HXA015H	-		

Terminal covers
Interlock
Phase Barrier
DIN rail adaptor
Rotary Handle
Padlock

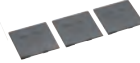

HYA027H



HYB022H



HXB065H



HYA019H



HYA033H



HXA031H



HXA039H

Terminal covers					Interlock	Phase Barrier	DIN rail adaptor	Rotary Handle		Padlock
Collar	Straight	Spreader	Rear	Direct				Extended		
HYA027H	HYA021H	HYA023H	-	-	HYA019H	HYA033H	HXA030H	HXA031H	HXA039H	
HYA028H	HYA022H	HYA024H	-	-	HYA019H	HYA033H	HXA030H	HXA031H	HXA039H	
HYB027H	HYB021H	HYB023H	HYB025H	HXB065H	HYB019H	-	HXB030H	HXB031H	HXA039H	
HYB028H	HYB022H	HYB024H	HYB026H	HXB065H	HYB019H	-	HXB030H	HXB031H	HXA039H	

MCCB's



HEC250H

HNE970H

Terminal connectors



HYD015H

HYD033H

Frame	Trip Unit	Pole	In (A)	50 kA	70 kA	Terminal connectors					
						Collar	Straight	Spreader	Rear		
h250	LSI	3	40	HNC040H	HEC040H	HYC003H	HYC010H	HYC011H	HYC031H		
			125	HNC125H	HEC125H						
			250	HNC250H	HEC250H						
		4	40	HNC041H	HEC041H	HYC004H	HYC010H	HYC012H	HYC032H		
			125	HNC126H	HEC126H						
			250	HNC251H	HEC251H						
h630	LSI	3	400	HND400H	HED400H	HYD003H	HYD010H	HYD011H	HYD031H		
			630	HND630H	HED630H	HYD007H	HYD013H	HYD014H	HYD033H		
		4	400	HND401H	HED401H	HYD004H	HYD010H	HYD012H	HYD032H		
			630	HND631H	HED631H	HYD008H	HYD013H	HYD015H	HYD034H		
		h1000	LSI	3	800	HNE800H	HEE800H	-	-	-	HYE031H
					1000	HNE970H	HEE970H	-	-	-	HYE033H
4	800			HNE801H	HEE801H	-	-	-	HYE032H		
	1000			HNE971H	HEE971H	-	-	-	HYE034H		
h1600	LSI	3	1250	HNF980H	HEF980H	-	-	-	-		
			1600	HNF990H	HEF990H	-	-	-	-		
		4	1250	HNF981H	HEF981H	-	-	-	-		
			1600	HNF991H	HEF991H	-	-	-	-		

Shunt Trips - SH



HXC004H

Under Voltage - UV



HXC014H

Motor Operator



HXD042H

Auxilliary Contact (1C/O)



HXC021H



HXC024H

Frame	Operating Voltage	Shunt Trips - SH	Under Voltage - UV	Motor Operator	Auxilliary Contact (1C/O)	
					AUX, AX (1NO + 1NC)	Alarm, AL (1NO + 1NC)
h250	24V DC	HXC001H	HXC011H	HXC040H	HXC021H	HXC024H
	48V DC	HXC002H	-	-		
	100 - 120V AC	HXC003H	HXC013H	-		
	200 - 240V AC	HXC004H	HXC014H	HXC042H		
	380 - 450V AC	HXC005H	HXC015H	-		
h630	24V DC	HXC001H	HXC011H	HXD040H	HXC021H	HXA024H
	48V DC	HXC002H	-	HXD040H		
	100 - 120V AC	HXC003H	HXC013H	HXD042H		
	200 - 240V AC	HXC004H	HXC014H	HXD042H		
	380 - 450V AC	HXC005H	HXC015H	-		

Terminal covers

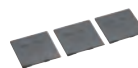

HYD022H



HYD023H

Interlock


HXC065H

Interphase Barrier


HYC019H

Rotary handles


HXD030H

Padlock


HXC039H

Terminal covers					Interlock	Interphase Barrier	Rotary handles		Padlock
Collar	Straight	Spreader	Rear	Direct			Extended		
HYC027H	HYC021H	-	HYC025H	HXC065H	HYC019H	HXC030H	HXC031H	HXC039H	
HYC028H	HYC022H	-	HYC026H	HXC065H	HYC019H	HXC030H	HXC031H	HXC039H	
HYD027H	HYD021H	HYD023H	HYD025H	HXD065H	HYD019H	HXD030H	HXD031H	HXD039H	
HYD028H	HYD022H	HYD024H	HYD026H	HXD065H	HYD019H	HXD030H	HXD031H	HXD039H	
-	HYE021H	-	HYE025H	HXE065H	-	HXE030H	HXE031H	HXD039H	
-	HYE022H	-	HYE026H	HXE065H	-	HXE030H	HXE031H	HXD039H	
-	-	-	-	-	-	HXF030H	HXF031H	HXF039H	
-	-	-	-	-	-	HXF030H	HXF031H	HXF039H	

Shunt Trips - SH


HXC004H

Under Voltage - UV


HXE014H

Motor Operator


HXF040H

Auxilliary Contact (1C/O)


HXC012H



HXC024H

Frame	Operating Voltage	Shunt Trips - SH	Under Voltage - UV	Motor Operator	Auxilliary Contact (1C/O)	
					AUX, AX (1NO + 1NC)	Alarm, AL (1NO + 1NC)
h1000	24V DC	HXC001H	HXE011H	HXE040H	HXC021H	HXC024H
	48V DC	HXC002H	-	HXE040H		
	100 - 120V AC	HXC003H	HXE013H	HXE042H		
	200 - 240V AC	HXC004H	HXE014H	HXE042H		
	380 - 450V AC	HXC005H	HXE015H	-		
h1600	24V DC	HXC001H	HXE011H	HXF040H	HXC021H	HXC024H
	48V DC	HXC002H	-	-		
	100 - 120V AC	HXC003H	HXE013H	-		
	200 - 240V AC	HXC004H	HXE014H	HXF042H		
	380 - 450V AC	HXC005H	HXE015H	-		

Main Switches & Isolators

Moulded case circuit breakers x160

- Thermal magnetic trip unit, 2 versions:
- Z version: fixed thermal and fixed magnetic
- U version: adjustable thermal and fixed magnetic

- 1P, 2P, 3P & 4P
- Mechanical test button, sealable settings, integrated padlocking handle Ø4mm.

Connection capacity:

- 95mm² rigid cables
- 70mm² flexible cables
- Comply with IEC60947-2.

Technical information:

- Visit our website at www.hagerelectro.com.au

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



HHA125U



HHA161U

MCCBs x160 25kA

Description	In	Cat ref.			
		1P	3P	4P*	
- Breaking capacity Ics: 20kA (400/415V AC)	16A	HHA014Z	-	-	
	20A	HHA018Z	-	-	
	- Fixed thermal 1 x In	25A	HHA023Z	-	-
		32A	HHA030Z	-	-
	- Fixed magnetic > 10 x In	40A	HHA038Z	-	-
		50A	HHA048Z	-	-
		63A	HHA061Z	-	-
		80A	HHA078Z	-	-
		100A	HHA098Z	-	-
		125A	HHA123Z	-	-
- Adjustable thermal 0.63 - 0.8 - 1 x In	25A	-	HHA025U	HHA026U	
	40A	-	HHA040U	HHA041U	
	63A	-	HHA063U	HHA064U	
	80A	-	HHA080U	HHA081U	
	100A	-	HHA100U	HHA101U	
	125A	-	HHA125U	HHA126U	
- Fixed magnetic > 10 x In	160A	-	HHA160U	HHA161U	

MCCBs x160 40kA



HNA125U

Description	In	Cat ref.	
		3P	4P*
- Breaking capacity Ics: 20kA (400/415V AC)	25A	HNA025U	HNA026U
	40A	HNA040U	HNA041U
- Adjustable thermal 0.63 - 0.8 - 1 x In	63A	HNA063U	HNA064U
	80A	HNA080U	HNA081U
- Fixed magnetic > 10 x In	100A	HNA100U	HNA101U
	125A	HNA125U	HNA126U
	160A	HNA160U	HNA161U

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

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

Extended rotary handle

- IP 55
- Supplied complete with shaft and handle.

Shunt trip

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

Direct rotary handle

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

Technical information:

- Visit our website at www.hagerelectro.com.au



HXA021H HXA024H



HXA004H HXA014H

Accessories

Description	Characteristics	Cat ref.	
Auxiliary contacts AX AL	1 changeover contact (ON/OFF)	HXA021H	
	250V AC / 3A 125V DC / 0.4A 1NO + 1NC		
	1 changeover alarm contact	HXA024H	
	250V AC / 3A 125V DC / 0.4A 1NO + 1NC		
Shunt trips SH	24V DC	HXA001H	
	48V DC	HXA002H	
	100 - 120V AC	HXA003H	
	200 - 240V AC	HXA004H	
	380 - 450V AC	HXA005H	
Undervoltage releases UV	24V DC	HXA011H	
	100 - 120V AC	HXA013H	
	200 - 240V AC	HXA014H	
	380 - 450V AC	HXA015H	



HXA031H



HYA015H



HYA021H

Accessories

Description	Characteristics	Cat ref. 3P	Cat ref. 4P
Direct rotary handle Padlockable	Max Ø 6mm	HXA030H	HXA030H
Extended rotary handle Padlockable	Max Ø 8mm 200mm	HXA031H	HXA031H
Padlocking device To mount on MCCB for handle locking 3 padlocks	Max Ø 8mm	HXA039H	HXA039H
Collar terminals Terminals for aluminium conductor	Set of 3 or 4	HYA005H	HYA006H
Extended connections	Straight connections	HYA013H	HYA013H
	Spreader connections	HYA014H	HYA015H
Interphase barriers	Set of x 2 Height: 50mm	HYA019H	HYA019H
Terminal covers	For extended straight connections	HYA021H	HYA022H
	For extended spreader connections	HYA023H	HYA024H
	For collar terminal	HYA027H	HYA028H
Din rail adaptor		HYA033H	HYA033H

**Moulded case circuit breakers
x250**

- Adjustable thermal and magnetic trip unit
- 3P and 4P
- Mechanical test button

- Lockable settings
- Integrated padlocking handle
Ø 4mm
- Complies with IEC60947-2.

- Connection:**
- Terminal area width 25mm

- Connection capacity:**
- 185mm² rigid cables
 - Collar terminals optional

- Technical information:**
- Visit our website at www.hagerelectro.com.au

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



HNB160U

MCCBs x250 40kA

Description	In	Cat ref. 3P	Cat ref. 4P*
Breaking capacity Icu: 40 kA (400/415V AC) Ics: 20 kA	160A	HNB160U	HNB161U
	200A	HNB200U	HNB201U
	250A	HNB250U	HNB251U
Adjustable thermal 0.63 - 0.8 - 1x In			
Adjustable magnetic 6 - 8 - 10 - 13 x In (160/200A) 5 - 7 - 9 - 11 x In (250A)			
4P neutral setting: 0 or 100%			

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.

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.

Extended rotary handle

- IP55
- Supplied complete with shaft and handle.

Shunt trip

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

Technical information:

- Visit our website at www.hagerelectro.com.au



HXA021H

HXA024H



HXA004H

HXA014H



HXB040H

Accessories

Description	Characteristics	Cat ref.	
Auxiliary contacts AX AL	1 changeover contact 250V AC / 3A 125V DC / 0.4A 1NO + 1NC	HXA021H	
	1 changeover alarm contact 250V AC / 3A 125V DC / 0.4A 1NO + 1NC	HXA024H	
Shunt trips SH	24V DC	HXA001H	
	48V DC	HXA002H	
	100 - 120V AC	HXA003H	
	200 - 240V AC	HXA004H	
	380 - 450V AC	HXA005H	
Undervoltage releases UV	24V DC	HXA011H	
	100 - 120V AC	HXA013H	
	200 - 240V AC	HXA014H	
Direct rotary handles Padlockable	380 - 450V AC	HXA015H	
	Max Ø 6mm	HXB030H	
	Extended rotary handles Padlockable	Max Ø 8mm	HXB031H
200mm		HXA039H	
Padlocking device To mount on MCCBs for handle locking 3 padlocks	Max Ø 8mm	HXA039H	
Motor operators	24V DC	HXB040H	
	230 - 240V AC	HXB042H	



HYB022H



HYB024H



HYB031H

Accessories

Description	Characteristics	Cat ref.	Cat ref.
Interlocking	Wire type	HXB065H	HXB065H
Collar terminals Aluminium / copper conductors 150mm ² rigid cables 185mm ² flexible cables	Set of 4 pieces	HYB001H	HYB002H
	Extended connections For straight connections	Set of 4 pieces	HYB010H
For spreader connections		Set of 4 pieces	HYB011H
Rear connections	Set of 3 pieces	HYB031H	HYB032H
Interphase barriers	Set of 3 Height: 97mm	HYB019H	HYB019H
Terminal covers	For extended straight connections	HYB021H	HYB022H
	For extended spreader connections	HYB023H	HYB024H
	For rear connections	HYB025H	HYB026H
	For collar terminals	HYB027H	HYB028H

Moulded case circuit breakers h250
 - 3P & 4P
 - Mechanical test button, sealable settings.
 - Comply with IEC 60947-2.
Connection:
 Terminal area width 25 mm

Electronic trip unit LSI:
 - Long delay (thermal equivalent) adjustable: $I_r = 0.4$ to $1 \times I_n$
 - Short delay (magnetic equivalent) adjustable: 2.5 to $10 \times I_r$
 - Time delay: $0.1 - 0.2s$

Technical information:
 - Visit our website at www.hagerelectro.com.au

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



HNC250H

MCCBs h250 50kA LSI

Description	Characteristics	Cat ref. 3P	Cat ref. 4P*
- Breaking capacity Icu: 50 kA (400/415V AC) Ics: 25 kA	40A	HNC040H	HNC041H
	125A	HNC125H	HNC126H
	250A	HNC250H	HNC251H
- Adjustable thermal $I_r = 0.4$ to $1 \times I_n$			
- Adjustable magnetic 2.5 to $10 \times I_r$			



HEC250H

MCCBs h250 70kA LSI

Description	Characteristics	Cat ref. 3P	Cat ref. 4P*
- Breaking capacity Icu: 70 kA (400/415V AC) Ics: 70 kA	40A	HEC040H	HEC041H
	125A	HEC125H	HEC126H
	250A	HEC250H	HEC251H
- Adjustable thermal $I_r = 0.4$ to $1 \times I_n$			
- Adjustable magnetic 2.5 to $10 \times I_r$			

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.

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.

Extended rotary handle

- IP55
- Supplied complete with shaft and handle.

Shunt trip

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

Direct rotary handle

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

Technical information:

- Visit our website at www.hagerelectro.com.au



HXC021H HXC024H



HXC004H HXC014H



HXC039H

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	HXC011H	
	100 - 120V AC	HXC013H	
	200 - 240V AC	HXC014H	
Direct rotary handles Padlockable	200 - 240V AC	HXC015H	
	380 - 450V AC	HXC030H	
Extended rotary handles Padlockable	Ø 5 - 8mm ² max	HXC031H	
	320mm	HXC039H	
Padlocking device To mount on MCCBs for handle locking 3 padlocks	Max Ø 5mm	HXC039H	
Motor operators	24V DC	HXC040H	
	230-240V AC	HXC042H	
Interlocking Wire type		HXC065H	



HYC011H



HYC031H

Accessories

Description	Characteristics	Cat ref.	
		3P	4P
Collar terminals	Copper	HYC003H	HYC004H
Extended connections	Straight connections	HYC010H	HYC010H
	Spreader connections	HYC011H	HYC012H
Rear connections		HYC031H	HYC032H
Interphase barriers	Set of 3 Height: 97mm	HYC019H	HYC019H
Terminal covers	For extended straight connections (LSI only)	HYC021H	HYC022H
	For rear connections	HYC025H	HYC026H
	For collar terminals	HYC027H	HYC028H

Moulded case circuit breakers h630

- 3P & 4P
- Adjustable neutral
0 - 50% - 100%
- Mechanical test button,
lockable settings
- Comply with IEC 60947-2.

Connection:

- Directly on copper cable
terminal, with end lug
max. width: 30mm

Electronic trip unit LSI:

- Long delay (thermal
equivalent) adjustable:
 $I_r = 0.4$ to $1 \times I_n$
- Short delay (magnetic
equivalent) adjustable:
2.5 to $10 \times I_r$ (400A)
2.5 to $8 \times I_r$ (630A)
- Time delay: 0.1 - 0.2 s

Technical information:

- Visit our website at
www.hagerelectro.com.au

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



HND630H

MCCBs h630 50kA LSI

Description	I_n	Cat ref. 3P	Cat ref. 4P*
- Breaking capacity I_{cu} : 50 kA (400/415V AC) I_{cs} : 50 kA	400A 630A	HND400H HND630H	HND401H HND631H
- Adjustable thermal $I_r = 0.4$ to $1 \times I_n$			
- Adjustable magnetic 2.5 to $10 \times I_r$ (400A) 2.5 to $8 \times I_r$ (630A)			
- Time delay: 0.1 - 0.2s			



HED630H

MCCBs h630 70kA LSI

Description	I_n	Cat ref. 3P	Cat ref. 4P*
- Breaking capacity I_{cu} : 70 kA (400/415V AC) I_{cs} : 50 kA	400A 630A	HED400H HED630H	HED401H HED631H
- Adjustable thermal $I_r = 0.4$ to $1 \times I_n$			
- Adjustable magnetic 2.5 to $10 \times I_r$ (400A) 2.5 to $8 \times I_r$ (630A)			
- Time delay: 0.1 - 0.2s			

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:

- Visit our website at www.hagerelectro.com.au



HXC021H



HXC024H



HXC004H



HXC014H



HXD030H



HXD039H

Accessories

Description	Characteristics	Cat ref.
Auxiliary contacts		
AX	1 changeover contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXC021H
AL	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	HXC011H
	100 - 120V AC	HXC013H
	200 - 240V AC	HXC014H
	380 - 450V AC	HXC015H
Direct rotary handles		
Padlockable	Max Ø 6 mm	HXD030H
Extended rotary handles		
Padlockable	Max Ø 8mm 320mm	HXD031H
Padlocking device		
To mount on MCCBs for handle locking 3 padlocks	Max Ø 8mm	HXD039H



HXD042H



HYD003H



HYD015H



HYD022H



HYD033H

Accessories

Description	Characteristics	In	Cat ref.	
			3P	4P
Motor operators	24-48V DC		HXD040H	HXD040H
	100-240V AC		HXD042H	HXD042H
Interlocking Wire type			HXD065H	HXD065H
Collar terminals Terminals for copper conductors 1 x 35 - 240mm ²	Set of 3 or 4	160 - 400A	HYD003H	HYD004H
Terminals for multiple aluminium/copper conductors 2 x 35 - 240mm ²	Set of 3 or 4	400 - 630A	HYD007H	HYD008H
Extended connections For straight connections	Set of 4 pieces	400A	HYD010H	HYD010H
		630A	HYD013H	HYD013H
	Set of 4 pieces	400A	HYD011H	HYD012H
		630A	HYD014H	HYD015H
Rear connections		400A	HYD031H	HYD032H
		630A	HYD033H	HYD034H
Interphase barriers	Set of 3 Height: 97mm		HYD019H	HYD019H
Terminal covers For extended straight connections			HYD021H	HYD022H
			HYD023H	HYD024H
			HYD025H	HYD026H
			HYD027H	HYD028H

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: $I_r = 0,4$ to $1 \times I_n$
- Short delay (magnetic equivalent) adjustable: $2,5$ to $10 \times I_r$ (630-800A) $2,5$ to $8 \times I_r$ (1000A)
- Time delay: 0.1-0.2s

Technical information:

- Visit our website at www.hagerelectro.com.au

*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	800A	HNE800H	HNE801H
- Adjustable thermal $I_r = 0,4$ to $1 \times I_n$	1000A	HNE970H	HNE971H
- Adjustable magnetic 2,5 to $10 \times I_r$ (800A) 2,5 to $8 \times I_r$ (1000A)			
- Time delay: 0.1-0.2s			
- Neutral setting from 0-50 to 100%			



HEE801H

MCCBs h1000 70kA LSI

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

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:

- Visit our website at www.hagerelectro.com.au



HXC021H HXC024H



HXC004H HXC014H



HXD039H

Accessories

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



HYE031H

Accessories

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

Moulded case circuit breakers h1600

- 3 pole - 3 trip units
- 4 pole - 4 trip units
- Adjustable neutral
- 0 - 50% - 100%
- Mechanical test button, lockable settings.
- Comply with IEC60947-2.

- Short delay (magnetic equivalent) adjustable: 2.5 to 10 x I_r
- Time delay: 0.1-0.2

Technical information:

- Visit our website at www.hagerelectro.com.au

Connection:

- Directly on copper cable terminal, with end lug max. width: 60mm

Electronic trip unit LSI:

- Long delay (thermal equivalent) adjustable: I_r = 0.4 to 1 x I_n

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

Main Switches & Isolators



HNF990H

MCCBs h1600 50kA LSI

Description	In	Cat ref. 3P	Cat ref. 4P*
- Breaking capacity	1250A	HNF980H	HNF981H
I _{cu} : 50 kA (400/415V AC)	1600A	HNF990H	HNF991H
I _{cs} : 50 kA			
- Adjustable thermal			
I _r = 0.4 to 1 x I _n			
- Adjustable magnetic			
2.5 to 10 x I _r			
- Time delay: 0.1-0.2s			
- Neutral setting 0, 50, 100%			



HEF980H

MCCBs h1600 70kA LSI

Description	In	Cat ref. 3P	Cat ref. 4P*
- Breaking capacity	1250A	HEF980H	HEF981H
I _{cu} : 70 kA (400/415V AC)	1600A	HEF990H	HEF991H
I _{cs} : 50 kA			
- Adjustable thermal			
I _r = 0.4 to 1 x I _n			
- Adjustable magnetic			
2.5 to 10 x I _r			
- Time delay: 0.1-0.2s			
- Neutral setting from 0, 50, 100%			

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:

- Visit our website at www.hagerelectro.com.au

Rear connection included



HXCO21H



HXCO24H



HXF004H



HXE014H



HXF040H



Accessories

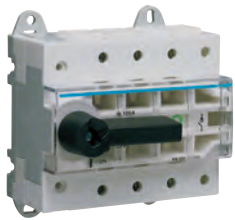
Description	Characteristics	Cat ref.
Auxiliary contacts		
AX	1 changeover contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXCO21H
AL	1 changeover alarm contact 250V AC / 3A 125V DC / 0,4A 1NO + 1NC	HXCO24H
Shunt trips		
SH	24V DC	HXF001H
	48V DC	HXF002H
	100 - 120V AC	HXF003H
	200 - 240V AC	HXF004H
	380 - 450V AC	HXF005H
Undervoltage releases		
UV	24V DC	HXE011H
	100 - 120V AC	HXE013H
	200 - 240V AC	HXE014H
	380 - 450V AC	HXE015H
Direct rotary handles	Max Ø 8mm	HXF030H
Padlockable		
Extended rotary handles	Max Ø 8mm	HXF031H
Padlockable	320mm	
Padlocking device	Max Ø 8mm	HXF039H
To mount on MCCBs for handle locking 3 padlocks		
Motor operators		
	24V DC	HXF040H
	200 - 230V AC	HXF042H

Description

The HA series is a range of multi-pole load disconnect switches with manual operation. They enable making and breaking on load and safety isolation of any low voltage installation.

Technical data

- Visualised breaking
- Double breaking per phase
- 3 or 4 pole
- Padlockable handle
- Auxiliary contacts
- Rotary handles complete with extension shaft
- Complying with IEC60947-3



HA305

DIN & screw mount isolators

Description	Width	Characteristics	Module mm	Cat ref.
3 pole 400V~	6 mod	In 80A	108	HA304
	6 mod	In 100A	108	HA305
	6 mod	In 125A	108	HA306
	8.5 mod	In 160A	142	HA307
	8.5 mod	In 200A	142	HA308
	8.5 mod	In 250A	142	HA309M
4 pole 400V~	6 mod	In 125A	108	HA406
	8.5 mod	In 200A	142	HA408



HA354

Screw mount isolators

Description	Width	Characteristics	Module mm	Cat ref.
3 pole 400V~	-	In 250A	-	HA354
	-	In 400A	-	HA356
	-	In 630A	-	HA358
	-	In 800A	-	HA360
	-	In 1250A	-	HA362
	-	In 1600A	-	HA364
4 pole 400V~	-	In 400A - AC23	-	HA457
	-	In 630A - AC23	-	HA458

Description

The HA series is a range of multi-pole load disconnect switches with manual operation. They enable making and breaking on load and safety isolation of any low voltage installation.

Technical data

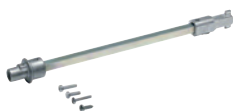
- Visualised breaking
- Double breaking per phase
- DIN rail mounting
- 3 or 4 pole
- Padlockable handle
- Auxiliary contacts
- Rotary handles complete with extension shaft
- Complying with IEC60947-3



HZC003

Rotary handles

Description	Characteristics	Cat ref.
To suit HA360/HA362/HA364	Black IP65	HZC003
To suit HA354/HA356/HA358	Black IP55	HZC002
To suit HA304/HA305/ HA306/HA307/HA308	Black IP55	HZC001



HZC106

Extension shafts

Description	Characteristics	Cat ref.
To suit HA360/HA362/HA364	320mm	HZC106
To suit HA354/HA356/HA358	320mm	HZC102
To suit HA304/HA305/ HA306/HA307/HA308	200mm	HZC103



HZ022

Auxiliary contacts

Description	Characteristics	Cat ref.
Suitable for HA304/HA305/ HA306/HA307/HA308	In 5A -250V~	HZ022
Suitable for HA354/HA356/ HA358/HA360/HA362/HA364	In 16A - 250V~	HZ023



HZC203

Terminal shrouds

Description	Width	Cat ref.
To suit HA354 Switch-line or load side	1 mod	HZC203
To suit HA356/HA358/ Switch-line or load side	1 mod	HZC205
To suit HA307/HA308 Switch-line or load side (Cable lug connection)	1 mod	HZ062
To suit HA307/HA308/ Switch c/- cable clamp line or load side	1 mod	HZ072

Cat ref.	HA304	HA305	HA306	HA307	HA308	HA309M
thermal current I_{th}	80	100	125	160	200	250
insulation voltage U_i (V)	800	800	800	800	800	800
impulse withstand voltage U_{imp} (kV)	8	8	8	8	8	8
rated operation current (A)	A/B	A/B	A/B	A/B	A/B	A/B
400V AC ⁽¹⁾ AC-21A / AC-21B	80/80	100/100	125/125	160/160	200/200	200/250
AC-22A / AC-22B	80/80	100/100	125/125	160/160	200/200	200/200
AC-23A / AC-23B	80/80	100/100	125/125	160/160	200/200	200/200
690V AC ⁽²⁾ AC-20A / AC-20B	80/80	100/100	125/125	160/160	200/200	200/250
AC-22A / AC-22B	40/40	40/40	40/40	160/160	160/160	160/160
AC-23A / AC-23B	25/25	25/25	25/25	63/80	63/80	63/80
220V DC DC-20A / DC-20B	80/80	100/100	125/125	160/160	200/200	200/250
operational power (kW)						
400V AC	40	51	63	80	100	100
690V AC	33	33	33	150	150	150
short time withstand current 1 sec (kA rms)	2.5	2.5	2.5	4	4	4
short circuit making capacity (kA peak)	12	12	12	16	16	16
connection						
max. cable section (mm)	50	50	50	95	95	95
max. busbar width (mm)	-	-	-	20	20	20

- (1) A/B = category with index - A = frequent operation / B = infrequent operation
 (2) with terminal shrouds or phase barriers

Cat ref.	HA354	HA356	HA358	HA360	HA362	HA364
thermal current I_{th}	250	400	630	800	1250	1600
insulation voltage U_i (V)	800	1000	1000	1000	1000	1000
impulse withstand voltage U_{imp} (kV)	8	12	12	12	12	12
rated operation current (A)	A/B	A/B	A/B	A/B	A/B	A/B
400V AC ⁽¹⁾ AC-21A / AC-21B	250/250	400/400	630/630	800/800	1250/1250	1600/1600
AC-22A / AC-22B	250/250	400/400	630/630	800/800	1250/1250	1600/1600
AC-23A / AC-23B	250/250	400/400	500/630	800/800	1250/1250	1250/1250
690V AC ⁽²⁾ AC-20A / AC-20B	250/250	400/400	630/630	800/800	1250/1250	1600/1600
AC-22A / AC-22B	200/250	400/400	500/500	800/800	1000/1000	1000/1000
AC-23A / AC-23B	125/160	250/315	315/315	800/800	1000/1000	1000/1000
220V DC DC-20A / DC-20B	250/250	400/400	630/630	800/800	1250/1250	1600/1600
operational power (kW)						
400V AC	132/132	220/220	280/280	450/450	710/710	710/710
690V AC	90/110	150/185	150/185	185/220	475/475	475/475
short time withstand current 1 sec (kA rms)	9	13	13	26	50	50
short circuit making capacity (kA peak)	30	45	45	55	110	110
connection						
max. cable section (mm)	150	240	2 x 300	2 x 300	4 x 185	6X185
max. busbar width (mm)	32	40	50	63	100	100

- (1) A/B = category with index - A = frequent operation / B = infrequent operation
 (2) with terminal shrouds or phase barriers

Application condition & utilisation category, according to IEC 60947-3

Utilisation category		Use	Application
AC	DC		
AC20	DC20	Off-load making & breaking	Disconnectors
AC21	DC21	Resistive loads including moderate overloads	Switches at installation head or for resistive circuits (lighting)
AC22	DC22	Inductive & resistive mixed loads including moderate overloads	Switches in secondary circuits or reactive circuits (capacitor banks)
AC23	DC23	Loads made of motors or other highly inductive loads	Switches feeding one or several motor or inductive circuits (series motors, magnetic brakes)

Description

This range of earth leakage relays were designed on an electronic basis, which ensure the monitoring of earth fault currents. When the fault current rises above the selected level, the outputs of the relay operate & depending on the relay selected, it can have both adjustable sensitivity and time delay that can provide selectivity/discrimination. The relays are linked with detection toroids.

Common characteristics

- Standard DIN EN60947-2, IEC60755, IEC61008-8
- Fixed & adjustable devices
- Positive safety: the relay trips in the event of a break in the connection between relay & toroid.
- Positive / local reset required after a fault is detected.
- Protected against nuisance tripping
- Class A Δ
- Output: 1c/o contact 250V~ 6A AC1

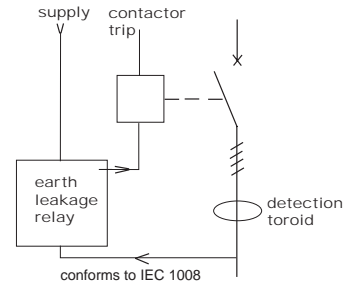
- Visual display of fault
- Supply voltage 230V +/- 20% 50/60Hz

Premium features

- Adjustable sensitivity & time delay (sealable)
- Display of fault current prior to triggering relay (5%-75%)
- Extra output contact (250V-AC1/6A) to enable remote indication of fault currents above 50% of $I_{\Delta n}$
- Remote test and reset by three wire link

Connection capacity

- Flexible - 1 to 2.5mm
- Stranded/rigid - 1.5 to 4mm



HR510



HR520

Earth leakage relays

Description	Width	Cat ref.
Without delay c/o contact 250V 6A ~ AC1 Fixed sensitivity = 300mA Trips immediately	1 mod	HR502
Standard c/o contact 250V 6A ~ AC1 Adjustable sensitivity $I_{rn} = 0.03/0.1/0.3/0.5/1/3/10A$ Adjustable time delay $t_r = 0/0.1/0.3/0.4/0.5/1/3sec$	3 mod	HR510
Premium c/o contact 250V 6A ~ AC1 Fail safe contact 250V 6A ~ AC1 Pre-alarm contact 250V 6A ~ AC1 Adjustable sensitivity $I_{rn} = 0.03/0.1/0.3/0.5/1/3/10A$ Adjustable time delay $t_r = 0/0.1/0.3/0.4/0.5/1/3sec$ Bargraph = 5% - 75% I_{rn}	3 mod	HR520
Integral toroid c/o contact 250V 6A ~ AC1 Adjustable sensitivity $I_{rn} = 0.03/0.1/0.3/0.5/1/3A$ Adjustable time delay $t_r = 0/0.1/0.3/0.5/0.75/1sec$ \varnothing of toroid: 35mm	6 mod	HR441



HR700

Circular section toroids

Characteristics	Cat ref.
Inside \varnothing of toroid: 30mm	HR700
Inside \varnothing of toroid: 35mm	HR701
Inside \varnothing of toroid: 70mm	HR702
Inside \varnothing of toroid: 105mm	HR703
Inside \varnothing of toroid: 140mm	HR704

Earth leakage relays

	Without adjustment		Adjustable		With integrated toroid
	HR502	HR510	HR520	HR441	
Number of modules	1	3	3	6	
Supply voltage	~50/60Hz	230V +/- 20%			
Network voltage	~50/60Hz	50 à 700V			
Power consumption	3 VA	5 VA	6 VA		
Output command	Potential free changeover contacts				
Contact rating (standard output, fail safe, 50% pre-alarm)	5A / 250V AC1	6A / 250V AC1			
Residual current settings $I_{\Delta n}$	0,3A	0.03 / 0.1/0.3 / 0.5/ 1/ 3/10		0.03 / 0.1/0.3 / 0.5/ 1/ 3	
Delay on opening (+/- 20%)	Instant	0/0,1s/0,3s/0,4s /0,5s/1s/3s	0/0,1s/0,3s/0,4s /0,5s/1s/3s/5S	0s /0,1s /0,3s /0,5s/0,75s/1s	
Permissible overload of the toroid	30 kA / 100 ms				
Test & reset push button voltage	100 - 250V				
Type A	yes				
Increased immunity (HI)	yes				
Voltage & fault indication	yes				
Signalling current default	yes				
Bar graph indication	-	yes		-	
Standard output (1OF)	yes				
Fail safe output (1OF)	no	yes			no
50% $I_{\Delta n}$ output	-	yes		-	
Analog output	-				0,03A $I_{\Delta n}$ = 2,25 mV/mA 0,1A $I_{\Delta n}$ = 2,25 mV/mA 0,3A $I_{\Delta n}$ = 2,25 mV/mA 0,5A $I_{\Delta n}$ = 2,25 mV/mA 1A $I_{\Delta n}$ = 2,25 mV/mA 3A $I_{\Delta n}$ = 2,25 mV/mA
Maximum cable length to test & reset	200m				
Maximum cable length between toroid & relay	50m maximum width 1,5mm ² twisted pair cable - 25m for non twisted cable				
Connection. Relay: cage terminals	rigid/stranded	1,5 to 4 mm ²			1,5 to 4 mm ²
	flexible	1 to 2,5 mm ²			1 to 2,5 mm ²
Connection. Toroid:	rigid/stranded	1,5 to 4 mm ²			1,5 to 4 mm ²
	flexible	1 to 6 mm ²			1 to 6 mm ²
Operating temperature	-10 to +55°C				
Storage temperature	-25 to +70°C				
Standard compliance	IEC 60947-2 annexe B, IEC 61543, IEC 61008-1, IEC 60755				

Toroids

	HR700	HR701 - HR705
Altitude	2000m	
Maximum screw torque	1Nm	
Maximum connection distance between toroid & ELR	50m max with twisted pair cable	
Rated frequency	50-60 Hz	
Connection: rigid/stranded cable	1 to 1.5 mm ²	1,5 à 4 mm ²
Connection section in flexible cable for the measurement	1 to 1,5mm ²	1,5 à 2,5mm ²
Operating temperature	-10 to +55°C	
Storage temperature	-25 to +70°C	
Rated voltage for alternating use	50 to 700V	
Rated insulation voltage	250V	
Rated impulse withstand voltage	4kV	
IP for torroids	IP41	

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