DATASHEET - PKZM01-4

Motor-protective circuit-breaker, 440 V: 3 kW, Ir= 2.5 - 4 A, IP20

Part no. PKZM01-4
278482

EL Number (Norway) 4365017

Powering Business Worldwide™

General specifications

Product name	Eaton Moeller® series PKZM01 Motor-protective circuit-breaker
Part no.	PKZM01-4
EAN	4015082784829
Product Length/Depth	93 millimetre
Product height	90 millimetre
Product width	45 millimetre
Product weight	0.293 kilogram
Certifications	UL UL Category Control No.: NLRV CSA Class No.: 3211-05 CE CSA File No.: 165628 CSA CSA-C22.2 No. 60947-4-1-14 VDE 0660 IEC/EN 60947 UL File No.: E36332 UL 60947-4-1 IEC/EN 60947-4-1
Product Tradename	PKZM01
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	Push button
Features	Phase-failure sensitivity (according to IEC/EN 60947-4-1, VDE 0660 Part 102)
Functions	Phase failure sensitive Motor protection
Number of poles	Three-pole

General information

Connection	Screw terminals
Degree of protection	IP20 Terminals: IP00
Lifespan, electrical	50,000 operations (at 400V, AC-3)
Lifespan, mechanical	50,000 Operations (Main conducting paths)
Mounting position	Can be snapped on to IEC/EN 60715 top-hat rail with 7.5 or 15 mm height.
Operating frequency	25 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	Branch circuit: Manual type E if used with terminal, or suitable for group installations, (UL/CSA) Also motors with efficiency class IE3
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

Terminal capacities

Terminal capacity (flexible with ferrule)	2 x (1 - 6) mm^2, ferrule to DIN 46228 1 x (1 - 6) mm^2, ferrule to DIN 46228
Terminal capacity (solid)	2 x (1 - 6) mm^2 1 x (1 - 6) mm^2
Terminal capacity (solid/stranded AWG)	18 - 10
Stripping length (main cable)	10 mm
Tightening torque	1.7 Nm, Screw terminals, Main cable

Electrical rating

Rated frequency - min	50 Hz
Rated frequency - max	60 Hz
Rated operational current (Ie)	4 A
Rated operational power at AC-3, 220/230 V, 50 Hz	0.75 kW
Rated operational power at AC-3, 380/400 V, 50 Hz	1.5 kW
Rated operational power at AC-3, 440 V, 50 Hz	1.5 kW
Rated operational voltage (Ue) - min	440 V
Rated operational voltage (Ue) - max	440 V
Rated uninterrupted current (Iu)	4 A

Short-circuit rating

Rated short-circuit breaking capacity Icu at 400 V AC	50 kA
Short-circuit current	60 kA DC, up to 250 V DC, Main conducting paths
Short-circuit current rating (group protection)	50 kA, 600 V High Fault, Fuse, SCCR (UL/CSA) with 600 A, 600 V High Fault, Fuse, SCCR (UL/CSA) 50 kA, 600 V High Fault, CB, SCCR (UL/CSA) with 600 A, 600 V High Fault, CB, SCCR (UL/CSA)
Short-circuit release	62 A, Irm, Setting range max. ± 20% tolerance, Trip blocks Basic device fixed 15.5 x Iu, Trip Blocks

Switching capacity

Switching capacity	4 A (3 contacts in series), DC-5 up to 250V 4 A, AC-3 up to 440 V

Motor rating

Assigned motor power at 115/120 V, 60 Hz, 1-phase	0.125 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase	0.75 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase	0.33 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase	0.75 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase	2 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase	3 HP

Trip blocks

Overload release current setting - min	2.5 A
Overload release current setting - max	4 A
Tripping characteristic	Overload trigger: tripping class 10 A

Design verification

Equipment heat dissipation, current-dependent Pvid	5.33 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	1.78 W
Rated operational current for specified heat dissipation (In)	4 A
Static heat dissipation, non-current-dependent Pvs	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	2.5 - 4
Adjustment range undelayed short-circuit release		A	62 - 62
With thermal overload protection			No
Phase failure sensitive			Yes
Switch off technique			Thermomagnetic
Rated operating voltage		V	440 - 440
Rated permanent current Iu		A	4
Rated operation power at AC-3, 230 V		kW	0.75
Rated operation power at AC-3, 400 V		kW	1.5
Power loss		W	5.33
Type of electrical connection of main circuit			Screw connection
Type of control element			Push 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 Icu at 400 V, AC		kA	50
Degree of protection (IP)			IP20
Height		mm	90
Width		mm	45
Depth		mm	93