## Transformer-protective circuit-breaker, 3p, Ir=2.5-4A, screw connection



Part no. PKZM0-4-T

088914

**EL Number** 4315157

(Norway)

General specifications	
Product name	Eaton Moeller® series PKZM0 Transformer-protective circuit-breaker
Part no.	PKZM0-4-T
EAN	4015080889144
Product Length/Depth	76 millimetre
Product height	93 millimetre
Product width	45 millimetre
Product weight	0.284 kilogram
Certifications	VDE 0660 IEC/EN 60947
Product Tradename	PKZM0
Product Type	Transformer-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) Complete device with protection unit
Fitted with:	Switched-off indicator
Functions	Transformer protection  For the protection of transformers with a high inrush current
Number of poles	Three-pole
General information	
Connection	Screw terminals
Degree of protection	IP20 Terminals: IP00
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	Transformer 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 DIN rail (top hat rail) mounting
Temperature compensation	-5 - 40 °C to IEC/EN 60947, VDE 0660 $\leq$ 0.25 %/K, residual error for T > 40° -25 - 55 °C, Operating range
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

erminal capacities	
· · · · · · · · · · · · · · · · · · ·	2 v/1 C) mm² formula to DIAI 40000
Terminal capacity (flexible with ferrule)	2 x (1 - 6) mm², ferrule to DIN 46228 1 x (1 - 6) mm², ferrule to DIN 46228
Terminal capacity (solid)	2 x (1 - 6) mm <sup>2</sup> 1 x (1 - 6) mm <sup>2</sup>
Terminal capacity (solid/stranded AWG)	18 - 10
Stripping length (main cable)	10 mm
Tightening torque	1.7 Nm, Screw terminals, Main cable
Place to disease.	1 Nm, Screw terminals, Control circuit cables
Electrical rating	
Rated frequency - min	50 Hz
Rated frequency - max	60 Hz
Rated operational current (Ie)	4 A
Rated operational voltage (Ue) - min	690 V
Rated operational voltage (Ue) - max	690 V
Rated uninterrupted current (lu)	4 A
Short-circuit rating	
Rated short-circuit breaking capacity Icu at 400 V AC	150 kA
Rated short-circuit breaking capacity Ics at 400 V AC	150 kA
Rated short-circuit breaking capacity Icu at 440 V AC	150 kA
Rated short-circuit breaking capacity Ics at 440 V AC	150 kA
Rated short-circuit breaking capacity Icu at 500 V AC	150 kA
Rated short-circuit breaking capacity Ics at 500 V AC	150 kA
Rated short-circuit breaking capacity Icu at 690 V AC	3 kA
Rated short-circuit breaking capacity Ics at 690 V AC	3 kA
Short-circuit current	60 kA DC, up to 250 V DC, Main conducting paths
Short-circuit release	Basic device, fixed 20 x lu, Trip Blocks ± 20% tolerance, Trip blocks 84 A, Irm, Setting range max.
Switching capacity	
Switching capacity	4 A (3 contacts in series), DC-5 up to 250V 4 A, AC-3 up to 690 V
Contacts	
Number of auxiliary contacts (change-over contacts)	0
Number of auxiliary contacts (normally closed contacts)	0
Number of auxiliary contacts (normally open contacts)	0
Trip blocks	
Overload release current setting - min	2.5 A
Overload release current setting - max	4 A
Design verification	
Equipment heat dissipation, current-dependent Pvid	4.88 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	1.63 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.
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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) / 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@ss13-27-37-04-09 [AJZ716018])

Rated voltage         V         690 - 690           Rated short-circuit breaking capacity lcu at 400 V, 50 Hz         kA         150           Overload release current setting         A         2 - 4           Adjustment range short-term delayed short-circuit release         A         0 - 0           Adjustment range undelayed short-circuit release         A         84 - 84           Power loss         Built-in device fixed built-in technique           Device construction         W         4.88           Device construction         No         Screw connection           Type of electrical connection of main circuit         Yes         Screw connection           Suitable for DIN rail (top hat rail) mounting         Yes         Ves           Number of auxiliary contacts as normally open contact         Yes         O           Number of auxiliary contacts as normally open contact         Yes         Ves           With integrated under voltage release         Yes         No           With integrated under voltage release         Yes         O           Voltage of control element         Yes         O           Complete device with protection unit         Yes         O           Motor drive integrated         Yes         O           Motor drive integrated         <			
Rated short-circuit breaking capacity lou at 400 V, 50 Hz Overload release current setting Aljustment range short-term delayed short-circuit release Aljustment range undelayed short-ci	Rated permanent current lu	Α	4
Overload release current setting         A         2.5 - 4           Adjustment range short-term delayed short-circuit release         A         0 - 0           Adjustment range undelayed short-circuit release         A         84 - 84           Power loss         W         4.88           Device construction         Built-in device fixed built-in technique           Integrated earth fault protection         No           Type of electrical connection of main circuit         Screw connection           Suitable for DIN rail (top hat rail) mounting         Yes           Number of auxiliary contacts as normally closed contact         Yes           Number of auxiliary contacts as normally open contact         0           With switched-off indicator         Yes           With integrated under voltage release         No           Number of poles         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 optional         Yes	Rated voltage	V	690 - 690
Adjustment range short-term delayed short-circuit release         A         0 - 0           Adjustment range undelayed short-circuit release         A         84 - 84           Power loss         W         4.88           Device construction         Integrated earth fault protection         No           Type of electrical connection of main circuit         Suitable for DIN rail (top hat rail) mounting         Yes           DIN rail (top hat rail) mounting optional         Yes         0           Number of auxiliary contacts as normally closed contact         Yes         0           Number of auxiliary contacts as change-over contact         Yes         0           With switched-off indicator         Yes         Ves           With integrated under voltage release         No         No           Number of poles         3         No           Position of connection for main current circuit         Yes         No           Type of control element         Uher         Turn button           Complete device with protection unit         Yes         No           Motor drive integrated         No         No	Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	150
Adjustment range undelayed short-circuit release Power loss Device construction Integrated earth fault protection Type of electrical connection of main circuit 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 With switched-off indicator With switched-off indicator With integrated 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 integrated Motor drive optional	Overload release current setting	Α	2.5 - 4
Power loss Device construction Integrated earth fault protection Integrated earth fault protection Type of electrical connection of main circuit 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 auxiliary contacts as change-over contact Number of pauxiliary contacts as change-over contact Number of pauxiliary contacts as change-over contact Number of poles Number of poles No No Number of poles Octobrol element Complete device with protection unit Number of control element Complete device with protection unit Notor drive integrated No	Adjustment range short-term delayed short-circuit release	Α	0 - 0
Device construction Integrated earth fault protection Integrated earth fault protection Integrated earth fault protection Type of electrical connection of main circuit 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 Vith switched-off indicator Ves With integrated under voltage release No Number of poles Position of connection for main current circuit Type of control element Complete device with protection unit Ves Motor drive integrated Motor drive integrated Motor drive optional	Adjustment range undelayed short-circuit release	Α	84 - 84
Integrated earth fault protection Type of electrical connection of main circuit 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 Vith switched-off indicator Vith integrated under voltage release Number of poles Number of poles Number of connection for main current circuit Type of control element Complete device with protection unit Nutor drive integrated Motor drive optional	Power loss	W	4.88
Type of electrical connection of main circuit  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  Complete device with protection unit  Motor drive integrated  Motor drive optional	Device construction		Built-in device fixed built-in technique
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 plaxiliary contacts as change-over contact Number of plaxiliary contacts as change-over contact Number of poles Type of control element Type of control element Complete device with protection unit Number of poles No	Integrated earth fault protection		No
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 integrated under voltage release  With integrated 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  Yes  No  No  No  No  No  No  No  No  No  N	Type of electrical connection of main circuit		Screw connection
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 integrated under voltage release  No  Number of poles  Sale  Position of connection for main current circuit  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  With switched-off indicator  With integrated under voltage release  With integrated under voltage release  No  Number of poles  Position of connection for main current circuit  Type of control element  Complete device with protection unit  Wotor 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 integrated under voltage release  With integrated 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  O  O  O  O  O  O  O  O  O  O  O  O  O	Number of auxiliary contacts as normally closed contact		0
With switched-off indicator With integrated under voltage release With integrated under voltage release No Number of poles Solution of connection for main current circuit Type of control element Complete device with protection unit Motor drive optional Yes  Yes  Yes  No	Number of auxiliary contacts as normally open contact		0
With integrated under voltage release  No Number of poles 3 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	With integrated 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  No  Motor drive optional  No	Position of connection for main current circuit		Other
Motor drive integrated No Motor drive optional No	Type of control element		Turn button
Motor drive optional No	Complete device with protection unit		Yes
	Motor drive integrated		No
	Motor drive optional		No
Degree of protection (IP)	Degree of protection (IP)		IP20