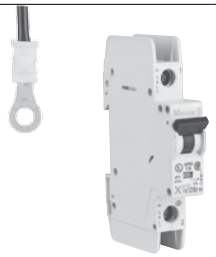
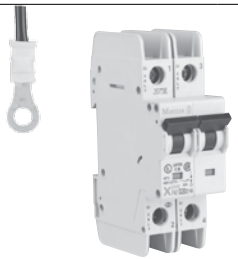
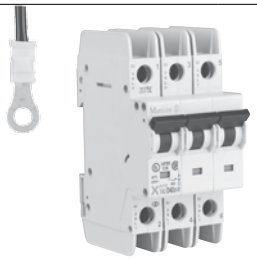
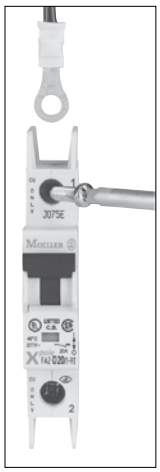
- UL Approved (UL489) and CSA Certified (CSA C22.2 No. 5-02) as Branch Circuit Breakers
- Connections for ring-tongue terminals
- Trip characteristic D: Response time of instantaneous trip: 10 – 20 x I_n current rating
- Interrupting capacity: 10kA UL/CSA; 15kA IEC 60947

Type D Characteristics
Suitable for applications where high levels of inrush current are expected. Instantaneous trip is 10 to 20 x rating of device (I_n). The high magnetic trip point prevents nuisance tripping in high inductive applications such as motors, transformers, and power supplies.

Ring Tongue Trip Characteristic D – *Designed for highly inductive loads*

Rated Current I_n [A]	Ring Tongue 1 pole		Ring Tongue 2 poles		Ring Tongue 3 poles	
						
	Catalog Number	Price	Catalog Number	Price	Catalog Number	Price
0.5	FAZ-D0,5/1-RT	50	FAZ-D0,5/2-RT	113	FAZ-D0,5/3-RT	172
1	FAZ-D1/1-RT	50	FAZ-D1/2-RT	113	FAZ-D1/3-RT	172
1.5	FAZ-D1,5/1-RT	50	FAZ-D1,5/2-RT	113	FAZ-D1,5/3-RT	172
2	FAZ-D2/1-RT	50	FAZ-D2/2-RT	113	FAZ-D2/3-RT	172
3	FAZ-D3/1-RT	50	FAZ-D3/2-RT	113	FAZ-D3/3-RT	172
4	FAZ-D4/1-RT	50	FAZ-D4/2-RT	113	FAZ-D4/3-RT	172
5	FAZ-D5/1-RT	50	FAZ-D5/2-RT	113	FAZ-D5/3-RT	172
6	FAZ-D6/1-RT	43	FAZ-D6/2-RT	98	FAZ-D6/3-RT	150
7	FAZ-D7/1-RT	43	FAZ-D7/2-RT	98	FAZ-D7/3-RT	150
8	FAZ-D8/1-RT	43	FAZ-D8/2-RT	98	FAZ-D8/3-RT	150
10	FAZ-D10/1-RT	43	FAZ-D10/2-RT	98	FAZ-D10/3-RT	150
13	FAZ-D13/1-RT	43	FAZ-D13/2-RT	98	FAZ-D13/3-RT	150
15	FAZ-D15/1-RT	43	FAZ-D15/2-RT	98	FAZ-D15/3-RT	150
16	FAZ-D16/1-RT	43	FAZ-D16/2-RT	98	FAZ-D16/3-RT	150
20	FAZ-D20/1-RT	43	FAZ-D20/2-RT	98	FAZ-D20/3-RT	150
25	FAZ-D25/1-RT	43	FAZ-D25/2-RT	98	FAZ-D25/3-RT	150
30	FAZ-D30/1-RT	43	FAZ-D30/2-RT	98	FAZ-D30/3-RT	150
32	FAZ-D32/1-RT	43	FAZ-D32/2-RT	98	FAZ-D32/3-RT	150
35	FAZ-D35/1-RT	43	FAZ-D35/2-RT	98	FAZ-D35/3-RT	150
40	FAZ-D40/1-RT	43	FAZ-D40/2-RT	98	FAZ-D40/3-RT	150

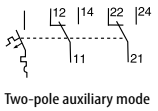
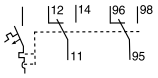
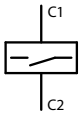


All breakers on this page are equipped with terminals that accommodate ring-tongue connectors.

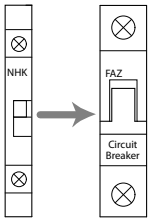
See Trip Curve chart on page 11

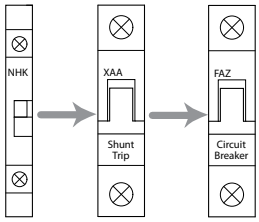
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For all FAZ...NA and FAZ...RT Miniature Circuit Breakers

Accessory	Description	Circuit Diagram	Rated Operational Voltage	Catalog Number	Price
Auxiliary / Trip Indicating Contacts					
	• Small selector screw changes mode • Two Form C (changeover) contacts • Installs on left side of FAZ or Shunt Trip • Aux. contacts switch when FAZ is tripped electrically or manually • Trip indicating contact switches only when FAZ is tripped electrically • Test button for electrical tripping function	Two-pole auxiliary mode Trip indicating mode	230V AC	**Z-NHK** ❶	39
Shunt Trip					
	• Allows remote trip of FAZ • Installs on left side of FAZ		110 – 415V AC	**FAZ-XAA-NA110-415VAC**	56
			12 – 110V AC	**FAZ-XAA-NA12-110VAC**	56
Padlock Hasp					
	• Prevents reactivation of the device during maintenance • Holds one padlock	–	–	**IS/SPE-1TE**	40

Allowable combinations of accessories

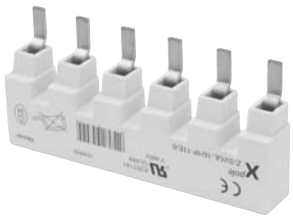




❶ Voltage of FAZ-. . .-NA circuit breaker is limited to 300V with this auxiliary contact installed.

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Bus Bar System

Bus Bar	Number of Poles per Device	Number of Terminals Fixed Length	Rated Operational Current (A)	Description	Catalog Number	Price
	1	6	80A	UL/CSA Max 480V AC, 50/60 HZ; 96V DC	Z-SV/UL-16/1P-1TE/6	15
		12			Z-SV/UL-16/1P-1TE/12	29
		18			Z-SV/UL-16/1P-1TE/18	43
	2	6	80A	UL/CSA Max 480V AC, 50/60 HZ; 96V DC	Z-SV/UL-16/2P-2TE/6	19
		12			Z-SV/UL-16/2P-2TE/12	38
		18			Z-SV/UL-16/2P-2TE/18	57
	3	6	80A	UL/CSA Max 480V AC, 50/60 HZ; 96V DC	Z-SV/UL-16/3P-3TE/6	21
		12			Z-SV/UL-16/3P-3TE/12	42
		18			Z-SV/UL-16/3P-3TE/18	63

Terminal Shroud for unused bus bar terminals

Shroud	Description	Catalog Number	Price
	3-pole busbar cover	ZV-BS-UL	3

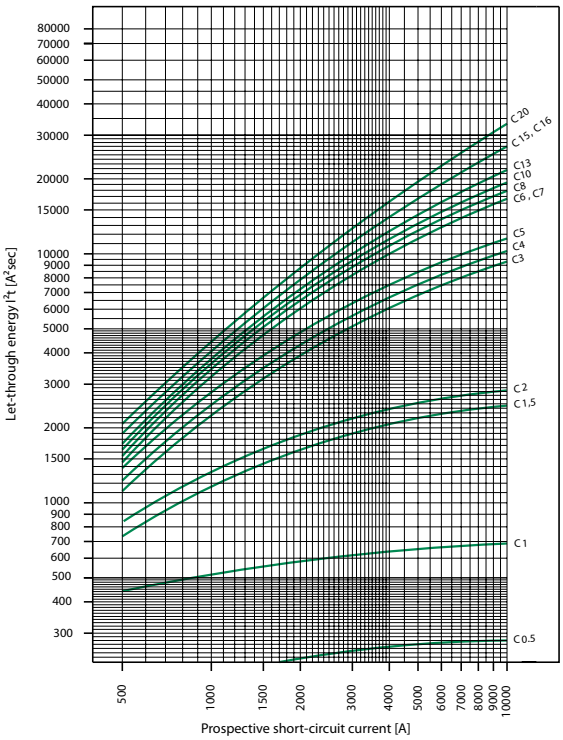
Incoming Supply Terminal

Terminal	Description	Catalog Number	Price
	**Extension Terminal** • Accommodates conductors up to 25 mm² (2 – 14 AWG) • Finger-safe connection • Max 480V AC, 50/60 HZ; 96V DC @ 80A	Z-EK/35/UL	13

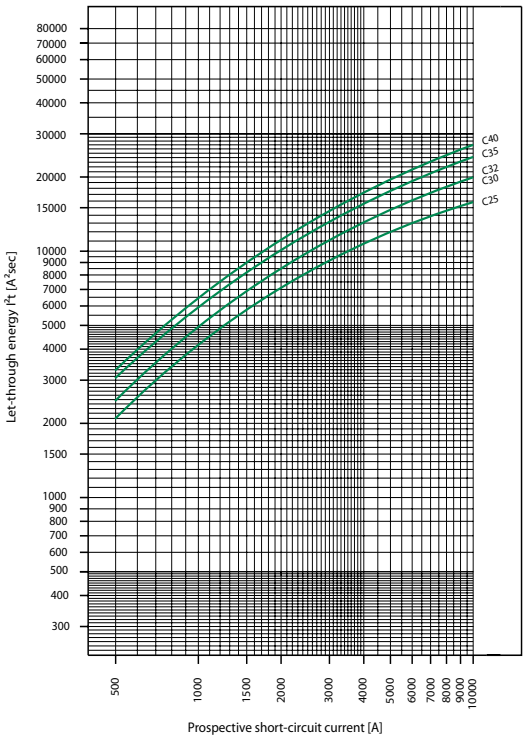
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Let-through Energy

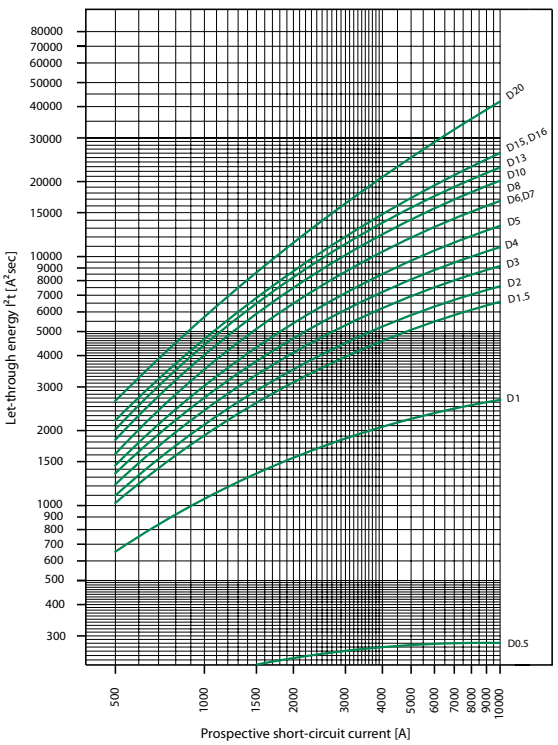
Characteristic C (0.5-20A), 277V



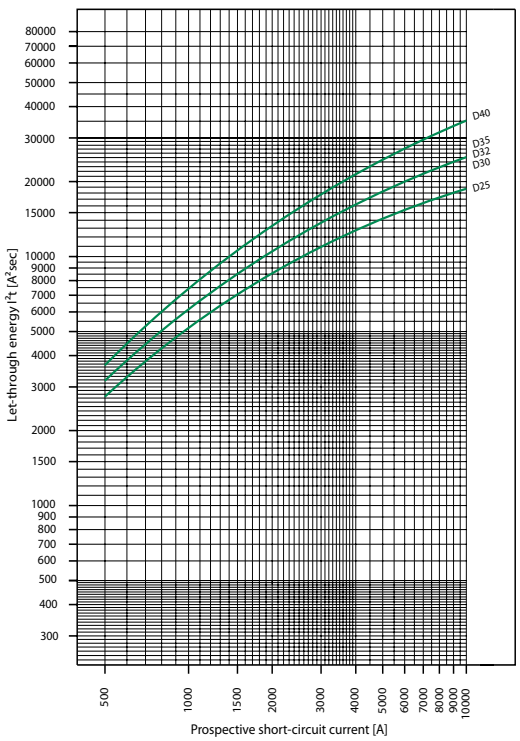
Characteristic C (25-40A), 240V



Characteristic D (0.5-20A), 277V

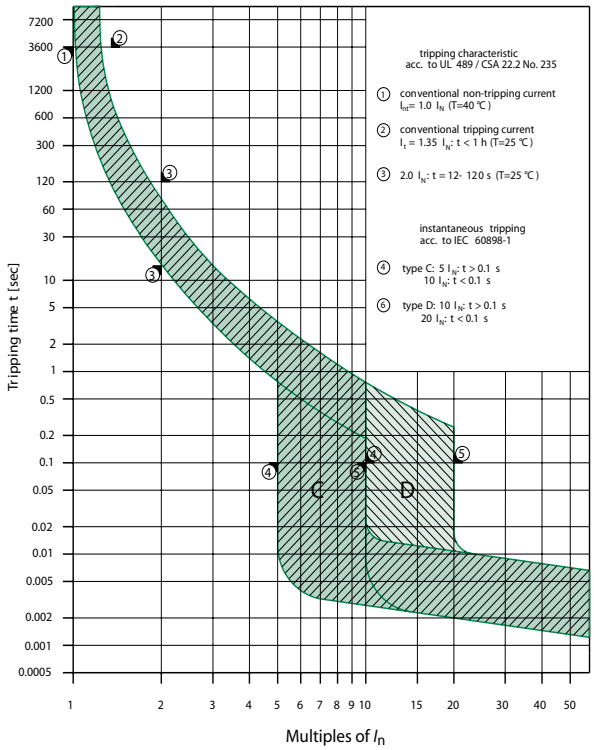


Characteristic D (25-40A), 240V

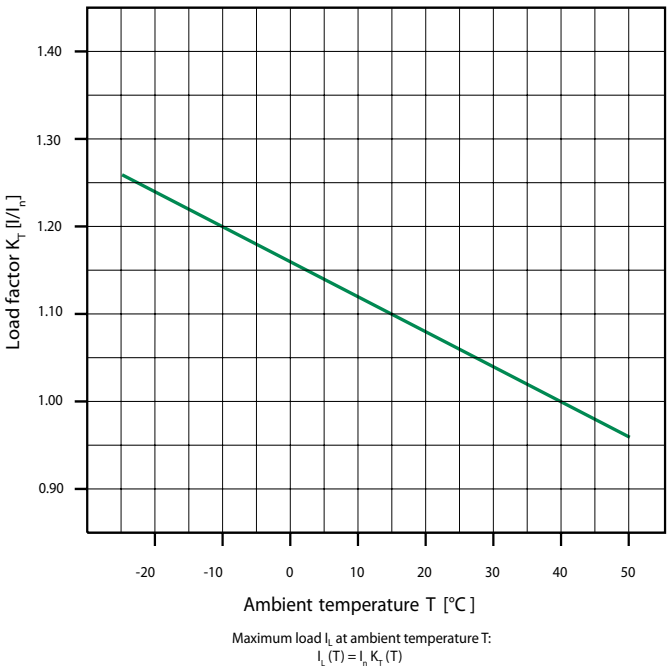


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Tripping Characteristics



Influence of ambient temperature T on load carrying capacity



Maximum load I_L at ambient temperature T:
$I_L(T) = I_n K_T(T)$

Power loss at I_n

Characteristic C

I_n [A]	1p P[W]	2p P[W]	3p P[W]
0.5	1.6	3.2	4.7
1	1.1	2.2	3.4
1.5	1.3	2.6	3.9
2	1.4	2.8	4.3
3	1.2	2.4	3.6
4	1.4	2.9	4.3
5	1.9	3.7	5.6
6	1.2	2.3	3.5
7	1.4	2.8	4.3
8	1.4	2.8	4.2
10	1.8	3.6	5.3
13	2.4	4.7	7.1
15	1.9	3.8	5.6
16	2.1	4.3	6.4
20	2.9	5.8	8.7
25	3.1	6.2	9.3
30	3.0	6.0	9.0
32	3.4	6.8	10.2
35	3.7	7.4	11.0
40	4.0	8.1	12.1

Characteristic D

I_n [A]	1p P[W]	2p P[W]	3p P[W]
0.5	1.6	3.2	4.8
1	0.8	1.5	2.3
1.5	1.0	2.1	3.1
2	1.0	2.1	3.1
3	1.2	2.4	3.6
4	1.4	2.9	4.3
5	1.5	2.9	4.4
6	1.2	2.3	3.5
7	1.4	2.8	4.3
8	1.2	2.4	3.7
10	1.5	3.0	4.5
13	2.0	4.1	6.1
15	1.5	3.1	4.6
16	1.7	3.5	5.2
20	1.8	3.7	5.5
25	2.6	5.1	7.7
30	2.7	5.4	8.1
32	3.1	6.2	9.3
35	3.8	7.6	11.3
40	3.9	7.8	11.6

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FAZ-NA, FAZ-RT Miniature Circuit Breakers

	FAZ-NA, FAZ-RT
Electrical	
Design according to current test marks as printed onto the device	UL 489, CSA C22.2 No. 5, IEC 60947-2
Rated voltage - AC	
UL/CSA 0.5 – 25A	277/480Y V AC
UL/CSA 25 – 40A	240 V AC
IEC	240/415 V AC
Rated Voltage - DC	
UL/CSA - Single Pole	48 V DC
UL/CSA - Two Pole	96 V DC
Rated frequency	50/60 Hz
Rated breaking capacity - AC	
UL/CSA	10 kA
IEC	15 kA
Rated breaking capacity - DC	
UL/CSA	10 kA
Characteristic	C, D
Endurance	≥ 20,000 operating cycles
Line voltage connection	operational suitable for reverse feed
Mechanical	
Frame size	45 mm
Device height	105 mm
Device width	17.7 mm per pole
Mounting	quick fastening with 2 lock-in positions on DIN rail EN 50022
Upper and lower terminals	open mouth/lift terminals
Terminal capacity	1 Wire AWG 18-6 2 Wires AWG 18-10
Terminal fastening torque	1 Wire 21 lb-in 2 Wires 25 lb-in
Mounting	independent of position
Calibration temperature	
UL 489, CSA C22.2 No. 5	40°C
IEC 60947-2	30°C

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Selectable Aux Contact / Trip Indicating Contact – Z-NHK

		Z-NHK
Electrical		
Can be mounted from the left onto:		FAZ-NA, FAZ-RT, FAZ-XAA-NA
Contact function		2 changeover contacts (self cleaning)
Rated voltage	[V]	230
Rated frequency	[Hz]	50/60
Rated current	[A]	2
Rated thermal current I_{th}	[A]	2
Utilization category AC13		
Rated operational current I_e	[A]	3 / 250V AC
Utilization category AC15		
Rated operational current I_e	[A]	2 / 250V AC
Utilization category DC12		
Rated operational current I_e	[A]	0.5 / 110V DC
Rated insulation voltage U_i	[VAC]	250
Minimum operational voltage per contact U_{min}	[VDC]	5
Minimum operational current I_{min}	[mA]	10 mA DC
Rated peak withstand voltage U_{imp} (1.2/50µ)	[kV]	2.5
Conditional short-circuit current Ik with back-up fuse 6A	[kA]	1 kA
Max. back-up fuse, overload and short-circuit		6A gL
Mechanical		
Tripping indicator "electrical tripping"		blue/white
Frame size		45 mm
Device height		80 mm
Device width		8.8 mm (0.5MU)
Mounting		Snaps on to side of MCB
Degree of protection, built-in		IP40
Terminal protection		finger and hand-touch safe according to BGV A3, ÖVE-EN 6
Terminals		lift terminals
Terminal capacity		18-14 AWG
Terminal screws		M3 (Pozidrive Z0)
Fastening torque of terminal screws		7 lb-in

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Shunt Trip Release FAZ-XAA-NA

	FAZ-XAA-NA12-110VAC	FAZ-XAA-NA110-415VAC
Electrical		
Can be mounted onto	FAZ-NA, FAZ-RT	FAZ-NA, FAZ-RT
Operational voltage range	12-110V AC 12-60V DC	110-415V AC 110-230V DC
Frequency	50/60 Hz	50/60 Hz
Possible standard auxiliary switch	Z-NHK	Z-NHK
Mechanical		
Frame size	45 mm	45 mm
Device height	105 mm	105 mm
Device width	17.5 mm (1MU)	17.5 mm (1MJ)
Mounting	quick fastening with 2 lock-in positions on DIN rail EN 50022	quick fastening with 2 lock-in positions on DIN rail EN 50022
Degree of protection, built-in	IP40	IP40
Terminal protection	finger and hand-touch safe according to BGV A3, ÖVE-EN 6	finger and hand-touch safe according to BGV A3, ÖVE-EN 6
Terminals	box/lift	box/lift
Terminal capacity 1 and 2 wires	AWG 18-10	AWG 18-10

Bus Bar

	Z-SV/UL-16...
Electrical	
Rated voltage	690V
Rated current	80A
Short-circuit strength	< 25 kA
Overvoltage category	III
Impulse voltage strength	≥ 9.5 kV
Mechanical	
Bus bar cross-section	16 mm^2 Cu
Step distance	17.6 mm
Climatic stability	according to DIN EN 60068
Flame class according to UL	V0/0.4 mm
Pollution degree	2

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