



Motor-protective circuit-breaker, 3p, I_r=2.5-4A, screw/spring clamp connection

Part no. PKZM0-4-SC
Catalog No. 229835
Eaton Catalog No. XTPRSC004BC1NL
EL-Nummer (Norway) 4315187

Delivery program

Product range				PKZM0 motor protective circuit-breakers up to 32 A
Basic function				Motor protection
Notes				Also suitable for motors with efficiency class IE3. IE3-ready devices are identified by the logo on their packaging.
Connection technique				Screw terminals on feed side/spring-cage terminals on output side
Contact sequence				
Max. motor rating				
AC-3				
220 V 230 V 240 V	P	kW		0.75
380 V 400 V 415 V	P	kW		1.5
440 V	P	kW		1.5
500 V	P	kW		2.2
660 V 690 V	P	kW		3
Setting range				
Overload releases	I _r	A		2.5 - 4
short-circuit release				
max.	I _{rm}	A		62
Notes				
Phase failure sensitivity to IEC/EN 60947-4-1, VDE 0660 part 102. can be snapped-on to IEC/EN 60715 top-hat rail with 7.5 or 15 mm height				

Technical data

General				
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		- 40 - 80
Open		°C		-25 - +55
Enclosed		°C		- 25 - 40
Mounting position				
Direction of incoming supply				as required
Degree of protection				
Device				IP20

Terminations			IP00
Protection against direct contact			Finger and back-of-hand proof
Mechanical shock resistance half-sinusoidal shock 10 ms to IEC 60068-2-27		g	25
Altitude		m	2000
Terminal capacity main cable			
Screw terminals			
Solid		mm ²	1 x (1 - 6) 2 x (1 - 6)
Flexible with ferrule to DIN 46228		mm ²	1 x (1 - 6) 2 x (1 - 6)
Solid or stranded		AWG	18 - 10
Stripping length		mm	10
Spring-loaded terminals			
Solid		mm ²	1 x (0.75...2.5) 2 x (0.75...2.5)
Flexible with ferrule to DIN 46228		mm ²	1 x (0.75...2.5) 2 x (0.75...2.5)
Solid or stranded		AWG	18...14
Stripping length		mm	10
Specified tightening torque for terminal screws			
Main cable		Nm	1.7
Control circuit cables		Nm	1

Main conducting paths

Rated impulse withstand voltage	U_{imp}	V AC	6000
Overvoltage category/pollution degree			III/3
Rated operational voltage	U_e	V AC	690
Rated uninterrupted current = rated operational current	$I_u = I_e$	A	32 or current setting of the overcurrent release
Rated frequency	f	Hz	40 - 60
Current heat loss (3 pole at operating temperature)		W	5.33
Lifespan, mechanical	Operations	$\times 10^6$	0.1
Lifespan, electrical (AC-3 at 400 V)	Operations	$\times 10^6$	0.1
Maximum operating frequency		Ops/h	
Max. operating frequency		Ops/h	40
Short-circuit rating			
DC			
Short-circuit rating		kA	60
Notes			up to 250 V
Motor switching capacity			
AC-3 (up to 690 V)		A	32
DC-5 (up to 250 V)		A	25 (3 contacts in series)

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			≤ 0.25 %/K
Setting range of overload releases		$\times I_u$	0.6 - 1
short-circuit release			Basic device, fixed: $15.5 \times I_u$
Short-circuit release tolerance			$\pm 20\%$
Phase-failure sensitivity			IEC/EN 60947-1-1, VDE 0660 Part 102

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	4
Heat dissipation per pole, current-dependent	P_{vid}	W	0
Equipment heat dissipation, current-dependent	P_{vid}	W	5.33
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.

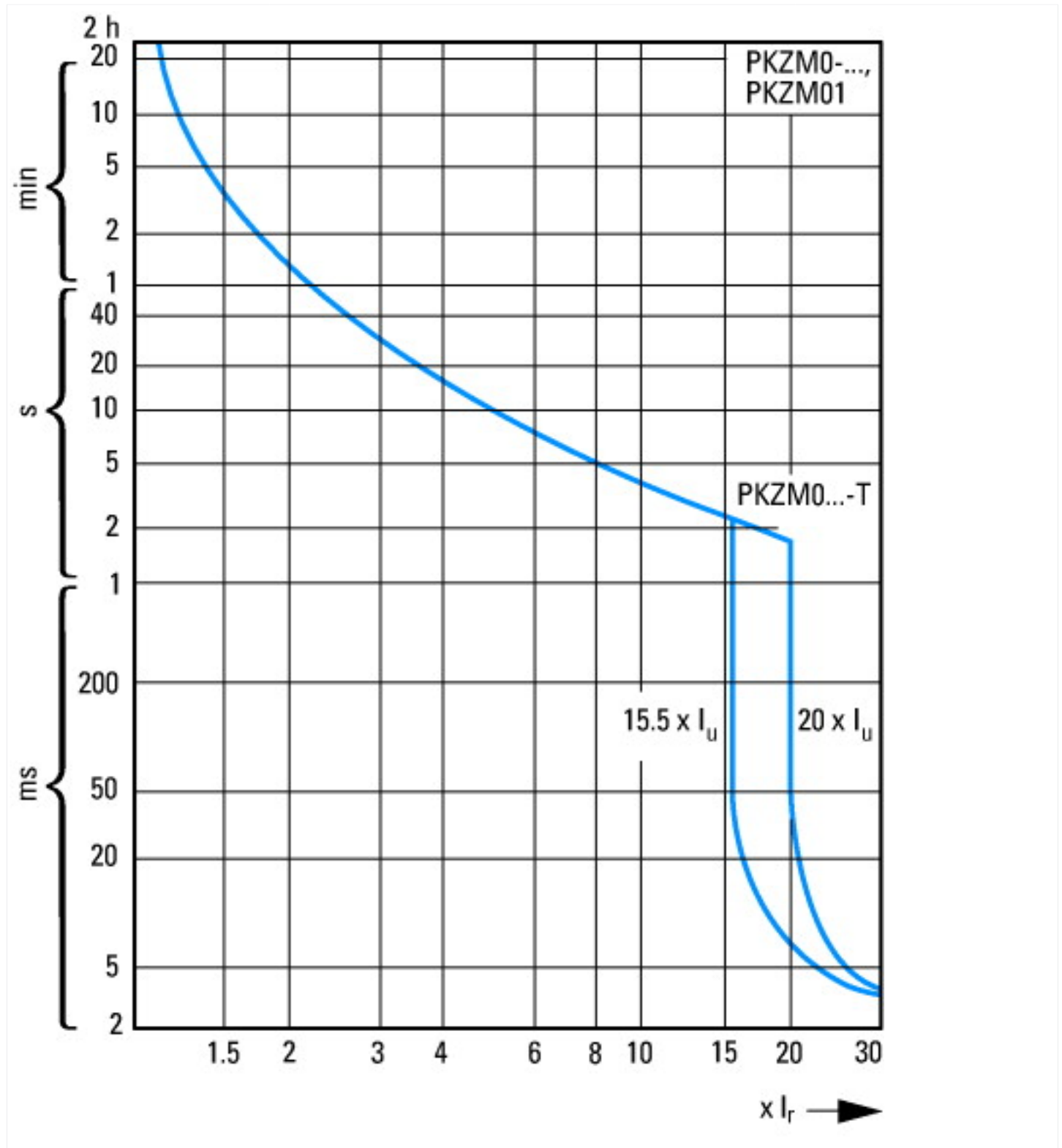
Technical data ETIM 6.0

Low-voltage industrial components (EG000017) / Motor protection circuit-breaker (EC000074)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Motor protection circuit-breaker (ecl@ss8.1-27-37-04-01 [AGZ529013])			
Overload release current setting		A	2.5 - 4
Adjustment range undelayed short-circuit release		A	62 - 62
Thermal protection			No
Phase failure sensitive			Yes
Switch off technique			Thermomagnetic
Rated operating voltage		V	690 - 690
Rated permanent current I _u		A	4
Rated operation power at AC-3, 230 V		kW	0.75
Rated operation power at AC-3, 400 V		kW	1.5
Type of electrical connection of main circuit			Screw connection
Type of control element			Turn button
Device construction			Built-in device fixed built-in technique
With integrated auxiliary switch			No
With integrated under voltage release			No
Number of poles			3
Rated short-circuit breaking capacity I _{cu} at 400 V, AC		kA	150
Degree of protection (IP)			IP20
Height		mm	93
Width		mm	45
Depth		mm	76

Approvals

Product Standards	IEC/EN 60947-4-1; UL 60947-4-1; CSA - C22.2 No. 60947-4-1-14; CE marking
UL File No.	E36332
UL Category Control No.	NLRV
CSA File No.	165628
CSA Class No.	3211-05
North America Certification	UL listed, CSA certified
Specially designed for North America	No
Suitable for	Branch circuit: Manual type E if used with terminal, or suitable for group installations

Characteristics



Motor-protective circuit-breaker tripping characteristic (high-capacity) compact starter, PKZM0...T (not for PKM0...), PKZM01



Let-through current



Let-through energy

Dimensions



Motor-protective circuit-breaker with standard auxiliary contact
 PKZM0-...(+NHI-E-...-PKZ0)
 PKZM0-...-T(+NHI-E-...-PKZ0)
 PKM0-...(+NHI-E-...-PKZ0)



Motor-protective circuit-breakers with lockable rotary handles
 PKZM0-...+AK-PKZ0



Motor-protective circuit-breakers with early-make auxiliary contacts
PKZM0-...+VHI-...-PKZ0

Additional product information (links)

IL034046ZU Motor-protective circuit-breakers

IL034046ZU Motor-protective circuit-breakers ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL034046ZU2017_07.pdf

IL03407010Z (AWA1210-2138) ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407010Z2017_07.pdf
Motorschutzschalter

IL03407011Z (AWA1210-1925) Motorschutzschalter

IL03407011Z (AWA1210-1925) ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03407011Z2017_07.pdf
Motorschutzschalter

MN03402003Z (AWB1210-1458) PKZM0 motor-protective circuit-breakers, overload monitoring of Ex e motors

MN03402003Z (AWB1210-1458) PKZM0 ftp://ftp.moeller.net/DOCUMENTATION/AWB_MANUALS/MN03402003Z_DE_EN.pdf
motor-protective circuit-breakers, overload
monitoring of Ex e motors - Deutsch / English

EC prototype test certification PTB (German http://intranet.moeller.net/technik_daten/file/produkt_deklarationen/file/approbationen/00001731.pdf
National Institute of Natural and Engineering
Sciences) 10 ATEX 3013

Motor starters and "Special Purpose Ratings" http://www.moeller.net/binary/ver_techpapers/ver953en.pdf
for the North American market

Busbar Component Adapters for modern http://www.moeller.net/binary/ver_techpapers/ver960en.pdf
Industrial control panels