DATASHEET - PKZM0-0,63-T



Transformer-protective circuit-breaker, 3p, Ir=0.4-0.63A, screw connection



Part no. PKZM0-0,63-T Catalog No. 088910

Alternate Catalog XTPTP63BC1NL

No.

EL-Nummer 4355152

(Norway)

Delivery program

Product range			PKZM0T transformer-protective circuit-breakers up to 25 A
Basic function			Transformer protection
			IE3 ✓
Notes			Also suitable for motors with efficiency class IE3.
Connection technique			Screw terminals
Contact sequence			
Rated uninterrupted current	I _u	Α	0.63
Setting range			
Overload releases	I _r	Α	0.4 - 0.63
short-circuit release			
max.	I _{rm}	Α	12
Phase-failure sensitivity			IEC/EN 60947-4-1, VDE 0660 Part 102

Technical data

General

delicial		
Standards		IEC/EN 60947, VDE 0660
Climatic proofing		Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature		
Storage	°C	°C - 40 - 80
Open	°C	°C -25 - +55
Enclosed	°C	°C - 25 - 40
Mounting position		90°
Direction of incoming supply		as required
Degree of protection		
Device		IP20
Terminations		IP00
Protection against direct contact when actuated from front (EN 50274)		Finger and back-of-hand proof
Mechanical shock resistance half-sinusoidal shock 10 ms to IEC 60068-2-27	g	g 25
Altitude	m	m Max. 2000

Scriew terminals	Tomained acceptance in early			
Solid retrained to DIN 45238	Terminal capacity main cable			
Flexible with ferrule to DIN 46228				
Solid or stranded	Solid		mm ²	1 x (1 - 6) 2 x (1 - 6)
Stripping length mm 10 Specified tightening torque for terminal screws Nm 1.7 Main cable Nm 1.7 Control circuit cables Nm 1.7 Main conducting paths VEX. 6000 Rated impulse withstand voltage V NC 6000 Nated operational voltage V NC 6000 Rated uninterrupted current = rated operational current I u = I _e A 0.63 Rated froquency f Hz 4 6-0 Current heat loss (3 pole at operating temperature) Querations x 10 ⁶ 0.1 Lifespan, nelectrical (AC-3 at 400 V) X 4 0.1 Lifespan, electrical (account rating Querations x 10 ⁶ 0.1 Most operating frequency Querations x 10 ⁶ 0.1 Short-circuit rating A 6 0.2 Motor switching capacity A 6.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 0.3 <th< td=""><td>Flexible with ferrule to DIN 46228</td><td></td><td>mm²</td><td></td></th<>	Flexible with ferrule to DIN 46228		mm ²	
Main cable	Solid or stranded		AWG	18 - 10
Main cable	Stripping length		mm	10
Main conducting paths Nm 1 Main conducting paths VAC 6000 Bated impulse withstand voltage U _{imp} VAC 6000 Overvoltage category/pollution degree U _e VAC 690 Bated operational voltage U _e VAC 690 Bated uninterrupted current = rated operational current I _u = I _e A 0.53 Bated prequency Hz 40 - 60 60 Current heat loss (3 pole at operating temperature) W 4.71 Lifespan, electrical (AC-3 at 400 V) W 4.71 Lifespan, electrical (AC-3 at 400 V) Y _o 0.1 Max. operating frequency Ops/h 4.0 4.0 Short-circuit rating X _o 0.1 4.0 4.0 Motor switching capacity KA 6.0 4.0 6.0 AC-3 (up to 580V) A 0.63 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 3.0 </td <td>Specified tightening torque for terminal screws</td> <td></td> <td></td> <td></td>	Specified tightening torque for terminal screws			
Main conducting paths V AC 6000 Rated impulse withstand voltage U _{enp} V AC 6000 Rated operational voltage U _e V AC 690 Rated operational voltage U _e V AC 690 Rated uninterrupted current = rated operational current I _u = I _e A 0.83 Rated frequency Hz 40 - 60 Current heat loss (3 pole at operating temperature) W 4.71 Lifespan, mechanical Operations x 10 ⁶ V 0.1 Lifespan, electrical (AC-3 at 400 V) V 0.1 Lifespan, electrical (AC-3 at 400 V) V 40 Max. operating frequency Ops/h 40 Short-circuit rating NA 60 DC Short-circuit rating NA 60 AC-3 (up to 560V) A 0.63 3 contacts in series) Kipp Interview compensation A 0.63 (3 contacts in series) 4 contacts in series) Kipp Interview compensation residual error for T > 40 °C > 5 40 0	Main cable		Nm	1.7
Name	Control circuit cables		Nm	1
Overvoltage category/pollution degree U ₀ VAC 890 Rated operational voltage U ₀ VAC 890 Rated uninterrupted current = rated operational current I _u = I _e A 0.63 Rated frequency f HZ 40 - 60 Current heat loss (3 pole at operating temperature) W 4.71 Lifespan, mechanical Operations x 10 ⁶ 0.1 Lifespan, electrical (AC-3 at 400 V) V 4.0 0.1 Max. operating frequency Operations x 10 ⁶ 0.1 Short-circuit rating VAC 60 0.0 Motor switching capacity KA 60 0.3 AC-3 (up to 690V) A 0.63 (3 contacts in series) 0.63 (3 contacts in series) Trip blocks Trip blocks S -5 40 To LEC/EN 69947, VDE 0660 -5 40 -5 40 Operating range -5 55 -5 55 Setting range of overload releases x I _u 0.6 - 1 Short-circuit release tolerance -5 50 -5 40	Main conducting paths			
Rated operational voltage Ue V AC 690 Rated uninterrupted current = rated operational current Iu = Ie A 0.63 Rated frequency f HZ 40 - 60 Current heat loss (3 pole at operating temperature) W 4.71 Lifespan, mechanical Operations X 10* 0.1 Lifespan, electrical (AC-3 at 400 V) X 10* 0.1 Max. operating frequency Operations X 10* 4.0 Short-circuit rating VAC VAC 0.1 Motor switching capacity A 0.63 0.63 DC-5 (up to 250V) A 0.63 0.63 DC-5 (up to 250V) A 0.63 0.63 DC-5 (up to 250V) A 0.63 0.53 (3 contacts in series) Trip blocks C 5 40 0.50 Temperature compensation C 25 55 0.55 Temperature compensation residual error for T > 40 °C X Ig 0.6 - 1 0.6 - 1 Setting range of overload releases C 25 55	Rated impulse withstand voltage	U_{imp}	V AC	6000
Rated uninterrupted current = rated operational current Iu = Iu Iu Iu Iu Iu Iu Iu	Overvoltage category/pollution degree			III/3
As ted frequency f	Rated operational voltage	U _e	V AC	690
V	Rated uninterrupted current = rated operational current	$I_u = I_e$	Α	0.63
Lifespan, nechanical Operations x 106 0.1 Lifespan, electrical (AC-3 at 400 V) Operations x 106 0.1 Max. operating frequency Ops/h 40 Short-circuit rating VA 60 Motor switching capacity A 60 AC-3 (up to 890V) A 0.63 DC-5 (up to 250V) A 0.63 (3 contacts in series) Frip blocks Temperature compensation to IEC/EN 60947, VDE 0660 °C -5 40 Operations are greating range °C -25 55 Temperature compensation residual error for T > 40 °C × Iu 0.6 - 1 Setting range of overload releases x Iu 0.6 - 1 Short-circuit release Basic device, fixed: 20 x Iu Short-circuit release tolerance ± 20%	Rated frequency	f	Hz	40 - 60
Lifespan, electrical (AC-3 at 400 V) Lifespan, electrical Max. operating frequency Max. operating frequency DC Short-circuit rating DC Short-circuit rating AC-3 (up to 690V) DC-5 (up to 250V) Trip blocks Temperature compensation to IEC/EN 60947, VDE 0660 Operating range To Derating range of overload releases Setting range of overload releases To Derating range of overlo	Current heat loss (3 pole at operating temperature)		W	4.71
Lifespan, electrical Max. operating frequency Max. operating frequency Motor parting frequency DC Short-circuit rating Motor switching capacity AC-3 (up to 690V) AC-3 (up to 690V) DC-5 (up to 250V) Trip blocks Temperature compensation to IEC/EN 60947, VDE 0660 Operating range Temperature compensation residual error for T > 40 °C Setting range of overload releases Setting range of overload releases Short-circuit release tolerance Departing frequency Doparting frequency	Lifespan, mechanical	Operations	x 10 ⁶	0.1
Max. operating frequency Ops/h 40 Short-circuit rating KA 60 Motor switching capacity KA 60 AC-3 (up to 690V) A 0.63 DC-5 (up to 250V) A 0.63 (3 contacts in series) Frip blocks C -5 40 Temperature compensation °C -5 40 Operating range °C -25 55 Temperature compensation residual error for T > 40 °C ≤ 0.25 %/K Setting range of overload releases x I _u 0.6 - 1 Short-circuit release Basic device, fixed: 20 x I _u Short-circuit release tolerance ± 20%	Lifespan, electrical (AC-3 at 400 V)			
Short-circuit rating DC Short-circuit rating KA 60 Motor switching capacity AC-3 (up to 690V) AC-3 (up to 250V) AC-4	Lifespan, electrical	Operations	x 10 ⁶	0.1
DC	Max. operating frequency		Ops/h	40
Short-circuit rating kA 60 Motor switching capacity A 0.63 AC-3 (up to 690V) A 0.63 (3 contacts in series) DC-5 (up to 250V) A 0.63 (3 contacts in series) Frip blocks VEX.	Short-circuit rating			
Motor switching capacity AC-3 (up to 690V) A 0.63 DC-5 (up to 250V) A 0.63 (3 contacts in series) Frip blocks Temperature compensation to IEC/EN 60947, VDE 0660 °C -5 40 Operating range °C -25 55 Temperature compensation residual error for T > 40 °C Setting range of overload releases **Iu** O.6 - 1 Short-circuit release Short-circuit release tolerance **Description** **Description** A 0.63 **Contacts in series) **Contacts in series **C	DC			
AC-3 (up to 690V) A 0.63 DC-5 (up to 250V) A 0.63 (3 contacts in series) Frip blocks Temperature compensation to IEC/EN 60947, VDE 0660 °C -5 40 Operating range °C -25 55 Temperature compensation residual error for T > 40 °C Setting range of overload releases x I _u 0.6 - 1 short-circuit release tolerance b 0.63 A 0.63 Contacts in series) C -5 40 C -5 40 Defaulting range of coverload releases x I _u 0.6 - 1 Basic device, fixed: 20 x I _u ± 20%	Short-circuit rating		kA	60
DC-5 (up to 250V) A 0.63 (3 contacts in series) Trip blocks Temperature compensation to IEC/EN 60947, VDE 0660 Operating range °C -5 40 Cec -25 55 Temperature compensation residual error for T > 40 °C Setting range of overload releases x I _u 0.6 - 1 Short-circuit release tolerance A 0.63 (3 contacts in series) **C - 5 40 **C - 25 55 **Setting range of coverload error for T > 40 °C **Setting range of overload releases **Iu 0.6 - 1 **Basic device, fixed: 20 x I _u ± 20%	Motor switching capacity			
Trip blocks Temperature compensation to IEC/EN 60947, VDE 0660 °C -5 40 Operating range °C -25 55 Temperature compensation residual error for T > 40 °C Setting range of overload releases $x \mid_{u} 0.6 - 1$ Short-circuit release tolerance $\pm 20\%$	AC-3 (up to 690V)		Α	0.63
Temperature compensation to IEC/EN 60947, VDE 0660 °C -5 40 Operating range °C -25 55 Temperature compensation residual error for T > 40 °C Setting range of overload releases Short-circuit release tolerance **Output**	DC-5 (up to 250V)		Α	0.63 (3 contacts in series)
to IEC/EN 60947, VDE 0660 °C -5 40 Operating range °C -25 55 Temperature compensation residual error for T > 40 °C Setting range of overload releases **Iu** 0.6 - 1 **Short-circuit release** Short-circuit release tolerance **Example of the compensation residual error for T > 40 °C **Examp	Trip blocks			
Operating range °C - 25 55 Temperature compensation residual error for T > 40 °C Setting range of overload releases x I _u 0.6 - 1 Short-circuit release Basic device, fixed: 20 x I _u ± 20%	Temperature compensation			
Temperature compensation residual error for T > 40 °C Setting range of overload releases x I _u 0.6 - 1 short-circuit release Basic device, fixed: 20 x I _u ± 20%	to IEC/EN 60947, VDE 0660		°C	- 5 40
Setting range of overload releases x I _u 0.6 - 1 short-circuit release tolerance x I _u 0.6 - 1 Basic device, fixed: 20 x I _u ± 20%	Operating range		°C	- 25 55
Short-circuit release Basic device, fixed: 20 x I _u ± 20%	Temperature compensation residual error for T > 40 $^{\circ}$ C			≦ 0.25 %/K
Short-circuit release tolerance ± 20%	Setting range of overload releases		$x I_u$	0.6 - 1
	short-circuit release			Basic device, fixed: 20 x I_u
Phase-failure sensitivity IEC/EN 60947-4-1, VDE 0660 Part 102	Short-circuit release tolerance			± 20%
	Phase-failure sensitivity			IEC/EN 60947-4-1, VDE 0660 Part 102

Design verification as per IEC/EN 61439

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Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	0.63
Heat dissipation per pole, current-dependent	P _{vid}	W	1.72
Equipment heat dissipation, current-dependent	P _{vid}	W	4.71
Static heat dissipation, non-current-dependent	P_{vs}	W	0
Heat dissipation capacity	P _{diss}	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	55
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures			Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat			Meets the product standard's requirements.
$10.2.3.3\ Verification\ of\ resistance\ of\ insulating\ materials\ to\ abnormal\ heat\ and\ fire\ due\ to\ internal\ electric\ effects$			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.

10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions	Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES	Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections	Is the panel builder's responsibility.
10.8 Connections for external conductors	Is the panel builder's responsibility.
10.9 Insulation properties	
10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.
10.10 Temperature rise	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 7.0

Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)

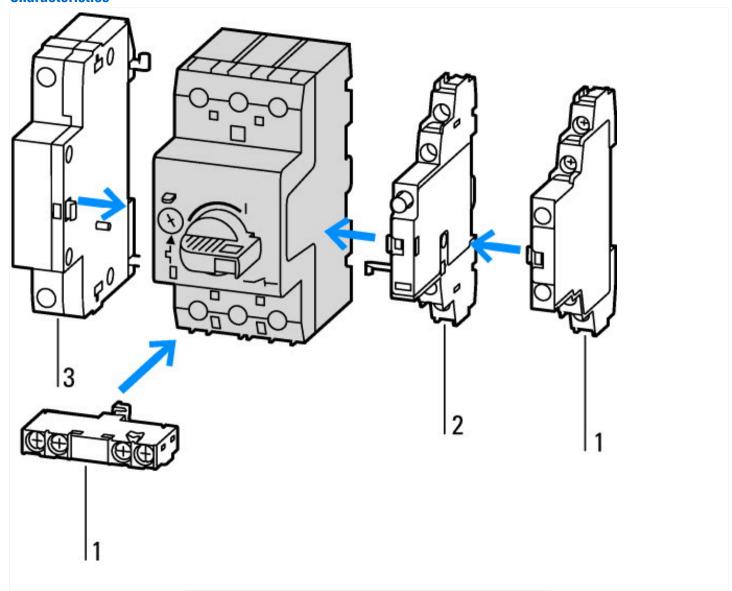
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013])

Rated voltage Rated voltage Rated short-circuit breaking capacity Icu at 400 V, 50 Hz Roted short-circuit breaking capacity Icu at 400 V, 50 Hz Roted short-circuit breaking capacity Icu at 400 V, 50 Hz Roted short-circuit release A	•		
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz kA 150 Overload release current setting A 0.63 - 0.63 Adjustment range short-term delayed short-circuit release A 0 - 0 Adjustment range undelayed short-circuit release A 12 - 12 Integrated earth fault protection No Screw connection Type of electrical connection of main circuit Wither Yes DIN rail (top hat rail) mounting Yes Ves Number of auxiliary contacts as normally closed contact 0 0 Number of auxiliary contacts as change-over contact Yes Ves With switched-off indicator Yes Yes With under voltage release No No Number of poles 3 3 Position of connection for main current circuit Turn button Type of control element Turn button Complete device with protection unit Yes Motor drive integrated No Motor drive integrated Yes	Rated permanent current lu	Α	0.63
Overload release current setting Adjustment range short-term delayed short-circuit release Adjustment range undelayed short-circuit ran	Rated voltage	V	690 - 690
Adjustment range short-term delayed short-circuit release Adjustment range undelayed short-circuit release Adjustment range undelayed short-circuit release Integrated earth fault protection Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact Number of poles Number of pol	Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	150
Adjustment range undelayed short-circuit release Integrated earth fault protection Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of pausiliary contacts as change-over contact Number of poles No No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive integrated Motor drive optional	Overload release current setting	Α	0.63 - 0.63
Integrated earth fault protection Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Vith switched-off indicator Vith switched-off indicator Vith under voltage release Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional No	Adjustment range short-term delayed short-circuit release	Α	0 - 0
Type of electrical connection of main circuit Device construction Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of poles No No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Number of poles No No Notor drive integrated No No No No No No No No No N	Adjustment range undelayed short-circuit release	Α	12 - 12
Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of poles Number of connection for main current circuit Other Type of control element Complete device with protection unit Nutor drive integrated No	Integrated earth fault protection		No
Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of poss Number of poss No No No No No No No Nord of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated No	Type of electrical connection of main circuit		Screw connection
DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact With switched-off indicator With under voltage release No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated No Motor drive optional	Device construction		Other
Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact No With switched-off indicator With under voltage release No Number of poles Sa Position of connection for main current circuit Other Type of control element Complete device with protection unit Wotor drive integrated No Motor drive optional	Suitable for DIN rail (top hat rail) mounting		Yes
Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact No With switched-off indicator With under voltage release No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated No No No No No No No No No N	DIN rail (top hat rail) mounting optional		Yes
Number of auxiliary contacts as change-over contact With switched-off indicator With under voltage release With under voltage release No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional Other Turn button No No	Number of auxiliary contacts as normally closed contact		0
With switched-off indicator With under voltage release With under of poles Number of poles Number of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional Yes Yes Yes Yes No No No No No No No No No N	Number of auxiliary contacts as normally open contact		0
With under voltage release No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive optional No	Number of auxiliary contacts as change-over contact		0
Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive integrated Motor drive optional 3 Other Turn button Yes No No No	With switched-off indicator		Yes
Position of connection for main current circuit Type of control element Complete device with protection unit Motor drive optional Other Turn button Yes No No No	With under voltage release		No
Type of control element Complete device with protection unit Motor drive optional Turn button Yes No No	Number of poles		3
Complete device with protection unit Yes Motor drive integrated Motor drive optional No	Position of connection for main current circuit		Other
Motor drive integrated No	Type of control element		Turn button
Motor drive optional No	Complete device with protection unit		Yes
	Motor drive integrated		No
Degree of protection (IP)	Motor drive optional		No
	Degree of protection (IP)		IP20

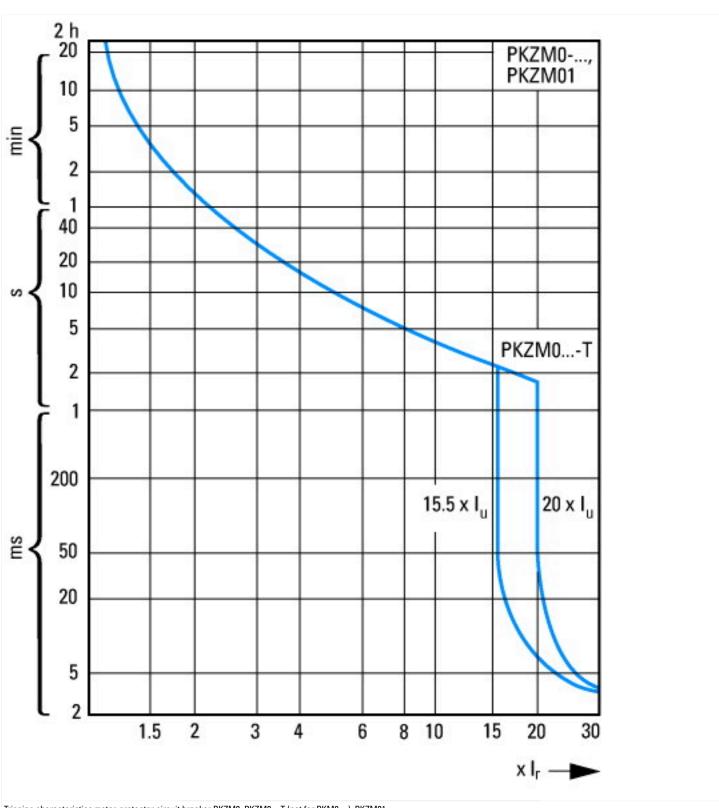
Approvals

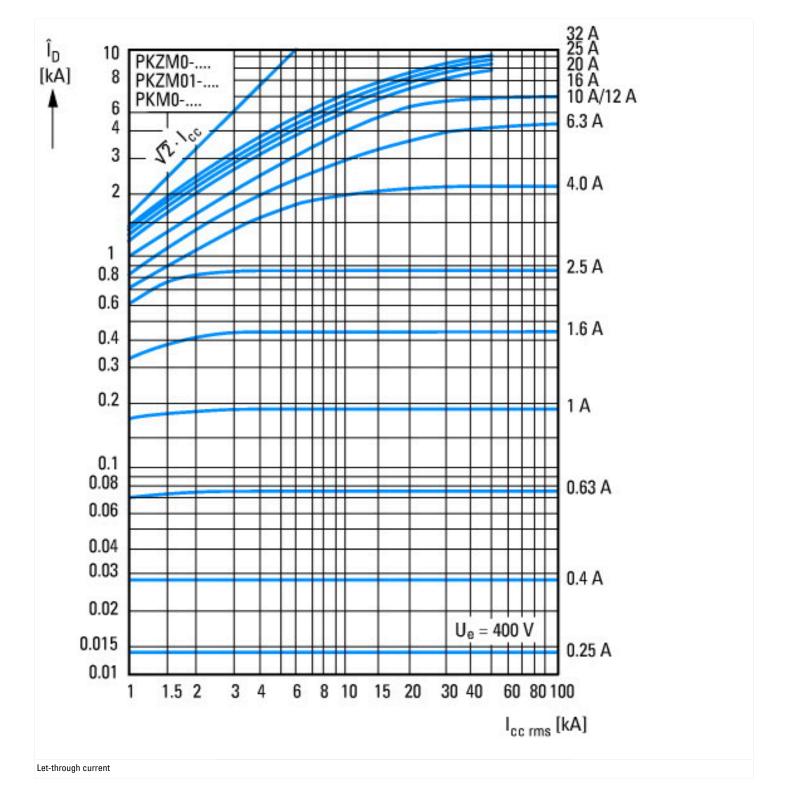
Specially designed for North America No	Specially designed for North America	No	
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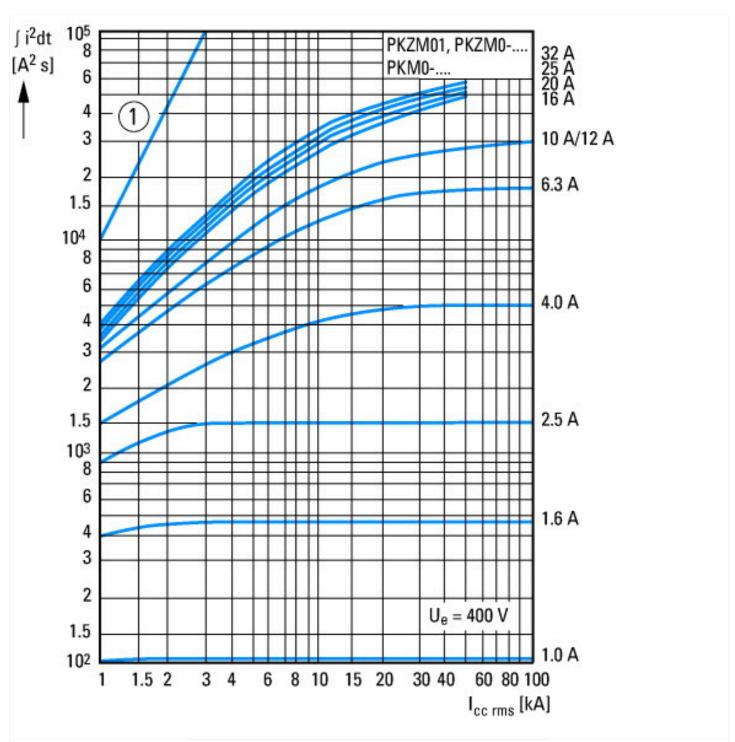
Characteristics



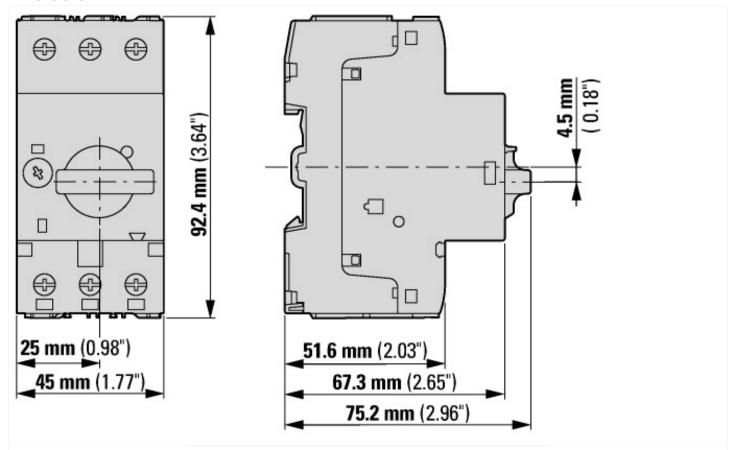
- 1: Standard auxiliary contact
 2: Trip-indicating auxiliary contact
 3: Shunt releases, undervoltage releases







Dimensions



Motor-protective circuit-breaker with standard auxiliary contact

PKZMO-...(+NHI-E-...-PKZ0) PKZMO-...-T(+NHI-E-...-PKZ0) PKMO-...(+NHI-E-...-PKZ0)

