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xPole Home

New residential breaker range for protection and safety of your home

Miniature Circuit Breakers HLN

Catalog

Powering Business Worldwide

WA_SG03522_L

Description

- Top-quality miniature circuit breakers 1P+N with a width of 1 module unit requiring little space for installation
- Contact position indicator red - green
- Guide for secure terminal connection
- Comprehensive range of accessories can be mounted subsequently
- Rated currents up to 40 A
- Tripping characteristics B, C
- Rated breaking capacity 4.5 kA according to IEC/EN 60898-1

WA_SG03522_L

4.5 kA, Characteristic B

1+N-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
6	HLN-B6/1N	501048	12/120
10	HLN-B10/1N	501049	12/120
13	HLN-B13/1N	501050	12/120
16	HLN-B16/1N	501051	12/120
20	HLN-B20/1N	501052	12/120
25	HLN-B25/1N	501053	12/120
32	HLN-B32/1N	501054	12/120
40	HLN-B40/1N	501055	12/120

WA_SG03522_L

4.5 kA, Characteristic C

1+N-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
2	HLN-C2/1N	501056	12/120
4	HLN-C4/1N	501057	12/120
6	HLN-C6/1N	501058	12/120
10	HLN-C10/1N	501059	12/120
13	HLN-C13/1N	501060	12/120
16	HLN-C16/1N	501061	12/120
20	HLN-C20/1N	501062	12/120
25	HLN-C25/1N	501063	12/120
32	HLN-C32/1N	501064	12/120
40	HLN-C40/1N	501065	12/120

Specifications | Miniature Circuit Breakers HLN

Description

- High selectivity between MCB and back-up fuse due to low let-through energy
- Busbar positioning optionally above or below
- Compatible with standard busbar
- Switching toggle in colour designating the rated current
- Meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- 1-pole breaking capacity I_{cn1} = 3 kA

Accessories:

Auxiliary switch for subsequent installation	ZP-IHK	286052
	ZP-WHK	286053
Tripping signal switch for subsequent installation	ZP-NHK	248437
Remote control and automatic switching device	Z-FW/LP	248296
Shunt trip release	ZP-ASA/..	248438, 248439
Undervoltage release	Z-USA/..	248288-248291

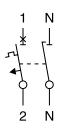
Busbars:	see capter busbar systems

Technical Data

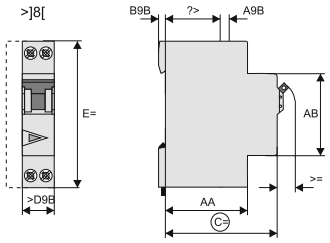
		HLN
Electrical		
Design according to Current test marks as printed onto the device		IEC/EN 60898-1
Rated voltage	U_n	230 VAC
Rated frequency		50/60 Hz
Rated breaking capacity according to IEC/EN 60898-1 HLN	I_{cn}	 4.5 kA
Characteristic		B, C
Back-up fuse >4.5 kA		 max. 80 A gL/gG
Selectivity class		3
Endurance electrical components		≥ 8,000 switching operations
Mechanical		
Frame size		45 mm
Device height		80 mm
Device width		17.5 mm (1MU for 1+N)
Mounting		quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection		IP20
Upper and lower terminals		open-mouthed/lift terminals
Terminal protection		finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity		1-16 mm^2

Connection diagram

1+N-pole

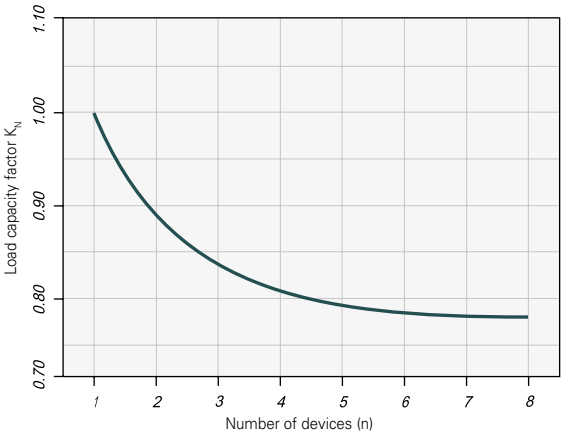


Dimensions (mm)

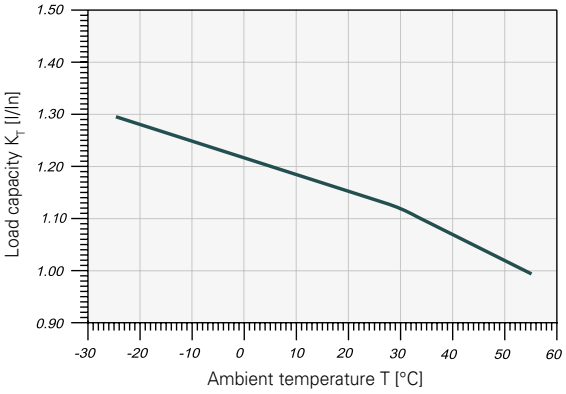


Load Capacity HLN

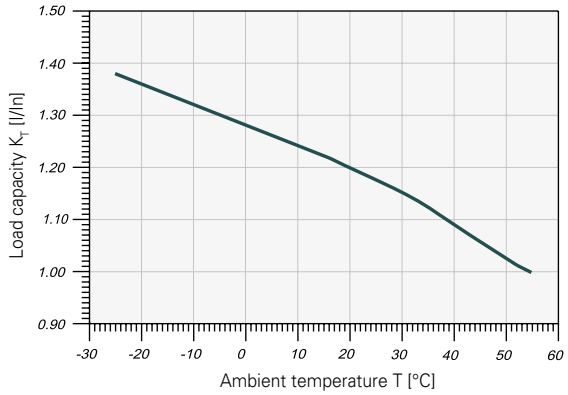
Load capacity in case of MCB block installation



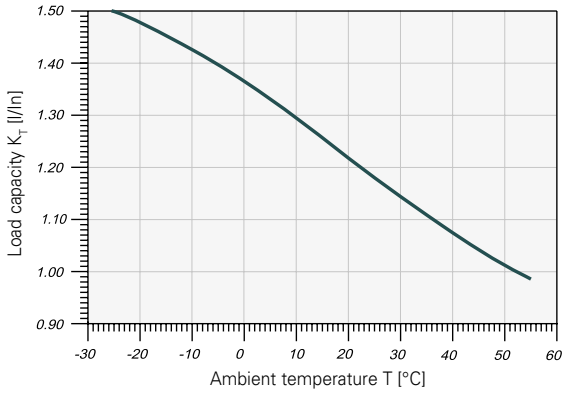
Current carrying capacity at ambient temperature (I_n = 2-13 A)



Current carrying capacity at ambient temperature (I_n = 16-25 A)



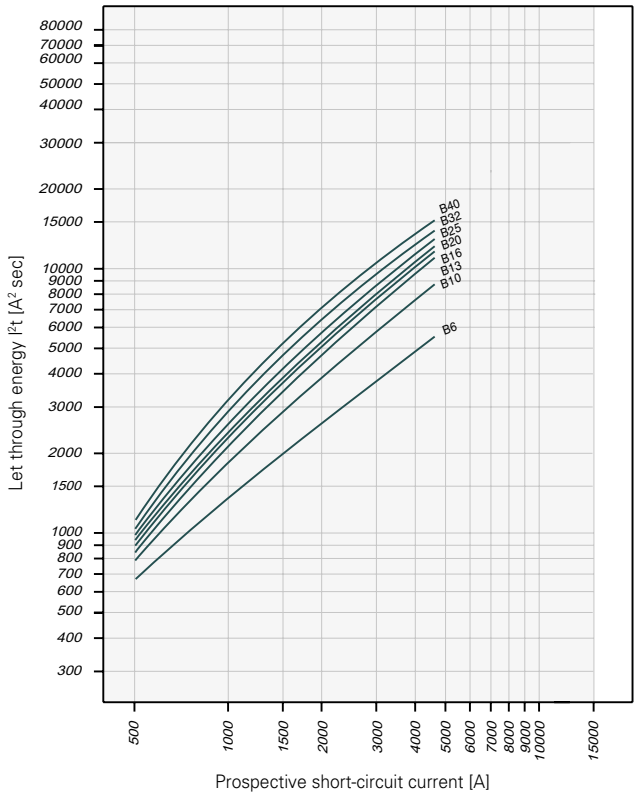
Current carrying capacity at ambient temperature (I_n = 32, 40 A)



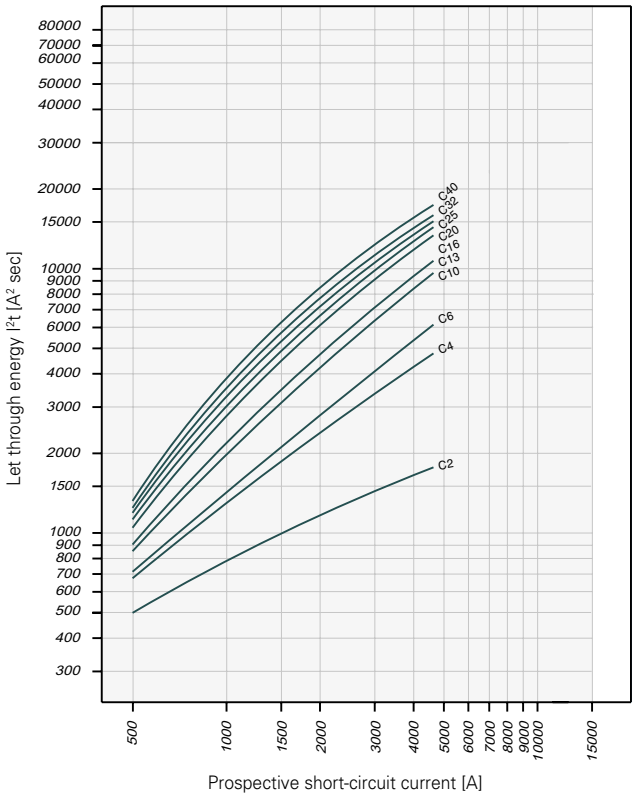
Permitted permanent load at ambient temperature T (°C) with n devices: $I_{DL} = I_n K_T(T) K_N(N)$.

Let-through Energy HLN

Maximum let-through energy HLN, Characteristic B



Maximum let-through energy HLN, Characteristic C

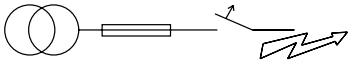


Determined according to 60898-1.

Short-circuit Selectivity HLN

In case of short-circuit, there is selectivity between the miniature circuit breakers HLN 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_{ks} 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***)

HLN	DII-DIV gL/gG						
I_n [A]	20	25	35	50	63	80	100
6	0.7	1.2	2.9	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10	0.6	0.9	1.9	3.1	4.5[2)]	4.5[2)]	4.5[2)]
13	0.5	0.7	1.5	2.5	4.5[2)]	4.5[2)]	4.5[2)]
16	0.5	0.7	1.4	2.3	4.3	4.5[2)]	4.5[2)]
20	0.5	0.7	1.4	2.2	4.0	4.5[2)]	4.5[2)]
25	0.5	0.6	1.3	2.0	3.8	4.5[2)]	4.5[2)]
32	0.5	0.6	1.2	1.8	3.4	4.5[2)]	4.5[2)]
40	<0.5[1)]	0.6	1.1	1.7	3.1	4.5[2)]	4.5[2)]

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

HLN	DII-DIV gL/gG						
I_n [A]	20	25	35	50	63	80	100
2	1.5	3.8	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	0.7	1.2	3.3	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6	0.7	1.1	2.6	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10	0.5	0.8	1.7	2.8	4.5[2)]	4.5[2)]	4.5[2)]
13	0.5	0.7	1.5	2.5	4.5[2)]	4.5[2)]	4.5[2)]
16	0.5	0.6	1.2	2.0	3.6	4.5[2)]	4.5[2)]
20	0.5	0.6	1.2	1.8	3.3	4.5[2)]	4.5[2)]
25	<0.5[1)]	0.6	1.1	1.7	3.0	4.5[2)]	4.5[2)]
32	<0.5[1)]	0.6	1.0	1.6	2.8	4.5[2)]	4.5[2)]
40	<0.5[1)]	0.6	1.0	1.5	2.6	4.0	4.5[2)]

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

HLN	D01-D03 gL/gG						
I_n [A]	20	25	35	50	63	80	100
6	0.6	0.9	2.5	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10	0.5	0.8	1.6	3.4	4.5[2)]	4.5[2)]	4.5[2)]
13	0.5	0.7	1.3	2.7	4.0	4.5[2)]	4.5[2)]
16	0.5	0.6	1.3	2.5	3.8	4.5[2)]	4.5[2)]
20	<0.5[1)]	0.6	1.3	2.4	3.6	4.5[2)]	4.5[2)]
25	<0.5[1)]	0.6	1.2	2.3	3.3	4.5[2)]	4.5[2)]
32	<0.5[1)]	0.6	1.1	2.1	3.0	4.5[2)]	4.5[2)]
40	<0.5[1)]	0.6	1.0	2.0	2.8	4.5[2)]	4.5[2)]

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

HLN	D01-D03 gL/gG						
I_n [A]	20	25	35	50	63	80	100
2	1.1	2.0	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	0.6	0.9	2.7	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6	0.6	0.9	2.3	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10	0.5	0.7	1.5	3.0	4.5[2)]	4.5[2)]	4.5[2)]
13	0.5	0.7	1.3	2.7	4.0	4.5[2)]	4.5[2)]
16	<0.5[1)]	0.6	1.1	2.2	3.1	4.5[2)]	4.5[2)]
20	<0.5[1)]	0.6	1.1	2.1	2.9	4.5[2)]	4.5[2)]
25	<0.5[1)]	0.5	1.0	2.0	2.7	4.5[2)]	4.5[2)]
32	<0.5[1)]	0.5	1.0	1.9	2.6	4.5[2)]	4.5[2)]
40	<0.5[1)]	0.5	0.9	1.7	2.3	4.0	4.5[2)]

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

HLN	NH-00 gL/gG								
I_n [A]	20	25	32	35	40	50	63	80	100
6	0.5	0.9	1.5	2.3	3.2	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10	<0.5[1)]	0.7	1.2	1.5	2.0	3.1	3.9	4.5[2)]	4.5[2)]
13	<0.5[1)]	0.6	1.0	1.3	1.7	2.5	3.1	4.5[2)]	4.5[2)]
16	<0.5[1)]	0.6	1.0	1.3	1.6	2.4	2.9	4.5[2)]	4.5[2)]
20	<0.5[1)]	0.5	0.9	1.3	1.5	2.3	2.8	4.3	4.5[2)]
25	<0.5[1)]	0.5	0.9	1.1	1.4	2.1	2.6	4.0	4.5[2)]
32	<0.5[1)]	0.5	0.8	1.0	1.3	1.9	2.4	3.6	4.5[2)]
40	<0.5[1)]	0.5	0.8	0.9	1.1	1.7	2.2	3.3	4.5[2)]

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

HLN	NH-00 gL/gG								
I_n [A]	20	25	32	35	40	50	63	80	100
2	0.7	2.1	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
4	0.5	0.9	1.6	2.6	3.7	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
6	0.5	0.8	1.4	2.1	2.9	4.5[2)]	4.5[2)]	4.5[2)]	4.5[2)]
10	<0.5[1)]	0.6	1.0	1.4	1.9	2.8	3.5	4.5[2)]	4.5[2)]
13	<0.5[1)]	0.6	0.9	1.3	1.7	2.5	3.1	4.5[2)]	4.5[2)]
16	<0.5[1)]	0.5	0.7	1.0	1.3	2.0	2.5	3.8	4.5[2)]
20	<0.5[1)]	0.5	0.7	0.9	1.2	1.8	2.3	3.5	4.5[2)]
25	<0.5[1)]	0.5	0.7	0.9	1.1	1.6	2.1	3.3	4.5[2)]
32	<0.5[1)]	<0.5[1)]	0.6	0.8	1.1	1.5	2.0	3.1	4.5[2)]
40	<0.5[1)]	<0.5[1)]	0.6	0.8	1.0	1.4	1.9	2.9	4.5[2)]

[1)] Selectivity limit current I_s under 0.5 kA

[2)] Selectivity limit current I_s = rated breaking capacity I_{cn} of the MCB

Eaton's electrical business is a global leader with deep regional application expertise in power distribution and circuit protection; power quality, backup power and energy storage; control and automation; life safety and security; structural solutions; and harsh and hazardous environment solutions. Through end-to-end services, channel and an integrated digital platform & insights Eaton is powering what matters across industries and around the world, helping customers solve their most critical electrical power management challenges.

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