Technical Data Ex9BH

Miniature Circuit Breakers, 10 kA

General parameters

Very high limiting of short circuit current		
Suitable for household as well as industrial applications		
Accessories		
Auxiliary contacts	AX3111, AX3122	100540, 100542
Alarm contact	AL3111	100541
Auxiliary and alarm contact	AXL31	100543
Shunt trip releases	SHT31, SHT3111	100544-100546, 100547-100549
Undervoltage releases	UVT31, UVT3101, UVT3110	100550-100551, 100552-100553, 100554-100555
Overvoltage release	OVT31 280V AC±5%	100556
Max. number of installed accessories is 3 pcs of one contact units (AX3111, AL3111) or 2 pcs of two contact units (AX3122, AXL31) and 2 pcs of releases (SHT31, UVT31, OVT31)		
RCD add-on blocks	Ex9LE	

Electrical parameters

Tested according to	IEC/EN 60898-1
Rated op. voltage U_e	230/400 V AC
	48 V DC (per pole)
Minimum voltage	12 V AC/DC
Rated frequency	50/60 Hz
Rated breaking capacity I_{cn}	10 kA
Rated current	1 — 63 A
Tripping characteristics	B, C, D
Rated impulse withstand voltage U_{imp}	4 kV
Rated insulation voltage U_i	690 V AC
Mechanical service life	20 000 operation cycles
Electrical service life	10 000 operation cycles
Selectivity class	3
Max. back-up fuse	max. 125 A gG
Line voltage connection	arbitrary above or below

Mechanical parameters

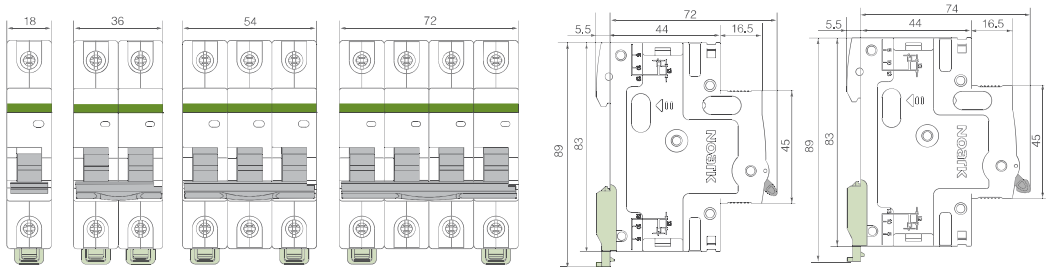
Device width	18 mm (per pole)
Device height	83 mm (89 mm including rail clip)
Frame size	45 mm
Mounting	easy fastening onto 35 mm device rail (DIN)
Degree of protection	IP20
Terminals	combined lift + open mouthed
Terminal capacity	1 — 35 mm^2
Fastening torque of terminals	2 — 3.5 Nm
Busbar thickness	0.8 — 2 mm
Ambient temperature	-30 — +70 °C
Altitude	≤ 2000 m
Relative humidity	≤ 95 %
Resistance to humidity and heat	class 2
Pollution degree	2
Installation class	III
Weight	0.12 kg (per pole)

Ordering data p. 1

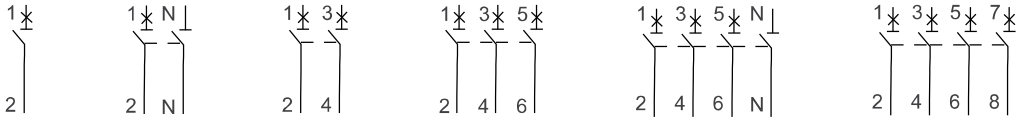
Technical Data Ex9BH

Miniature Circuit Breakers, 10 kA

Dimensions

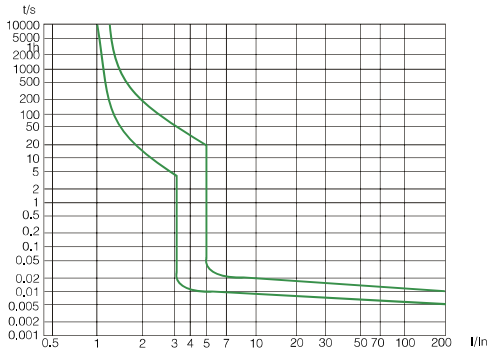


Wiring diagrams

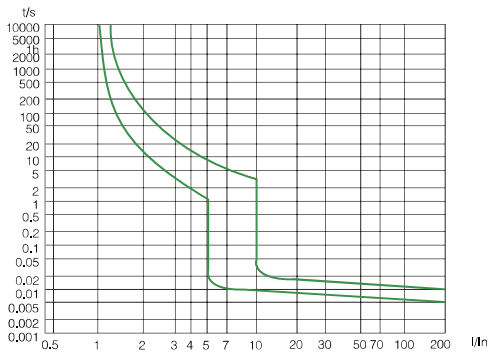


Tripping characteristics

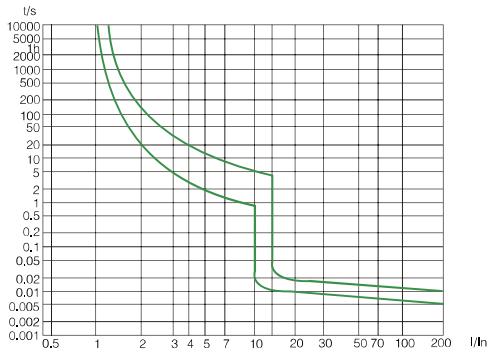
Characteristic B



Characteristic C



Characteristic D (actual design)



Ordering data p. 1

Technical Data Ex9BH

Miniature Circuit Breakers, 10 kA

Dependence of Tripping Characteristics on Ambient Temperature

T [°C]	I_n (T) [A]														
	1 A	2 A	3 A	4 A	6 A	8 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
-30	1.3	2.5	3.8	5.1	7.6	10.2	13.6	16.8	20.5	25.3	31.1	40.5	51.0	64.0	82.0
-25	1.2	2.4	3.7	4.9	7.4	9.9	13.4	16.5	20.0	25.0	30.5	39.8	50.0	63.0	80.7
-20	1.2	2.4	3.6	4.8	7.3	9.7	13.1	16.3	19.8	24.5	30.0	39.2	49.2	62.0	79.2
-15	1.2	2.4	3.5	4.8	7.2	9.5	12.8	15.9	19.4	24.0	29.5	38.5	48.4	60.8	77.8
-10	1.2	2.3	3.5	4.7	7.1	9.3	12.5	15.7	19.0	23.7	29.0	37.9	47.5	59.8	76.3
-5	1.2	2.3	3.4	4.7	7.0	9.2	12.3	15.4	18.7	23.2	28.5	37.2	46.7	58.6	74.7
0	1.1	2.2	3.4	4.5	6.8	9.0	12.0	15.0	18.4	22.8	28.0	36.5	45.8	57.4	73.2
5	1.1	2.2	3.3	4.4	6.6	8.9	11.7	14.7	18.0	22.4	27.5	35.8	45.0	56.3	71.6
10	1.1	2.1	3.3	4.3	6.5	8.7	11.4	14.3	17.6	21.9	27.0	35.0	44.0	55.0	70.0
15	1.1	2.1	3.2	4.3	6.4	8.5	11.0	14.0	17.2	21.5	26.5	34.3	43.0	53.8	68.3
20	1.0	2.1	3.2	4.2	6.3	8.3	10.7	13.7	16.8	21.0	26.0	33.6	42.0	52.6	66.6
25	1.0	2.0	3.0	4.1	6.2	8.2	10.4	13.4	16.4	20.5	25.5	32.8	41.0	51.3	64.8
30	1	2	3	4	6	8	10	13	16	20	25	32	40	50	63
35	0.99	2.00	3.00	3.9	5.9	7.9	9.9	12.8	16.0	20.0	25.0	32.0	39.0	49.0	62.0
40	0.97	1.90	2.90	3.9	5.8	7.8	9.7	12.5	15.0	19.0	24.0	31.0	39.0	48.0	61.0
45	0.95	1.90	2.80	3.8	5.7	7.7	9.5	12.2	15.0	19.0	24.0	30.0	38.0	47.0	60.0
50	0.93	1.90	2.80	3.7	5.6	7.6	9.3	12.0	15.0	19.0	23.0	30.0	37.0	46.0	58.0
55	0.91	1.80	2.80	3.6	5.5	7.5	9.0	11.7	14.0	18.0	23.0	29.0	36.0	44.0	57.0
60	0.91	1.80	2.70	3.5	5.4	7.2	8.8	11.5	14.0	18.0	22.0	28.0	35.0	42.0	55.0
65	0.91	1.80	2.70	3.5	5.3	7.1	8.6	11.2	13.0	17.0	21.0	28.0	34.0	40.0	52.0
70	0.91	1.80	2.70	3.5	5.3	6.9	8.6	11.0	13.0	17.0	21.0	27.0	33.0	38.0	50.0

Power loss per pole

I_n [A]	1 A	2 A	3 A	4 A	6 A	8 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
P [W]	1.5	2.0	1.8	2.0	2.2	2.6	1.5	1.7	1.8	2.0	2.2	2.6	2.9	3.8	4.4

Toggle colours meaning

I_n [A]	1 A	2 A	3 A	4 A	6 A	8 A	10 A	13 A	16 A	20 A	25 A	32 A	40 A	50 A	63 A
Colour															

Ordering data p. 1