



**Motor-protective circuit-breaker, 9 kW, 16 - 20 A, Screw terminals**



**Part no.** PKZM0-20  
**046988**  
**EL Number** 4355148  
**(Norway)**

General specifications	
Product name	Eaton Moeller® series PKZM0 Motor-protective circuit-breaker
Part no.	PKZM0-20
EAN	4015080469889
Product Length/Depth	76 millimetre
Product height	93 millimetre
Product width	45 millimetre
Product weight	0.296 kilogram
Certifications	UL 60947-4-1 CSA Class No.: 3211-05 CE UL CSA-C22.2 No. 60947-4-1-14 IEC/EN 60947-4-1 VDE 0660 UL File No.: E36332 CSA CSA File No.: 165628 IEC/EN 60947 UL Category Control No.: NLRV
Product Tradename	PKZM0
Product Type	Motor-protective circuit-breaker
Product Sub Type	None
Catalog Notes	IE3-ready devices are identified by the logo on their packaging.
Features & Functions	
Actuator type	Turn button
Features	Phase-failure sensitivity (according to IEC/EN 60947-4-1, VDE 0660 Part 102)
Functions	Motor protection Phase failure sensitive
Number of poles	Three-pole
General information	
Connection	Screw terminals
Degree of protection	IP20 Terminals: IP00
Explosion safety category for dust	ATEX dust-ex-protection, PTB 10, ATEX 3013, Ex II(2) GD
Lifespan, electrical	100,000 operations
Lifespan, mechanical	100,000 Operations
Mounting position	Can be snapped on to IEC/EN 60715 top-hat rail with 7.5 or 15 mm height.
Operating frequency	40 Operations/h
Overvoltage category	III
Pollution degree	3
Product category	Motor protective circuit breaker
Protection	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
Rated impulse withstand voltage (Uimp)	6000 V AC
Shock resistance	25 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
Suitable for	Also motors with efficiency class IE3 Branch circuit: Manual type E if used with terminal, or suitable for group installations, (UL/CSA)
Temperature compensation	≤ 0.25 %/K, residual error for T > 40° -25 - 55 °C, Operating range -5 - 40 °C to IEC/EN 60947, VDE 0660
Climatic environmental conditions	
Altitude	Max. 2000 m
Ambient operating temperature - min	-25 °C

Ambient operating temperature - max		55 °C
Ambient operating temperature (enclosed) - min		25 °C
Ambient operating temperature (enclosed) - max		40 °C
Ambient storage temperature - min		40 °C
Ambient storage temperature - max		80 °C
Climatic proofing		Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
<b>Terminal capacities</b>		
Terminal capacity (flexible with ferrule)		2 x (1 - 6) mm <sup>2</sup> , ferrule to DIN 46228 1 x (1 - 6) mm <sup>2</sup> , ferrule to DIN 46228
Terminal capacity (solid)		1 x (1 - 6) mm <sup>2</sup> 2 x (1 - 6) mm <sup>2</sup>
Terminal capacity (solid/stranded AWG)		18 - 10
Stripping length (main cable)		10 mm
Tightening torque		1 Nm, Screw terminals, Control circuit cables 1.7 Nm, Screw terminals, Main cable
<b>Electrical rating</b>		
Rated frequency - min		50 Hz
Rated frequency - max		60 Hz
Rated operational current (Ie)		20 A
Rated operational power at AC-3, 220/230 V, 50 Hz		5.5 kW
Rated operational power at AC-3, 380/400 V, 50 Hz		9 kW
Rated operational power at AC-3, 440 V, 50 Hz		11 kW
Rated operational power at AC-3, 500 V, 50 Hz		12.5 kW
Rated operational power at AC-3, 690 V, 50 Hz		15 kW
Rated operational voltage (Ue) - min		690 V
Rated operational voltage (Ue) - max		690 V
Rated uninterrupted current (Iu)		20 A
<b>Short-circuit rating</b>		
Rated short-circuit breaking capacity Icu at 400 V AC		50 kA
Rated short-circuit breaking capacity Ics at 400 V AC		38 kA
Rated short-circuit breaking capacity Icu at 440 V AC		10 kA
Rated short-circuit breaking capacity Ics at 440 V AC		3 kA
Rated short-circuit breaking capacity Icu at 500 V AC		3 kA
Rated short-circuit breaking capacity Ics at 500 V AC		3 kA
Rated short-circuit breaking capacity Icu at 690 V AC		3 kA
Rated short-circuit breaking capacity Ics at 690 V AC		1 kA
Short-circuit current		40 kA DC, up to 250 V DC, Main conducting paths
Short-circuit current rating (group protection)		10 kA, 600 V High Fault, Fuse, SCCR (UL/CSA) with 150 A, 600 V High Fault, Fuse, SCCR (UL/CSA) 10 kA, 600 V High Fault, CB, SCCR (UL/CSA) with 125 A, 600 V High Fault, CB, SCCR (UL/CSA) 18 kA, 600 V High Fault, Fuse with CL, SCCR (UL/CSA) with 600 A, 600 V High Fault, Fuse with CL, SCCR (UL/CSA) 18 kA, 600 V High Fault, CB with CL, SCCR (UL/CSA) with 600 A, 600 V High Fault, CB with CL, SCCR (UL/CSA) 18 kA, 480 V High Fault, CB, SCCR (UL/CSA) with 600 A, 480 V High Fault, CB, SCCR (UL/CSA) 18 kA, 480 V High Fault, Fuse, SCCR (UL/CSA) with 600 A, 480 V High Fault, Fuse, SCCR (UL/CSA)
Short-circuit current rating (type E)		18 kA, 240 V, SCCR (UL/CSA) 18 kA, 480 V/277 V, SCCR (UL/CSA) Accessories required BK25/3-PKZ0-E
Short-circuit release		Basic device fixed 15.5 x Iu, Trip Blocks 310 A, I <sub>rm</sub> , Setting range max. ± 20% tolerance, Trip blocks
<b>Switching capacity</b>		
Switching capacity		20 A (3 contacts in series), DC-5 up to 250V 20 A, AC-3 up to 690 V
<b>Motor rating</b>		
Assigned motor power at 115/120 V, 60 Hz, 1-phase		1.5 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase		5 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase		3 HP

Assigned motor power at 575/600 V, 60 Hz, 3-phase		15 HP
<b>Trip blocks</b>		
Overload release current setting - min		16 A
Overload release current setting - max		20 A
Tripping characteristic		Overload trigger: tripping class 10 A
<b>Design verification</b>		
Equipment heat dissipation, current-dependent P <sub>vid</sub>		5.82 W
Heat dissipation capacity P <sub>diss</sub>		0 W
Heat dissipation per pole, current-dependent P <sub>vid</sub>		1.94 W
Rated operational current for specified heat dissipation (I <sub>n</sub> )		20 A
Static heat dissipation, non-current-dependent P <sub>vs</sub>		0 W
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.9.2 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 9.0

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@ss13-27-37-04-01 [AGZ529021])		
Overload release current setting	A	16 - 20
Adjustment range undelayed short-circuit release	A	310 - 310
With thermal overload protection		No
Phase failure sensitive		Yes
Switch off technique		Thermomagnetic
Rated operating voltage	V	690 - 690
Rated permanent current I <sub>u</sub>	A	20
Rated operation power at AC-3, 230 V	kW	5.5
Rated operation power at AC-3, 400 V	kW	9
Power loss	W	5.82
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 <sub>cu</sub> at 400 V, AC	kA	50
Degree of protection (IP)		IP20
Height	mm	93
Width	mm	45
Depth	mm	76