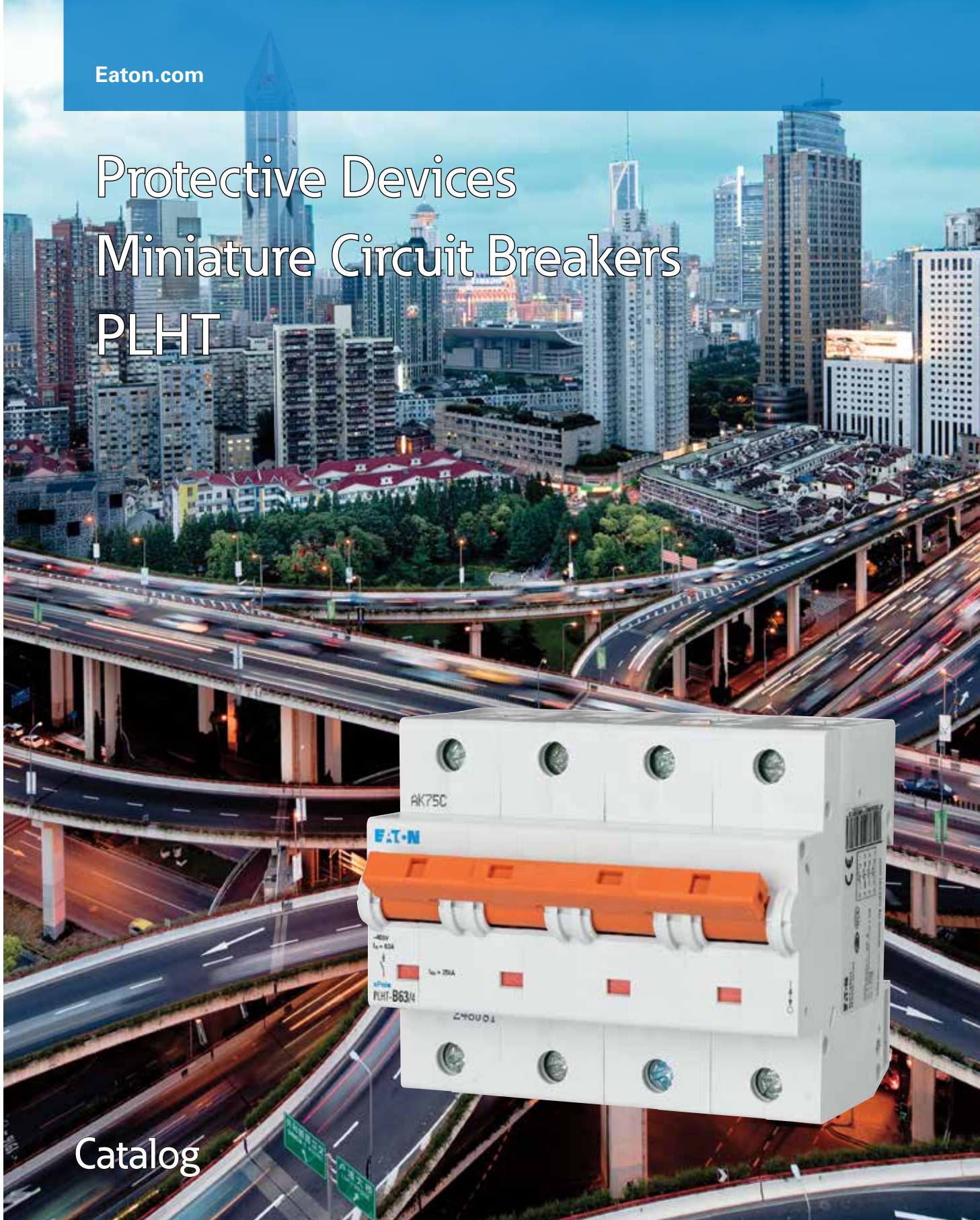


Protective Devices Miniature Circuit Breakers PLHT



Catalog



Powering Business Worldwide

SG43611



Description

- High-quality miniature circuit breakers for commercial and industrial applications
- Contact position indicator red - green
- Accessories suitable for subsequent installation
- Rated currents up to 125 A
- Tripping characteristics B, C, D
- Rated breaking capacity up to 25 kA according to EN 60947-2

Miniature Circuit Breakers PLHT

Rated current I_n (A)	Type Designation	Article No.	Units per package
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25 kA, Characteristic B

SG41311



1-pole

20	PLHT-B20	247972	12
25	PLHT-B25	247973	12
32	PLHT-B32	247974	12
40	PLHT-B40	247975	12
50	PLHT-B50	247976	12
63	PLHT-B63	247977	12
80	PLHT-B80	247978	12
100	PLHT-B100	247979	12
125	PLHT-B125	247980	12

SG42111



2-pole

20	PLHT-B20/2	247998	6
25	PLHT-B25/2	247999	6
32	PLHT-B32/2	248000	6
40	PLHT-B40/2	248001	6
50	PLHT-B50/2	248002	6
63	PLHT-B63/2	248003	6
80	PLHT-B80/2	248004	6
100	PLHT-B100/2	248005	6
125	PLHT-B125/2	248006	6

SG42911



3-pole

20	PLHT-B20/3	248024	4
25	PLHT-B25/3	248025	4
32	PLHT-B32/3	248026	4
40	PLHT-B40/3	248027	4
50	PLHT-B50/3	248028	4
63	PLHT-B63/3	248029	4
80	PLHT-B80/3	248030	4
100	PLHT-B100/3	248031	4
125	PLHT-B125/3	248032	4

SG45111



3+N-pole

20	PLHT-B20/3N	248050	3
25	PLHT-B25/3N	248051	3
32	PLHT-B32/3N	248052	3
40	PLHT-B40/3N	248053	3
50	PLHT-B50/3N	248054	3
63	PLHT-B63/3N	248055	3
80	PLHT-B80/3N	248056	3
100	PLHT-B100/3N	248057	3
125	PLHT-B125/3N	248058	3

SG44811



4-pole

20	PLHT-B20/4	248076	3
25	PLHT-B25/4	248077	3
32	PLHT-B32/4	248078	3
40	PLHT-B40/4	248079	3
50	PLHT-B50/4	248080	3
63	PLHT-B63/4	248081	3
80	PLHT-B80/4	248082	3
100	PLHT-B100/4	248083	3
125	PLHT-B125/4	248084	3

Rated current I_n (A)	Type Designation	Article No.	Units per package
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25 kA, Characteristic C

SG41311



1-pole

20	PLHT-C20	247981	12
25	PLHT-C25	247982	12
32	PLHT-C32	247983	12
40	PLHT-C40	247984	12
50	PLHT-C50	247985	12
63	PLHT-C63	247986	12
80	PLHT-C80	247987	12
100	PLHT-C100	247988	12
125	PLHT-C125	247989	12

SG42111



2-pole

20	PLHT-C20/2	248007	6
25	PLHT-C25/2	248008	6
32	PLHT-C32/2	248009	6
40	PLHT-C40/2	248010	6
50	PLHT-C50/2	248011	6
63	PLHT-C63/2	248012	6
80	PLHT-C80/2	248013	6
100	PLHT-C100/2	248014	6
125	PLHT-C125/2	248015	6

SG42911



3-pole

20	PLHT-C20/3	248033	4
25	PLHT-C25/3	248034	4
32	PLHT-C32/3	248035	4
40	PLHT-C40/3	248036	4
50	PLHT-C50/3	248037	4
63	PLHT-C63/3	248038	4
80	PLHT-C80/3	248039	4
100	PLHT-C100/3	248040	4
125	PLHT-C125/3	248041	4

SG45111



3+N-pole

20	PLHT-C20/3N	248059	3
25	PLHT-C25/3N	248060	3
32	PLHT-C32/3N	248061	3
40	PLHT-C40/3N	248062	3
50	PLHT-C50/3N	248063	3
63	PLHT-C63/3N	248064	3
80	PLHT-C80/3N	248065	3
100	PLHT-C100/3N	248066	3
125	PLHT-C125/3N	248067	3

SG44811



4-pole

20	PLHT-C20/4	248085	3
25	PLHT-C25/4	248086	3
32	PLHT-C32/4	248087	3
40	PLHT-C40/4	248088	3
50	PLHT-C50/4	248089	3
63	PLHT-C63/4	248090	3
80	PLHT-C80/4	248091	3
100	PLHT-C100/4	248092	3
125	PLHT-C125/4	248093	3

1.4

Protective Devices

xPole

Miniature Circuit Breakers PLHT

SG41311



Rated current
 I_n (A)

Type
Designation

Article No.

Units per
package

25 kA, Characteristic D

1-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
20	PLHT-D20	247990	12
25	PLHT-D25	247991	12
32	PLHT-D32	247992	12
40	PLHT-D40	247993	12
50	PLHT-D50	247994	12
63	PLHT-D63	247995	12
80	PLHT-D80	247996	12
100	PLHT-D100	247997	12

SG42111



2-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
20	PLHT-D20/2	248016	6
25	PLHT-D25/2	248017	6
32	PLHT-D32/2	248018	6
40	PLHT-D40/2	248019	6
50	PLHT-D50/2	248020	6
63	PLHT-D63/2	248021	6
80	PLHT-D80/2	248022	6
100	PLHT-D100/2	248023	6

SG42911



3-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
20	PLHT-D20/3	248042	4
25	PLHT-D25/3	248043	4
32	PLHT-D32/3	248044	4
40	PLHT-D40/3	248045	4
50	PLHT-D50/3	248046	4
63	PLHT-D63/3	248047	4
80	PLHT-D80/3	248048	4
100	PLHT-D100/3	248049	4

SG45111



3+N-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
20	PLHT-D20/3N	248068	3
25	PLHT-D25/3N	248069	3
32	PLHT-D32/3N	248070	3
40	PLHT-D40/3N	248071	3
50	PLHT-D50/3N	248072	3
63	PLHT-D63/3N	248073	3
80	PLHT-D80/3N	248074	3
100	PLHT-D100/3N	248075	3

SG44811



4-pole

Rated current I_n (A)	Type Designation	Article No.	Units per package
20	PLHT-D20/4	248094	3
25	PLHT-D25/4	248095	3
32	PLHT-D32/4	248096	3
40	PLHT-D40/4	248097	3
50	PLHT-D50/4	248098	3
63	PLHT-D63/4	248099	3
80	PLHT-D80/4	248100	3
100	PLHT-D100/4	248101	3

Explanation PLHT:

P = xPole, LH = Miniature Circuit Breakers hochwertig, T = Rated breaking capacity 15, 20, 25 kA

Rated current I_n (A)	Type Designation	Article No.	Units per package
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Miniature Circuit Breakers PLHT-V, 25 kA, similar to characteristic D

SG69611



1-pole

20	PLHT-20-V	248102	12
25	PLHT-25-V	248103	12
32	PLHT-32-V	248104	12
40	PLHT-40-V	248105	12
50	PLHT-50-V	248106	12
63	PLHT-63-V	248107	12

Accessories for Miniature Circuit Breakers PLHT, PLHT-V

Shunt trip release, Shunt trip release-Kit

Operational voltage range V~	Type Designation	Article No.	Units per package
110-415 / Shunt trip release	Z-LHASA/230	248442	8
12-60 / Shunt trip release	Z-LHASA/24	248441	8
110-415 / Shunt trip release-Kit	Z-BHASA/230	248445	8
12-60 / Shunt trip release-Kit	Z-BHASA/24	248444	8

SG69311



Auxiliary switch

Function	Type Designation	Article No.	Units per package
1NO+1NC	Z-LHK	248440	10/100

SG16111

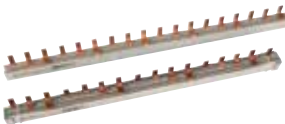


Accessories for Miniature Circuit Breakers PLHT-V

Switching interlock, Busbar block, Neutral disconnecter

Benennung	Type Designation	Article No.	Units per package
Switching interlock	LH-SPL	285752	1
Switching interlock	LHSP-E	215999	1
Switchoff interlock	LHSP-A	216000	1
Busbar block 35 mm ²	Z-SV-35/PLHT-V	264939	4

wa_sg11402



Specifications | Miniature Circuit Breakers PLHT

Description

- Independent switching contacts
- With isolator function, meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation

Accessories:

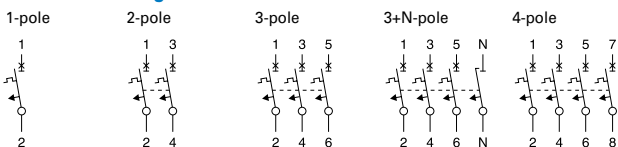
Auxiliary switch for subsequent installation (0.5 MU)	Z-LHK	248440
Shunt trip release subsequent installation (1.5 MU)	Z-LHASA/230	248442
	Z-LHASA/24	248441
Switching interlock	LH-SPL	285752

Busbars: see capter busbar systems

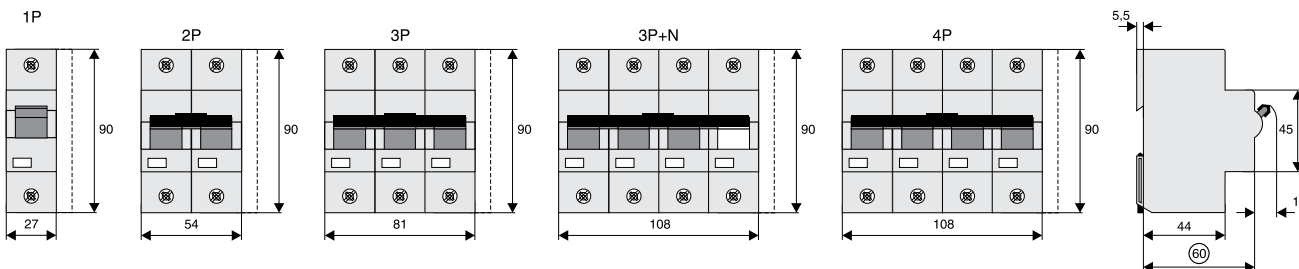
Technical Data

	PLHT
Electrical	
Design according to	EN 60947-2
Current test marks as printed onto the device	
Rated voltage	U_n AC: 230/400 V DC: 60 V (per pole, max. 2 poles)
Ultimate short-circuit breaking capacity according to IEC/EN 60947-2	
Characteristic B, C	$I_n = 20-63$ A: 25 kA $I_n = 80-100$ A: 20 kA $I_n = 125$ A: 15 kA
Characteristic D	$I_n = 20-63$ A: 25 kA $I_n = 80$ A: 20 kA $I_n = 100$ A: 15 kA
Characteristic	in accordance with B, C, D
Back-up fuse	max. 200 A gL
Rated insulation voltage	440 V
Peak withstand voltage	U_{imp} 4 kV
Selectivity class	in accordance with class 3
Endurance	$\geq 20,000$ switching operations
Mechanical	
Frame size	45 mm
Device height	90 mm
Device width	27 mm (1.5MU) per pole
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Degree of protection, built-in	IP40
Upper and lower terminals	lift terminals
Terminal protection	finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity	2.5-50 mm ²

Connection diagrams

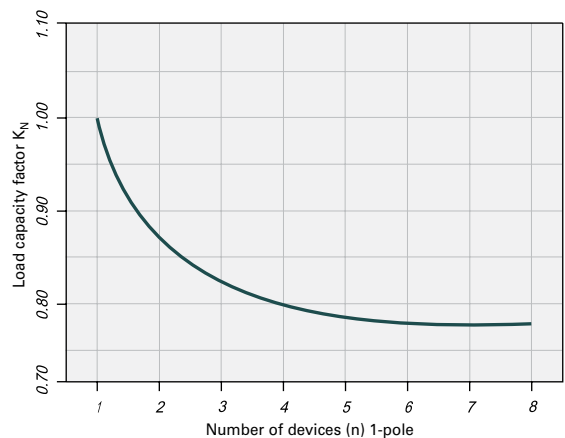


Dimensions (mm)

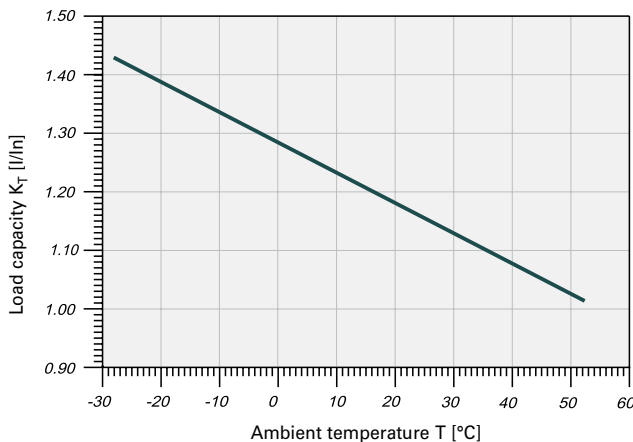


Load Capacity

Load capacity in case of block installation



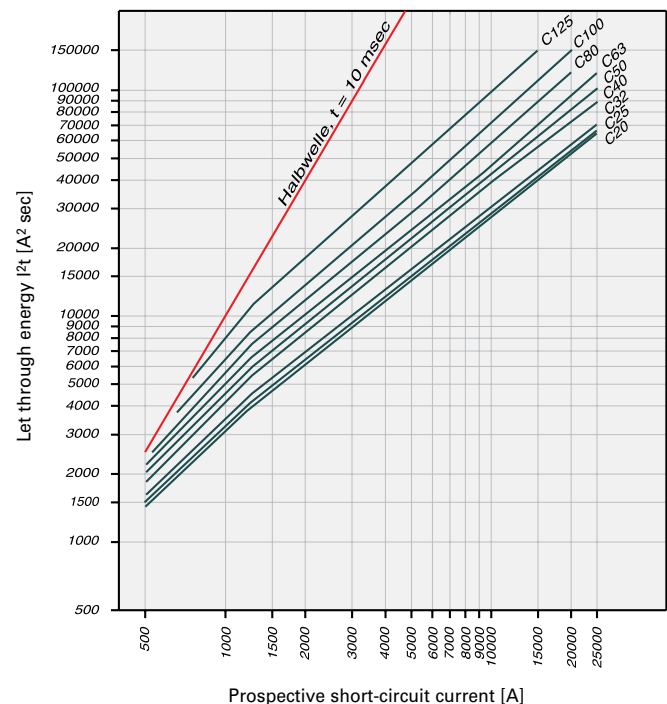
Effect of ambient temperature



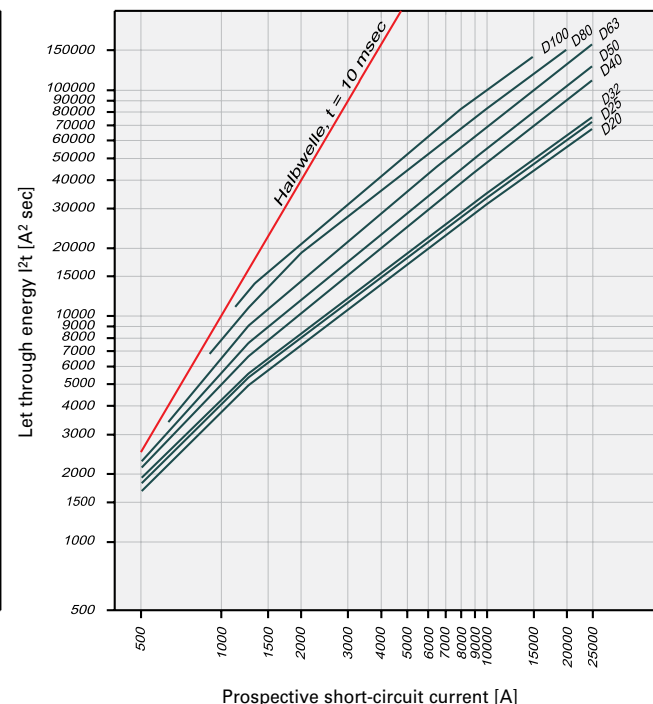
Permitted permanent load at ambient temperature T [°C] with n devices: $I_{DL} = I_n K_T(T) K_N(N)$.

Durchlassenergie

Maximum let-through energy PLHT, Characteristic C, 1-pole



Maximum let-through energy PLHT, Characteristic D, 1-pole



Determined according to 60898-1.

Short-circuit Selectivity PLHT towards D01, D02, D03 and NH size 00

- Short-circuit selectivity (in kA) PLHT and upstream fuse D0 or NH, operating class gL/gG
- 1.4 . . . selectivity up to 1.4 kA; Darker areas: no selectivity

Selectivity towards back-up fuses D01, D02, D03

Characteristic C

PLHT I_n [A]	Rated current of the back-up fuse in A gL/gG					
	25	35	50	63	80	100
20	0.5	1.0	2.0	2.9	3.9	7.6
25		1.0	1.9	2.8	3.8	7.3
32		1.0	1.8	2.7	3.6	7.0
40			1.6	2.2	3.0	5.6
50				2.1	2.8	5.2
63					2.7	4.8
80						4.3
100						
125						

Characteristic D

PLHT I_n [A]	Rated current of the back-up fuse in A gL/gG					
	25	35	50	63	80	100
20	0.5	0.9	1.7	2.5	3.4	6.7
25		0.9	1.6	2.3	3.2	6.2
32		0.9	1.5	2.3	3.0	6.0
40			1.4	2.0	2.6	4.7
50				1.8	2.3	4.3
63					2.1	3.7
80						3.1
100						

Selectivity towards back-up fuses NH size 00

Characteristic C

PLHT I_n [A]	Rated current of the back-up fuse in A gL/gG									
	25	35	40	50	63	80	100	125	160	200
20	0.5	1.0	1.3	1.9	2.7	3.7	6.7	17.0	25.0	25.0
25		0.9	1.3	1.8	2.6	3.5	6.5	17.0	25.0	25.0
32		0.9	1.2	1.7	2.4	3.3	6.0	15.0	23.0	25.0
40				1.4	2.1	2.9	4.8	12.0	18.0	25.0
50					1.9	2.7	4.5	11.0	17.0	25.0
63							4.2	10.0	15.0	25.0
80							3.8	8.5	12.0	25.0
100								7.0	10.0	25.0
125									7.5	25.0

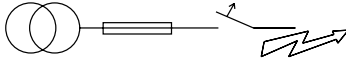
Characteristic D

PLHT I_n [A]	Rated current of the back-up fuse in A gL/gG									
	25	35	40	50	63	80	100	125	160	200
20	<0.5	0.8	1.1	1.5	2.3	3.1	5.6	16.0	25.0	25.0
25		0.7	1.0	1.4	2.1	3.0	5.3	14.0	23.0	25.0
32		0.7	1.0	1.3	2.1	2.9	5.0	13.0	22.0	25.0
40				1.1	1.8	2.5	4.2	10.0	15.0	25.0
50					1.6	2.3	3.8	8.5	13.0	22.0
63						2.1	3.2	7.0	10.5	18.0
80							2.8	5.5	8.4	15.0
100								4.8	7.5	12.5

Short-circuit Selectivity PLHT towards NZM

In case of short-circuit, there is selectivity between the miniature circuit breakers PLHT and the upstream NZM 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). Overload and short-circuit release unit NZM at max. value.

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



Short-circuit selectivity **Characteristic C** towards **NZM1***)

PLHT	NZM...1-A gL/gG					
I_n [A]	40	50	63	80	100	125
20	0.3	0.4	0.5	0.75	0.9	1.25
25	0.3	0.4	0.5	0.7	0.9	1.2
32		0.4	0.5	0.7	0.85	1.2
40			0.5	0.6	0.85	1.1
50				0.6	0.85	1.1
63					0.8	1
80						1
100						
125						

Short-circuit selectivity **Characteristic D** towards **NZM1***)

PLHT	NZM...1-A gL/gG					
I_n [A]	40	50	63	80	100	125
50						
63						
80						
100						

Short-circuit selectivity **Characteristic C** towards **NZM2***)

PLHT	NZM...2-A gL/gG								
I_n [A]	40	50	63	80	100	125	160	200	250
20	0.3	0.4	0.5	0.75	0.9	1.25	1.8	2.5	3.5
25	0.3	0.4	0.5	0.7	0.9	1.2	1.7	2.4	3.3
32		0.4	0.5	0.7	0.85	1.2	1.65	2.3	3.2
40			0.5	0.6	0.85	1.1	1.5	2.1	2.9
50				0.6	0.85	1.1	1.5	2	2.8
63					0.8	1	1.4	1.8	2.5
80						1	1.4	1.8	2.4
100							1.3	1.7	2.3
125								1.6	2.1

Short-circuit selectivity **Characteristic D** towards **NZM2***)

PLHT	NZM...2-A gL/gG									
I_n [A]	40	50	63	80	100	125	160	200	250	
50								1	1.4	2.6
63								1	1.3	2.3
80										2.1
100										

1) Selectivity limit current I_s under 0.5 kA

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

Darker areas: no selectivity

Specifications | Miniature Circuit Breakers PLHT-V

Description

- Special type of miniature circuit breaker PLHT for trade and industry applications upstream of the meter
- Independent switching contacts
- High current limit
- With isolator function, meets the requirements of insulation co-ordination, distance between contacts ≥ 4 mm, for secure isolation
- Anti-Tamper device and Switchoff interlock available

Accessories:

Auxiliary switch for subsequent installation (0.5 MU)	Z-LHK	248440
Shunt trip release subsequent installation (1.5 MU)	Z-LHASA/230	248442
	Z-LHASA/24	248441
Neutral disconnecter	Z-NTS	248443

Busbars:

see capter busbar systems

Technical Data

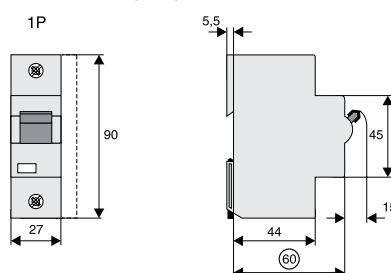
		PLHT-V
Electrical		
Design according to		EN 60947-2
Current test marks as printed onto the device		
Rated voltage	U_n	AC: 230/400 V DC: 60 V (per pole, max. 2 poles)
Ultimate short-circuit breaking capacity according to IEC/EN 60947-2		25 kA
Service short-circuit breaking capacity		20 kA
Rated breaking capacity		DC: max. 60 V, 1-pole
Characteristic		similar to D
Back-up fuse		max. 200 A gL (>20 kA)
Rated insulation voltage		440 V
Peak withstand voltage	U_{imp}	4 kV
Selectivity class		in accordance with class 3
Endurance		$\geq 20,000$ switching operations
Mechanical		
Frame size		45 mm
Device height		90 mm
Device width		27 mm (1.5MU) per pole, 30 mm per pole PLHT-V with interlock
Mounting		quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection		IP20
Degree of protection, built-in		IP40
Upper and lower terminals		lift terminals
Terminal protection		finger and hand touch safe, DGUV VS3, EN 50274
Terminal capacity		2.5-50 mm ²

Connection diagram

1-pole



Dimensions (mm)



Specifications | Accessories for PLHT, PLHT-V

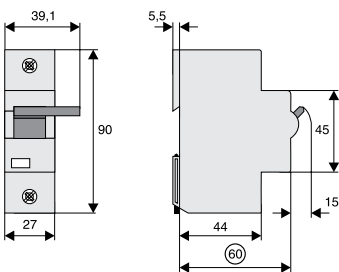
Shunt trip release Z-LHASA

- Can be mounted subsequently
- Contact position indicator red/green
- Marking labels can be fitted
- Wide operational voltage range
- Sufficient power of extra low voltage source must be ensured
Z-LHASA/24: min. 90 VA

Technical Data

	Z-LHASA
Electrical	
Operational voltage range	
Z-LHASA/230	110-415 V~
Z-LHASA/24	12-60 V~
Operational frequency	50-60 Hz
Maximum current consumption during switch-on at U_n	
Z-LHASA/230	2 A
Z-LHASA/24	18 A
Mechanical	
Frame size	45 mm
Device height	90 mm
Device width	27 mm
Mounting	quick fastening with 2 lock-in positions on DIN rail IEC/EN 60715
Degree of protection	IP20
Degree of protection, built-in	IP40
Upper and lower terminals	lift terminals

Dimensions (mm)

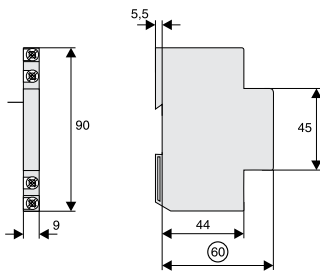


Auxiliary switch Z-LHK

- Auxiliary switch according to IEC 947-5-1
- Can be mounted subsequently

Technical Data

	Z-LHK
Electrical	
Rated operational current	(250 V~) 6 A / AC13
Minimum operational voltage	24 V each line
Rated thermal current	8 A
Rated insulation voltage	440 V~
Maximum back-up fuse	6 A gL
Contacts	1NO+1NC
Utilisation category AC13	6 A / 250 VAC 2 A / 440 VAC
Utilisation category DC13	4 A / 60 VDC 2 A / 110 VDC 0,5 A / 230 VDC
Mechanical	
Frame size	45 mm
Device height	90 mm
Device width	9 mm
Mounting	mounted onto protective devices
Degree of protection, built-in	IP40
Upper and lower terminals	lift terminals
Terminal capacity	1 x 1 mm ² to 2 x 2.5 mm ²

Connection diagram**Dimensions (mm)**

Specifications | Accessories for PLHT-V

Switching interlock LHSP-E, LH-SPL

- Prevents undesired switching ON or OFF

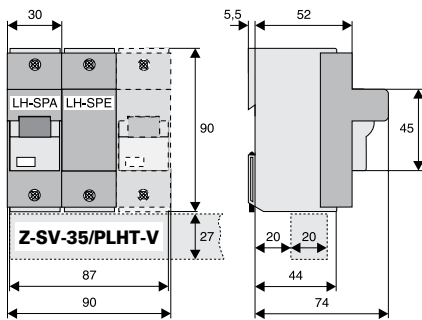
Switchoff interlock LHSP-A

- Prevents undesired switch-OFF

Busbar block 35 mm² Z-SV-35/PLHT-V, 3-pole (see capter busbar systems)

- 110/220 A
- Step distance 30 mm

Dimensions (mm)



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