Specifications | Combined RCD/MCB Devices PKP.2, 2-pole

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
- Guide for secure terminal connection
- Switching toggle (MCB component) in colour designating the rated current
- Contact position indicator red - green
- Fault current tripping indicator white - blue
- Comprehensive 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.
- **Type -F**: Sensitive to pulsating DC residual current and detection of multi-frequency residual currents up to 1 kHz
  -Increased protection due to the detection of mixed frequencies
  -Higher load rating with DC residual currents up to 10 mA
  -Reduction of nuisance tripping thanks to time delayed tripping and increased current withstand capability of 3 kA
  Recommended for washing machines, dish washers, or motor applications with single-phase drives.
- **Type -G/A**: High reliability against unwanted tripping. Suitable for any circuit where personal injury or damage to property may occur in case of unwanted tripping. Additionally protects against special forms of residual pulsating DC which have not been smoothed.
- **OL types**: Specifically designed to fulfill the tripping characteristic requirements of I2 £ Iz in the Norwegian electrotechnical standard NEK 400-8-823. 10:28.

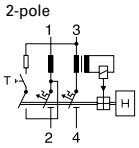
Accessories:		
Tripping signal switch for subsequent installation	ZP-IHK	286052
Shunt trip release	ZP-ASA/..	248438, 248439

Technical Data

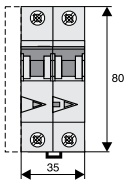
		PKP.2, 2-pole
Electrical		
Design according to Current test marks as printed onto the device		IEC/EN 61009
Line voltage-independent tripping		instantaneous surge current proof 250 A (8/20 µs) surge current proof 3 kA (F, -G/A, -G/A-OL) (8/20 µs)
Rated voltage	U_e	230 V AC; 50 Hz
Operational voltage range		196-253 V
Rated tripping current	$I_{\Delta n}$	30, 100, 300 mA
Rated non-tripping current	$I_{\Delta no}$	0.5 $I_{\Delta n}$
Sensitivity		AC and pulsating DC, Type F
Selectivity class		3
Rated breaking capacity	I_{cn}	
PKPM2		10 kA
PKP62		6 kA
PKP42		4.5 kA
Rated current		6 - 40 A
Rated impulse withstand voltage	U_{imp}	4 kV (1.2/50 µs)
Characteristic		B, C
Maximum back-up fuse (short-circuit)		100 A gL (>10 kA)
Endurance		
electrical components		≥ 4,000 switching operations
mechanical components		≥ 20,000 switching operations
Mechanical		
Frame size		45 mm
Device height		80 mm
Device width		35 mm (2 MU)
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
Operating temperature		-25°C to +40°C
Storage- and transport temperature		-35°C to +60°C
Resistance to climatic conditions		according to IEC/EN 61009

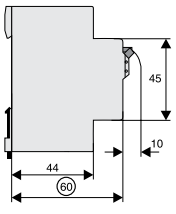
Connection diagram

2-pole



Dimensions (mm)





PKPM2: Influence of ambient temperature on load carrying capacity

- Values = max. allowed current in Ampere at the specific temperature
- Temperature factor (%/K) = 0.5

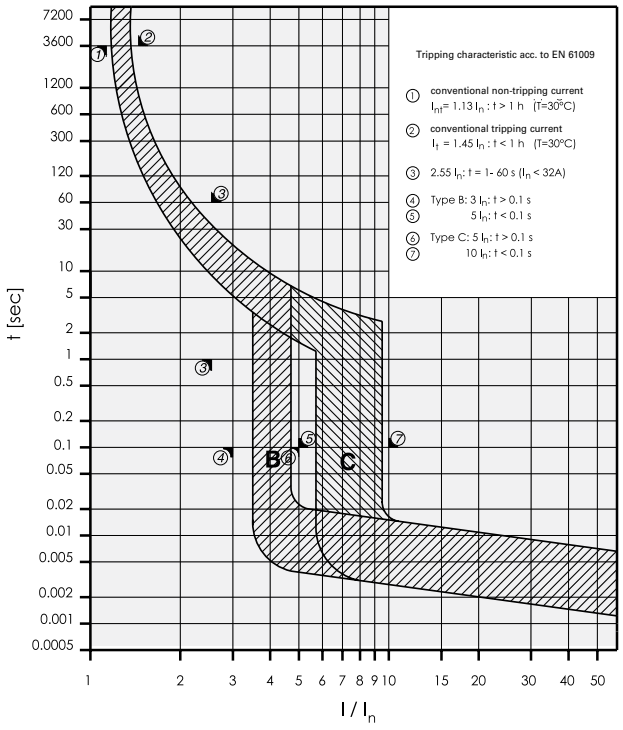
	Ambient temperature / °C									
I_n [A]	**-40**	**-30**	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**40**
6	8.1	7.8	7.7	7.5	7.2	6.9	6.6	6.3	6.0	5.7
10	13.5	13.0	12.8	12.5	12.0	11.5	11.0	10.5	10.0	9.5
13	17.6	16.9	16.6	16.3	15.6	15.0	14.3	13.7	13.0	12.4
16	21.6	20.8	20.4	20.0	19.2	18.4	17.6	16.8	16.0	15.2
20	27.0	26.0	25.5	25.0	24.0	23.0	22.0	21.0	20.0	19.0

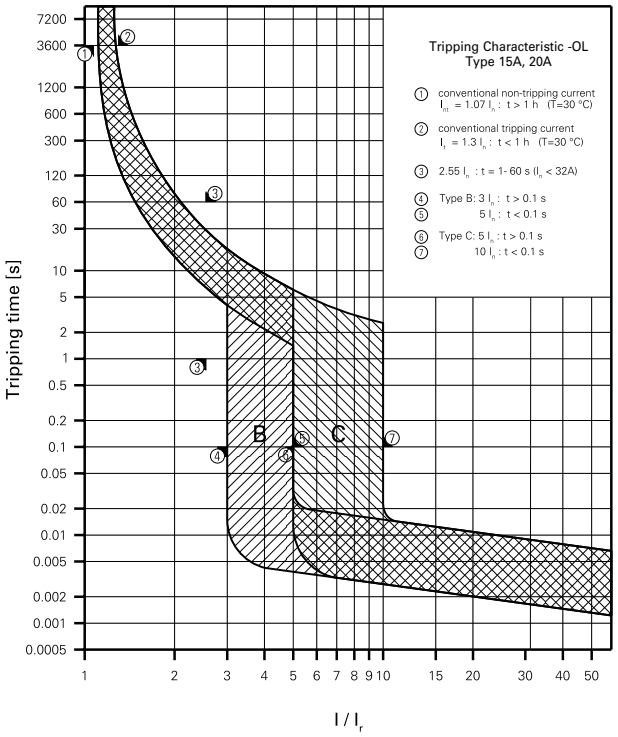
PKP62, PKP42: Influence of ambient temperature on load carrying capacity

- Values = max. allowed current in Ampere at the specific temperature
- Temperature factor (%/K) = 0.5

	Ambient temperature / °C									
I_n [A]	**-40**	**-30**	**-25**	**-20**	**-10**	**0**	**10**	**20**	**30**	**40**
6	8.1	7.8	7.7	7.5	7.2	6.9	6.6	6.3	6.0	5.7
10	13.5	13.0	12.8	12.5	12.0	11.5	11.0	10.5	10.0	9.5
13	17.6	16.9	16.6	16.3	15.6	15.0	14.3	13.7	13.0	12.4
16	21.6	20.8	20.4	20.0	19.2	18.4	17.6	16.8	16.0	15.2
20	27.0	26.0	25.5	25.0	24.0	23.0	22.0	21.0	20.0	19.0
25	33.8	32.5	31.9	31.3	30.0	28.8	27.5	26.3	25.0	23.8
32	43.2	41.6	40.8	40.0	38.4	36.8	35.2	33.6	32.0	30.4
40	54.0	52.0	51.0	50.0	48.0	46.0	44.0	42.0	40.0	38.0

Tripping Characteristic PKP.2, Characteristics B and C





Short-circuit Selectivity PKPM2 towards Neozed[1] / Diazed[2] / NH00[3]

Short-circuit currents in kA, rated currents of fuses in A

Short-circuit selectivity **PKPM2** towards **Neozed** [1]

PKPM2	Neozed [1]									
I_n [A]	16	20	25	32	35	40	50	63	80	100
B10	<0.5	0.5	0.9	2	2.3	3.7	8	10	10	10
B13	<0.5	0.5	0.8	1.7	1.9	3	6	10	10	10
B16		0.5	0.7	1.5	1.7	2.4	4.4	6.8	10	10
B20			0.7	1.4	1.5	2.2	3.9	6	9.2	10
C10	<0.5	0.5	0.8	1.7	1.9	3	6.1	10	10	10
C13	<0.5	0.5	0.7	1.6	1.8	2.8	5.5	9.5	10	10
C16		<0.5	0.7	1.3	1.5	2.2	4	6.2	10	10
C20			0.6	1.3	1.4	2.1	3.7	5.6	8.5	10

Short-circuit selectivity **PKPM2** towards **Diazed** [2]

PKPM2	Diazed [2]								
I_n [A]	16	20	25	32	35	50	63	80	100
B10	<0.5	0.5	0.9	1.8	2.9	5.6	10	10	10
B13	<0.5	0.5	0.8	1.5	2.4	4.5	10	10	10
B16		0.5	0.8	1.3	2	3.4	8	10	10
B20			0.7	1.3	1.9	3.1	7.1	10	10
C10	<0.5	0.5	0.8	1.5	2.4	4.4	10	10	10
C13	<0.5	0.5	0.8	1.4	2.3	4.2	10	10	10
C16		<0.5	0.7	1.2	1.9	3.2	7.6	10	10
C20			0.7	1.2	1.8	2.9	6.5	9.7	10

Short-circuit selectivity **PKPM2** towards **NH00** [3]

PKPM2	NH00 [3]											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
B10	<0.5	<0.5	0.8	1.5	2.3	3.2	5.7	9.1	10	10	10	10
B13	<0.5	<0.5	0.8	1.3	1.9	2.7	4.4	6.5	10	10	10	10
B16		<0.5	0.7	1.1	1.6	2.2	3.4	4.8	8	10	10	10
B20			0.6	1	1.4	2	3.1	4.3	7	10	10	10
C10	<0.5	<0.5	0.7	1.3	1.9	2.7	4.5	6.9	10	10	10	10
C13	<0.5	<0.5	0.7	1.2	1.8	2.5	4.1	6.1	10	10	10	10
C16		<0.5	0.6	1	1.5	2	3.1	4.4	7.5	10	10	10
C20			0.6	0.9	1.4	1.9	2.9	4.1	6.5	10	10	10

Darker areas: no selectivity

[1] SIEMENS Type 5SE2; Size: D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V

[2] SIEMENS Type 5SB2, 5SB4, 5SC2; Size: DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V

[3] SIEMENS Type 3NA3 8, 3NA6 8, 3NA7 8; Size: 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V

Short-circuit Selectivity PKP62 towards Neozed[1] / Diazed[2] / NH00[3]

Short-circuit currents in kA, rated currents of fuses in A

Short-circuit selectivity **PKP62** towards **Neozed** [1]

PKP62	Neozed [1]									
I_n [A]	16	20	25	32	35	40	50	63	80	100
B10	<0.5	0.5	0.9	2	2.3	3.7	6	6	6	6
B13	<0.5	0.5	0.8	1.7	1.9	3	6	6	6	6
B16		0.5	0.7	1.5	1.7	2.4	4.4	6	6	6
B20			0.7	1.4	1.5	2.2	4	6	6	6
B25				1.2	1.3	1.8	3.1	4.7	6	6
B32					1.2	1.7	2.7	3.8	5.5	6
B40						1.3	1.7	2.2	2.7	4.2
C10	<0.5	0.5	0.8	1.7	1.9	3	6	6	6	6
C13	<0.5	0.5	0.7	1.6	1.8	2.8	5.5	6	6	6
C16		<0.5	0.7	1.3	1.5	2.2	4	6	6	6
C20			0.6	1.3	1.4	2.1	3.7	5.6	6	6
C25				1.1	1.3	1.8	2.8	3.9	5.6	6
C32					1.2	1.7	2.6	3.6	5.1	6
C40						1.3	1.9	3.3	3.2	5.8

Short-circuit selectivity **PKP62** towards **Diazed** [1]

PKP62	Diazed [2]								
I_n [A]	16	20	25	32	35	50	63	80	100
B10	<0.5	0.5	0.9	1.8	2.9	5.6	6	6	6
B13	<0.5	0.5	0.8	1.5	2.4	4.5	6	6	6
B16		0.5	0.8	1.3	2	3.4	6	6	6
B20			0.7	1.3	1.9	3.1	6	6	6
B25				1.1	1.5	2.4	5.5	6	6
B32					1.4	2.1	4.3	6	6
B40						1.4	2.4	2.9	5.1
C10	<0.5	0.5	0.8	1.5	2.4	4.4	6	6	6
C13	<0.5	0.5	0.8	1.4	2.3	4.2	6	6	6
C16		<0.5	0.7	1.2	1.9	3.2	6	6	6
C20			0.7	1.2	1.8	2.9	6	6	6
C25				1.1	1.5	2.3	4.4	6	6
C32					1.4	2.2	4.1	5.6	6
C40						1.6	2.8	3.6	6

Short-circuit selectivity **PKP62** towards **NH00** [3]

PKP62	NH00 [3]											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
B10	<0.5	<0.5	0.8	1.5	2.3	3.2	5.7	6	6	6	6	6
B13	<0.5	<0.5	0.8	1.3	1.9	2.7	4.4	6	6	6	6	6
B16		<0.5	0.7	1.1	1.6	2.2	3.4	4.8	6	6	6	6
B20			0.6	1	1.4	2	3.1	4.3	6	6	6	6
B25				0.9	1.2	1.6	2.4	3.4	5.5	6	6	6
B32					1.1	1.4	2.1	2.9	4.3	6	6	6
B40							1.4	1.9	2.8	4.1	6	6
C10	<0.5	<0.5	0.7	1.3	1.9	2.7	4.5	6	6	6	6	6
C13	<0.5	<0.5	0.7	1.2	1.8	2.5	4.1	6	6	6	6	6
C16		<0.5	0.6	1	1.5	2	3.1	4.4	6	6	6	6
C20			0.6	0.9	1.4	1.9	2.9	4.1	6	6	6	6
C25				0.9	1.2	1.6	2.3	3	4.6	6	6	6
C32					1.1	1.5	2.1	2.8	4.3	6	6	6
C40							1.5	2.1	3.1	5.4	6	6

Darker areas: no selectivity

[1] SIEMENS Type 5SE2; Size: D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V

[2] SIEMENS Type 5SB2, 5SB4, 5SC2; Size: DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V

[3] SIEMENS Type 3NA3 8, 3NA6 8, 3NA7 8; Size: 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V

Short-circuit Selectivity PKP42 towards Neozed[1] / Diazed[2] / NH00[3]

Short-circuit currents in kA, rated currents of fuses in A

Short-circuit selectivity **PKP42** towards **Neozed** [1]

PKP42	Neozed [1]									
I_n [A]	16	20	25	32	35	40	50	63	80	100
B10	<0.5	0.5	0.9	2	2.3	3.7	4.5	4.5	4.5	4.5
B13	<0.5	0.5	0.8	1.7	1.9	3	4.5	4.5	4.5	4.5
B16		0.5	0.7	1.5	1.7	2.4	4.4	4.5	4.5	4.5
B20			0.7	1.4	1.5	2.2	4	4.5	4.5	4.5
B25				1.2	1.3	1.8	3.1	4.7	4.5	4.5
B32					1.2	1.7	2.7	3.8	4.5	4.5
B40						1.3	1.7	2.2	2.7	4.2
C10	<0.5	0.5	0.8	1.7	1.9	3	4.5	4.5	4.5	4.5
C13	<0.5	0.5	0.7	1.6	1.8	2.8	4.5	4.5	4.5	4.5
C16		<0.5	0.7	1.3	1.5	2.2	4	4.5	4.5	4.5
C20			0.6	1.3	1.4	2.1	3.7	4.5	4.5	4.5
C25				1.1	1.3	1.8	2.8	3.9	4.5	4.5
C32					1.2	1.7	2.6	3.6	4.5	4.5
C40						1.3	1.9	3.3	3.2	4.5

Short-circuit selectivity **PKP42** towards **Diazed** [1]

PKP42	Diazed [2]								
I_n [A]	16	20	25	32	35	50	63	80	100
B10	<0.5	0.5	0.9	1.8	2.9	4.5	4.5	4.5	4.5
B13	<0.5	0.5	0.8	1.5	2.4	4.5	4.5	4.5	4.5
B16		0.5	0.8	1.3	2	3.4	4.5	4.5	4.5
B20			0.7	1.3	1.9	3.1	4.5	4.5	4.5
B25				1.1	1.5	2.4	4.5	4.5	4.5
B32					1.4	2.1	4.3	4.5	4.5
B40						1.4	2.4	2.9	4.5
C10	<0.5	0.5	0.8	1.5	2.4	4.4	4.5	4.5	4.5
C13	<0.5	0.5	0.8	1.4	2.3	4.2	4.5	4.5	4.5
C16		<0.5	0.7	1.2	1.9	3.2	4.5	4.5	4.5
C20			0.7	1.2	1.8	2.9	4.5	4.5	4.5
C25				1.1	1.5	2.3	4.4	4.5	4.5
C32					1.4	2.2	4.1	4.5	4.5
C40						1.6	2.8	3.6	4.5

Short-circuit selectivity **PKP42** towards **NH00** [3]

PKP42	NH00 [3]											
I_n [A]	16	20	25	32	35	40	50	63	80	100	125	160
B10	<0.5	<0.5	0.8	1.5	2.3	3.2	4.5	4.5	4.5	4.5	4.5	4.5
B13	<0.5	<0.5	0.8	1.3	1.9	2.7	4.4	4.5	4.5	4.5	4.5	4.5
B16		<0.5	0.7	1.1	1.6	2.2	3.4	4.5	4.5	4.5	4.5	4.5
B20			0.6	1	1.4	2	3.1	4.3	4.5	4.5	4.5	4.5
B25				0.9	1.2	1.6	2.4	3.4	4.5	4.5	4.5	4.5
B32					1.1	1.4	2.1	2.9	4.3	4.5	4.5	4.5
B40							1.4	1.9	2.8	4.1	4.5	4.5
C10	<0.5	<0.5	0.7	1.3	1.9	2.7	4.5	4.5	4.5	4.5	4.5	4.5
C13	<0.5	<0.5	0.7	1.2	1.8	2.5	4.1	4.5	4.5	4.5	4.5	4.5
C16		<0.5	0.6	1	1.5	2	3.1	4.4	4.5	4.5	4.5	4.5
C20			0.6	0.9	1.4	1.9	2.9	4.1	4.5	4.5	4.5	4.5

Darker areas: no selectivity

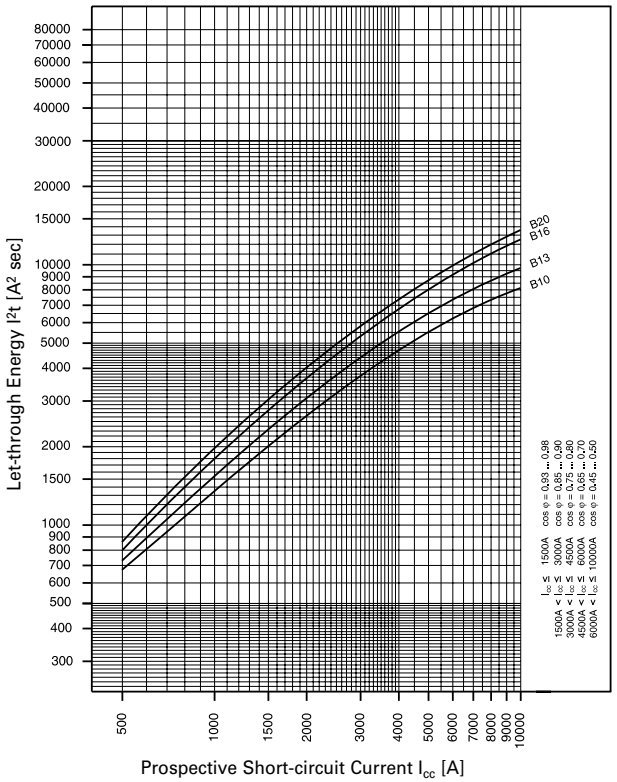
[1] SIEMENS Type 5SE2; Size: D01, D02, D03; Operating class gG; Rated voltage: AC 400 V/DC 250 V

[2] SIEMENS Type 5SB2, 5SB4, 5SC2; Size: DII, DIII, DIV; Operating class gG; Rated voltage: AC 500 V/DC 500 V

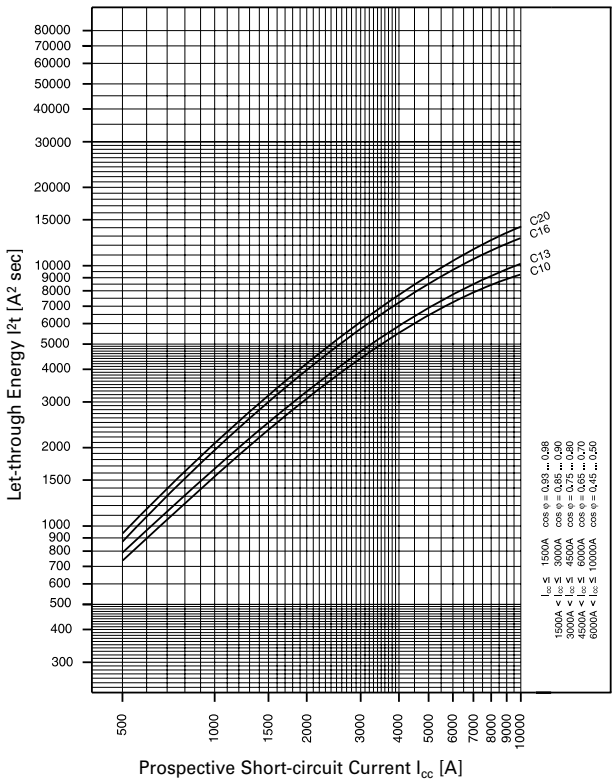
[3] SIEMENS Type 3NA3 8, 3NA6 8, 3NA7 8; Size: 000, 00; Operating class gG; Rated voltage: AC 500 V/DC 250 V

Let-through Energy PKP.2-../2/

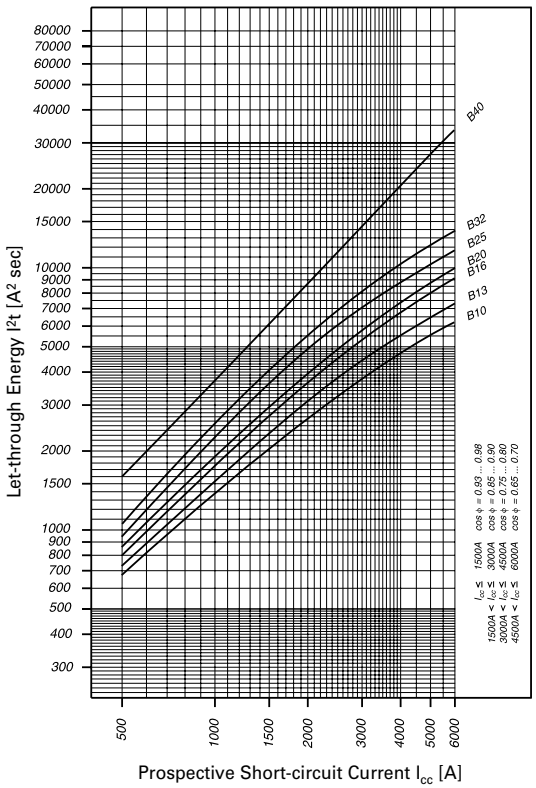
Let-through Energy PKPM2, Characteristic B, 2-pole



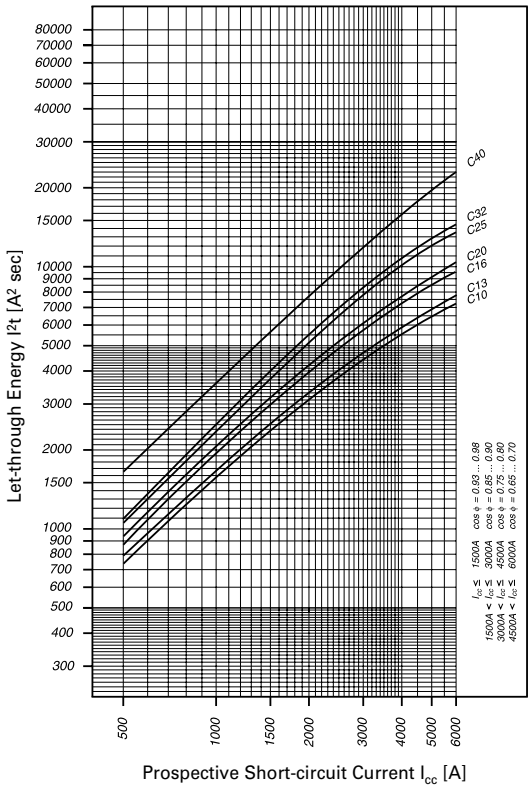
Let-through Energy PKPM2, Characteristic C, 2-pole



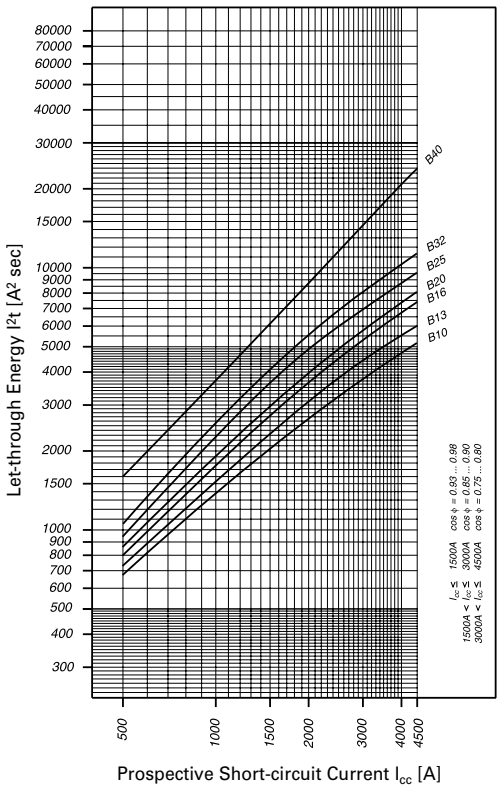
Let-through Energy PKP62, Characteristic B, 2-pole



Let-through Energy PKP62, Characteristic C, 2-pole



Let-through Energy PKP42, Characteristic B, 2-pole



Let-through Energy PKP42, Characteristic C, 2-pole