



**Motor-protective circuit-breaker, 3p, Ir=2.5-4A, spring clamp connection**

**Part no.** PKZM0-4-C  
**Catalog No.** 229676  
**Eaton Catalog No.** XTPRC004BC1NL  
**EL-Nummer (Norway)** 4315174

**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				Spring-loaded terminals
Contact sequence				
<b>Max. motor rating</b>				
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
<b>Setting range</b>				
Overload releases		$I_r$	A	2.5 - 4
short-circuit release				
max.		$I_{rm}$	A	62
<b>Notes</b> 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**


<b>General</b>				
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			
Spring-loaded terminals			
Solid		mm <sup>2</sup>	1 x (0.75...2.5) 2 x (0.75...2.5)
Flexible with ferrule to DIN 46228		mm <sup>2</sup>	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			
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 <sub>u</sub>	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		Spring clamp 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 <sub>cu</sub> 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

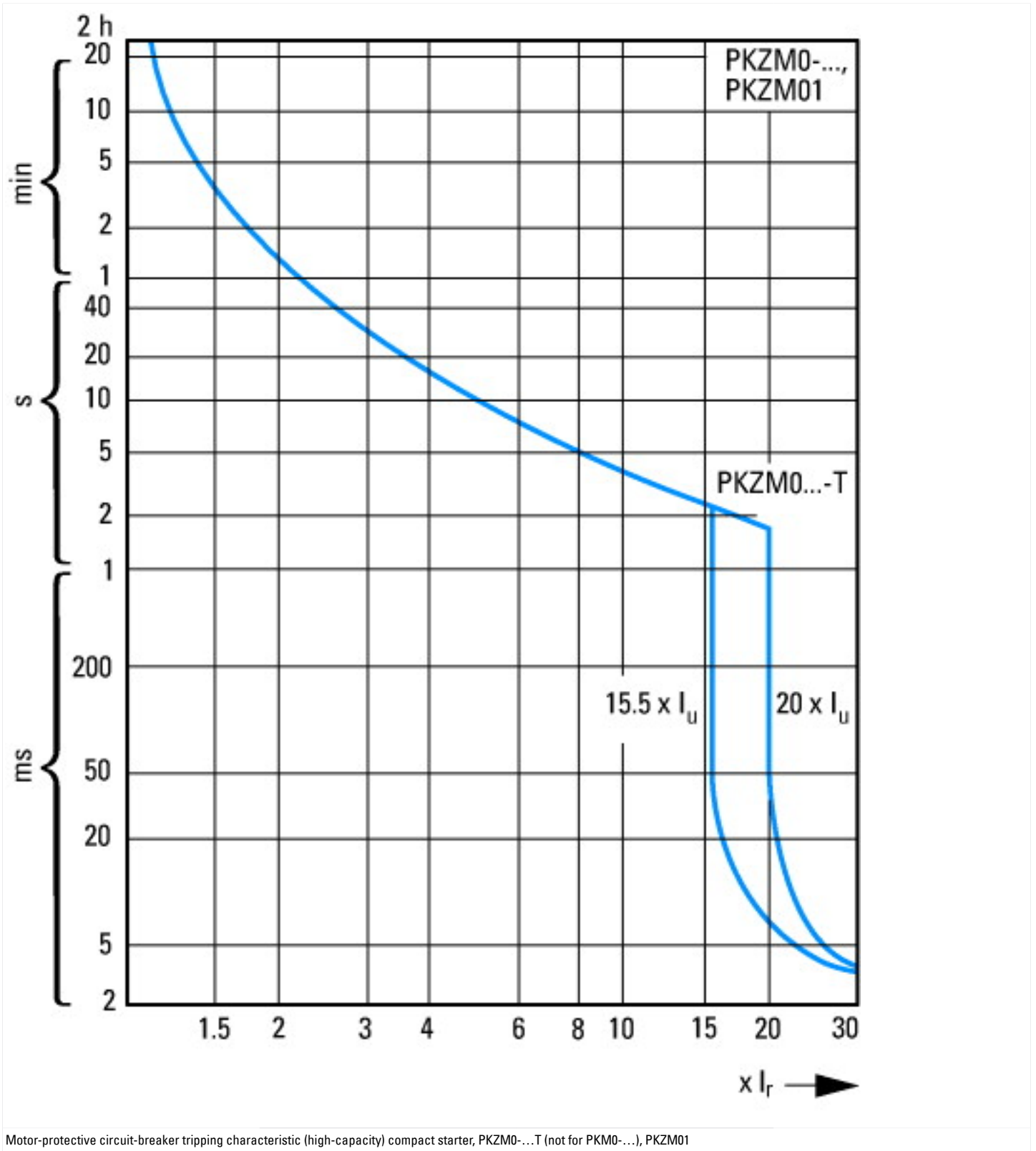
Specially designed for North America

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

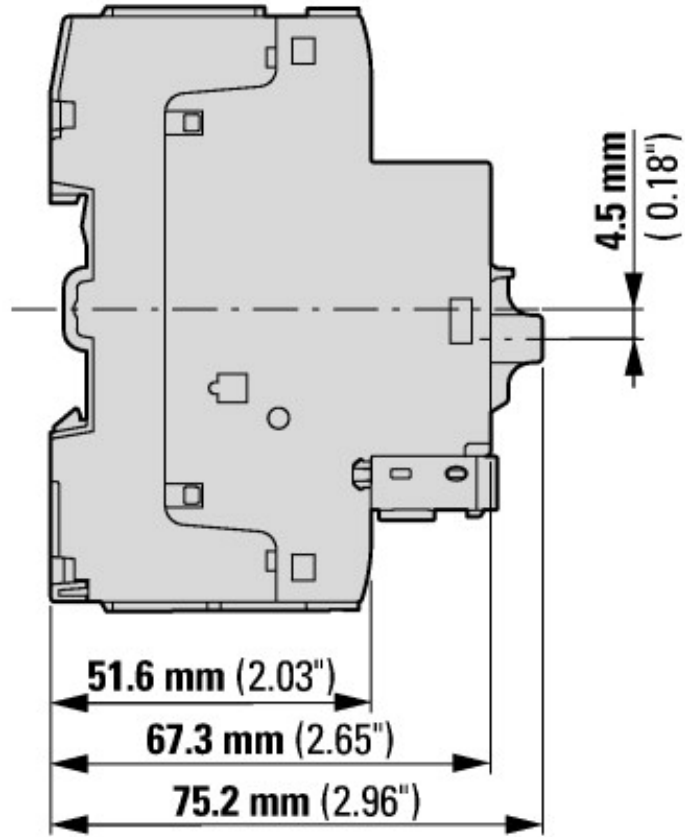


Let-through current

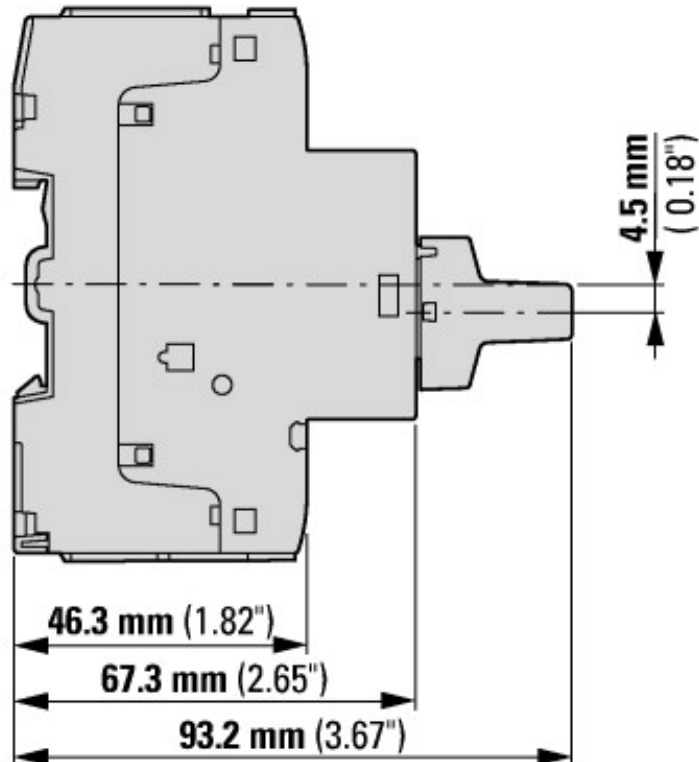


Let-through energy

## 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](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL034046ZU2017_07.pdf)

IL03407010Z (AWA1210-2138) [ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL03407010Z2017\\_07.pdf](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](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](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 National Institute of Natural and Engineering Sciences) 10 ATEX 3013 [http://intranet.moeller.net/technik\\_daten/file/produkt\\_deklarationen/file/approbationen/00001731.pdf](http://intranet.moeller.net/technik_daten/file/produkt_deklarationen/file/approbationen/00001731.pdf)

Motor starters and "Special Purpose Ratings" for the North American market [http://www.moeller.net/binary/ver\\_techpapers/ver953en.pdf](http://www.moeller.net/binary/ver_techpapers/ver953en.pdf)

Busbar Component Adapters for modern Industrial control panels [http://www.moeller.net/binary/ver\\_techpapers/ver960en.pdf](http://www.moeller.net/binary/ver_techpapers/ver960en.pdf)