

xPole Home

New residential breaker range for protection and safety of your home

RCBO Devices HNB



Catalog



Powering Business Worldwide

sg00818_r



Description

- High-quality residual current device / miniature circuit breaker combination, line voltage-independent
- Contact position indicator red - green
- Basic range of accessories can be mounted subsequently
- 3-position DIN rail clip, permits removal from existing busbar system
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 6 kA

$I_n/I_{\Delta n}$ (A)	Type Designation	Article No.	Units per package
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Type A

6 kA, 1+N-pole

Conditionally surge current-proof 250 A, sensitive to residual pulsating DC, type A

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Characteristic B

6/0.03	HNB-B6/1N/003-A	195130	1/60
10/0.03	HNB-B10/1N/003-A	195131	1/60
13/0.03	HNB-B13/1N/003-A	195132	1/60
16/0.03	HNB-B16/1N/003-A	195133	1/60
20/0.03	HNB-B20/1N/003-A	195134	1/60
25/0.03	HNB-B25/1N/003-A	195135	1/60
32/0.03	HNB-B32/1N/003-A	303360	1/60
40/0.03	HNB-B40/1N/003-A	303361	1/60

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Characteristic C

6/0.03	HNB-C6/1N/003-A	195136	1/60
10/0.03	HNB-C10/1N/003-A	195137	1/60
13/0.03	HNB-C13/1N/003-A	195138	1/60
16/0.03	HNB-C16/1N/003-A	195139	1/60
20/0.03	HNB-C20/1N/003-A	195140	1/60
25/0.03	HNB-C25/1N/003-A	195141	1/60
32/0.03	HNB-C32/1N/003-A	303356	1/60
40/0.03	HNB-C40/1N/003-A	303357	1/60

Type AC

6 kA, 1+N-pole

Conditionally surge current-proof 250 A, type AC

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Characteristic B

6/0.03	HNB-B6/1N/003	195118	1/60
10/0.03	HNB-B10/1N/003	195119	1/60
13/0.03	HNB-B13/1N/003	195120	1/60
16/0.03	HNB-B16/1N/003	195121	1/60
20/0.03	HNB-B20/1N/003	195122	1/60
25/0.03	HNB-B25/1N/003	195123	1/60
32/0.03	HNB-B32/1N/003	303363	1/60
40/0.03	HNB-B40/1N/003	303364	1/60

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Characteristic C

6/0.03	HNB-C6/1N/003	195124	1/60
10/0.03	HNB-C10/1N/003	195125	1/60
13/0.03	HNB-C13/1N/003	195126	1/60
16/0.03	HNB-C16/1N/003	195127	1/60
20/0.03	HNB-C20/1N/003	195128	1/60
25/0.03	HNB-C25/1N/003	195129	1/60
32/0.03	HNB-C32/1N/003	303358	1/60
40/0.03	HNB-C40/1N/003	303359	1/60

Specifications | RCBO Devices HNB xPole Home

Description

- Combined RCD/MCB Devices
- Line voltage-independent tripping
- Compatible with standard busbar
- Twin-purpose terminal (lift/open-mouthed) above and below
- Busbar positioning optionally above or below
- Free terminal space despite installed busbar
- Contact position indicator red - green
- Basic range of accessories can be mounted subsequently
- The test key "T" must be pressed every 6 month. The system operator must be informed of this obligation and his responsibility in a way that can be proven (self-adhesive RCD-label enclosed). The test intervall of 6 month is valid for residential and similar applications. Under all other conditions (e.g. damply or dusty environments), it's recommended to test in shorter intervalls (e.g. monthly).
- Pressing the test key "T" serves the only purpose of function testing the residual current device (RCD). This test does not make earthing resistance measurement (R_E), or proper checking of the earth conductor condition redundant, which must be performed separately.
- **Type -A:** Protects against special forms of residual pulsating DC which have not been smoothed

Accessories:

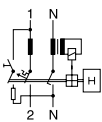
Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal switch for subsequent installation	ZP-NHK	248437
Shunt trip release	ZP-ASA/..	248438, 248439
Terminal cover cap	KLV-TC-2	276240
Additional terminal 35 mm ²	Z-HA-EK/35	263960

Technical Data

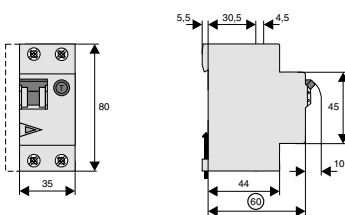
		HNB, 1+N-pole
Electrical		
Design according to		IEC/EN 61009
Current test marks as printed onto the device		
Line voltage-independent tripping		instantaneous 250 A (8/20 μ s), surge current proof
Rated voltage	U_e	230 V AC; 50 Hz
Operational voltage range		196-253 V
Rated tripping current	$I_{\Delta n}$	30 mA
Rated non-tripping current	$I_{\Delta no}$	0.5 $I_{\Delta n}$
Sensitivity		AC and pulsating DC
Selectivity class		3
Rated breaking capacity	I_{cn}	6 kA
Rated current		6 - 40 A
Rated impulse withstand voltage	U_{mp}	4 kV (1.2/50 μ s)
Characteristic		B, C
Maximum back-up fuse (short circuit)		100 A gL (>6 kA)
Endurance		
electrical components		\geq 4,000 switching operations
mechanical components		\geq 20,000 switching operations
Mechanical		
Frame size		45 mm
Device height		80 mm
Device width		35 mm (2MU)
Mounting		3-position DIN rail clip, permits removal from existing busbar system
Degree of protection, switch		IP20
Degree of protection, built-in		IP40
Upper and lower terminals		open mouthed/lift terminals
Terminal protection		finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity		1 - 25 mm ²
Terminal torque		2 - 2.4 Nm
Busbar thickness		0.8 - 2 mm
Tripping temperature		-25°C to +40°C
Storage- and transport temperature		-35°C to +60°C
Resistance to climatic conditions		according to IEC/EN 61009
Climatic conditions		Acc. to IEC 68-2 (25...55°C / 90...95% RH)

Connection diagram

1+N-pole



Dimensions (mm)

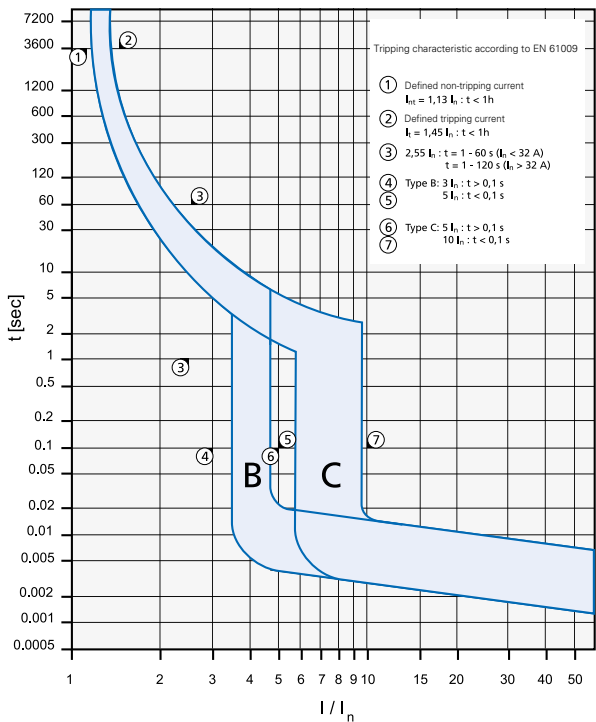


Load Capacity HNB

Effect of ambient temperature (MCB component)

I _n [A]	Ambient temperature T [°C]								
	-25	-20	-10	0	10	20	30	35	40
6	7.4	7.2	7.0	6.7	6.5	6.3	6.0	5.9	5.8
10	12	12	12	11	11	10	10	9.9	9.7
13	16	16	15	15	14	14	13	13	13
16	20	19	19	18	17	17	16	16	15
20	25	24	23	22	22	21	20	20	19
25	31	30	29	28	27	26	25	25	24
32	40	38	37	36	35	33	32	32	31
40	49	48	47	45	43	42	40	39	39

Tripping Characteristic HNB, Characteristics B and C



Short Circuit Selectivity HNB towards DII-DIV fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices HNB and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{sc} under I_s, only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **Characteristic B** towards fuse link **DII-DIV***

HNB I _n [A]	DII-DIV gL/gG								
	10	16	20	25	35	50	63	80	100
6	<0.5 ¹⁾	0.7	1.0	2.9	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
10		0.6	0.9	1.9	3.3	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
13		0.5	0.7	1.6	2.8	5.7	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
16			0.7	1.4	2.4	4.4	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
20				1.3	2.2	4.0	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
25				1.3	2.1	3.8	5.8	6.0 ²⁾	6.0 ²⁾
32					2.0	3.5	5.2	9.5	9.5
40						3.1	4.5	8.1	8.1

Short circuit selectivity **Characteristic C** towards fuse link **DII-DIV***

HNB I _n [A]	DII-DIV gL/gG								
	10	16	20	25	35	50	63	80	100
6	<0.5 ¹⁾	0.6	1.0	2.9	5.8	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
10		<0.5	0.7	1.5	2.6	5.3	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
13				1.4	2.3	4.6	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
16				1.2	1.8	3.4	5.5	6.0 ²⁾	6.0 ²⁾
20				1.2	1.7	3.1	5.0	6.0 ²⁾	6.0 ²⁾
25					1.6	2.9	4.6	6.0 ²⁾	6.0 ²⁾
32						2.3	3.4	7.7	7.7
40							2.9	6.2	6.2

¹⁾ Selectivity limit current I_s under 0.5 kA.

²⁾ Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity



Short Circuit Selectivity HNB towards D01-D03 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices HNB and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{sc} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **Characteristic B** towards fuse link **D01-D03***

HNB I_n [A]	D01-D03 gL/gG								
	10	16	20	25	35	50	63	80	100
6	<0.5 ¹⁾	0.5	0.8	2.4	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
10		0.5	0.8	1.6	3.7	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
13		0.6	0.7	1.4	3.0	4.7	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
16			0.6	1.2	2.6	3.9	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
20				1.2	2.5	3.6	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
25				1.2	2.3	3.3	5.7	6.0 ²⁾	6.0 ²⁾
32					2.3	3.1	5.1	10.0 ²⁾	10.0 ²⁾
40						2.8	4.5	9.5	9.5

Short circuit selectivity **Characteristic C** towards fuse link **D01-D03***

HNB I_n [A]	D01-D03 gL/gG								
	10	16	20	25	35	50	63	80	100
6	<0.5 ¹⁾	<0.5 ¹⁾	0.8	2.3	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
10		<0.5	0.6	1.3	2.9	4.5	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
13				1.2	2.5	3.9	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
16				1.0	2.1	3.0	5.5	6.0 ²⁾	6.0 ²⁾
20				1.0	2.0	2.7	5.0	6.0 ²⁾	6.0 ²⁾
25					1.9	2.6	4.5	6.0 ²⁾	6.0 ²⁾
32						2.1	3.4	10.0 ²⁾	10.0 ²⁾
40							3.0	8.7	8.7

Short Circuit Selectivity HNB towards NH-00 fuse link

In case of short circuit, there is selectivity between the combined RCD/MCB devices HNB and the upstream fuses up to the specified values of the selectivity limit current I_s [kA] (i. e. in case of short-circuit currents I_{sc} under I_s , only the MCB will trip, in case of short circuit currents above this value both protective devices will respond).

*) basically in accordance with EN 60898-1 D.5.2.b

Short circuit selectivity **Characteristic B** towards fuse link **NH-00***

HNB I_n [A]	D01-D03 gL/gG									
	16	20	25	32	35	40	50	63	80	100
6	<0.5 ¹⁾	0.5	0.8	1.4	2.2	3.3	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
10		<0.5 ¹⁾	0.7	0.9	1.5	2.1	3.4	4.3	6.0 ²⁾	6.0 ²⁾
13		<0.5 ¹⁾	0.6	0.8	1.4	1.8	2.8	3.6	5.7	6.0 ²⁾
16			0.6	0.7	1.2	1.5	2.4	3.0	4.5	6.0 ²⁾
20				0.7	1.1	1.5	2.2	2.8	4.2	6.0 ²⁾
25				0.7	1.1	1.4	2.1	2.6	4.0	6.0 ²⁾
32					1.0	1.4	2.0	2.5	3.7	7.1
40							2.3	3.4	6.2	6.2

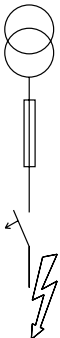
Short circuit selectivity **Characteristic C** towards fuse link **NH-00***

HNB I_n [A]	D01-D03 gL/gG									
	16	20	25	32	35	40	50	63	80	100
6	<0.5 ¹⁾	<0.5 ¹⁾	0.7	1.3	2.2	3.3	5.9	6.0 ²⁾	6.0 ²⁾	6.0 ²⁾
10			0.5	0.8	1.2	1.7	2.7	3.4	5.5	6.0 ²⁾
13					1.1	1.5	2.3	2.9	4.7	6.0 ²⁾
16					1.0	1.3	1.8	2.3	3.7	6.0 ²⁾
20					0.9	1.1	1.7	2.2	3.4	6.0 ²⁾
25							1.6	2.1	3.2	6.0 ²⁾
32								1.7	2.6	5.3
40									2.4	4.5

¹⁾ Selectivity limit current I_s under 0.5 kA.

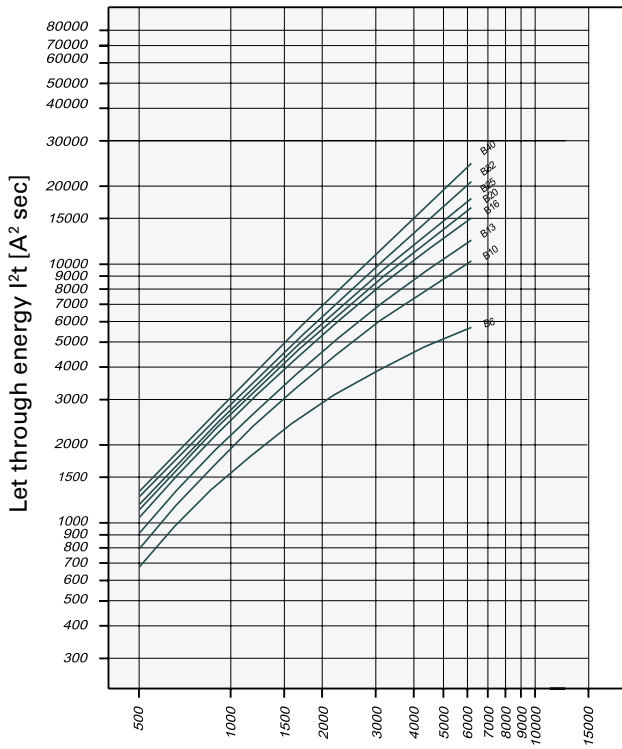
²⁾ Selectivity limit current I_s = rated breaking capacity I_{cn} of the RCD/MCB device

Darker areas: no selectivity



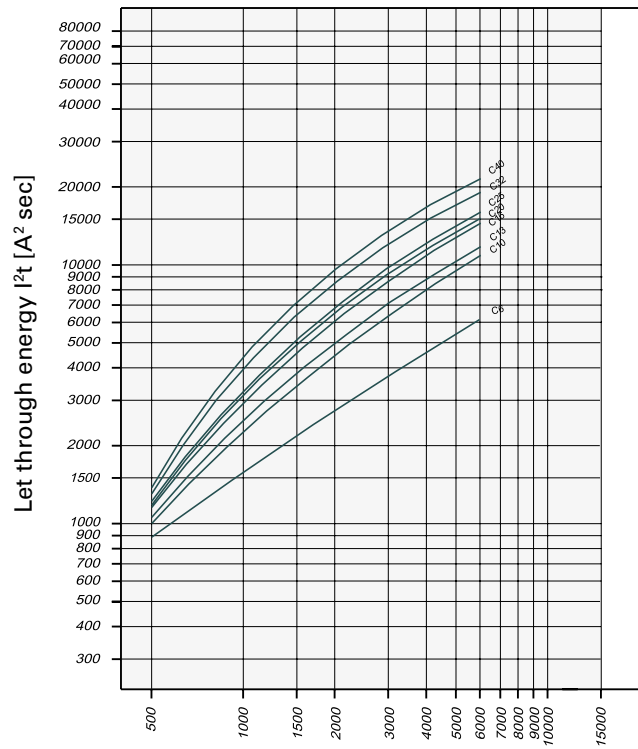
Let-through Energy HNB

Let-through Energy HNB, Characteristic B, 1+N-pole



Prospective short-circuit current [A]

Let-through Energy HNB, Characteristic C, 1+N-pole



Prospective short-circuit current [A]

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