



## Eaton EP-400186

Eaton Moeller® series Motor-protective circuit-breaker, 3-pole + 1 N/O + 0 N/C, 4 kW, 6.3 - 10 A, Feed-side screw terminals/output-side push-in terminals



<b>PRODUCT NAME</b>	Eaton Moeller® series PKZM0 Motor-protective circuit-breaker
<b>CATALOG NUMBER</b>	EP-400186
<b>PRODUCT LENGTH/DEPTH</b>	75 mm
<b>PRODUCT HEIGHT</b>	94 mm
<b>PRODUCT WIDTH</b>	45 mm
<b>PRODUCT WEIGHT</b>	0.305 kg
<b>CERTIFICATIONS</b>	VDE 0660 CSA Class No.: 3211-05 UL 60947-4-1 CSA CSA File No.: 165628 IEC/EN 60947-4-1 UL IEC/EN 60947 CE UL File No.: E36332 CSA-C22.2 No. 60947-4-1-14 UL Category Control No.: NLRV



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<b>FEATURES</b>	Phase-failure sensitivity (according to IEC/EN 60947-4-1, VDE 0660 Part 102)
<b>10.10 TEMPERATURE RISE</b>	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
<b>10.11 SHORT-CIRCUIT RATING</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
<b>10.13 MECHANICAL FUNCTION</b>	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.
<b>10.2.2 CORROSION RESISTANCE</b>	Meets the product standard's requirements.
<b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>	Meets the product standard's requirements.
<b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>	Meets the product standard's requirements.
<b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b>	Meets the product standard's requirements.
<b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>	Meets the product standard's requirements.
<b>10.2.5 LIFTING</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.6 MECHANICAL IMPACT</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.2.7 INSCRIPTIONS</b>	Meets the product standard's requirements.
<b>10.3 DEGREE OF PROTECTION OF</b>	Does not apply, since the entire switchgear needs to

DECLARATIONS OF CONFORMITY	<a href="#">eaton-motor-protective-circuit-breaker-declaration-of-conformity-uk251185en.pdf</a>
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<b>ASSEMBLIES</b>	be evaluated.
<b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>	Meets the product standard's requirements.
<b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>	Does not apply, since the entire switchgear needs to be evaluated.
<b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>	Is the panel builder's responsibility.
<b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>	Is the panel builder's responsibility.
<b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>	Is the panel builder's responsibility.
<b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>	Is the panel builder's responsibility.
<b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b>	Is the panel builder's responsibility.
<b>FITTED WITH:</b>	Auxiliary switch
<b>OPERATING FREQUENCY</b>	40 Operations/h
<b>POLLUTION DEGREE</b>	3
<b>LIFESPAN, MECHANICAL</b>	100,000 Operations
<b>MOUNTING METHOD</b>	DIN rail (top hat rail) mounting optional
<b>CLIMATIC PROOFING</b>	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
<b>ACTUATOR TYPE</b>	Turn button
<b>TRIPPING CHARACTERISTIC</b>	Overload trigger: tripping class 10 A
<b>ADJUSTMENT RANGE SHORT-TERM DELAYED SHORT-CIRCUIT RELEASE - MAX</b>	0 A
<b>ADJUSTMENT RANGE SHORT-TERM DELAYED SHORT-CIRCUIT RELEASE - MIN</b>	0 A
<b>ADJUSTMENT RANGE UNDELAYED SHORT-CIRCUIT RELEASE - MAX</b>	155 A
<b>ADJUSTMENT RANGE UNDELAYED SHORT-CIRCUIT RELEASE - MIN</b>	155 A
<b>AMBIENT OPERATING TEMPERATURE - MAX</b>	55 °C

<b>AMBIENT OPERATING TEMPERATURE - MIN</b>	-25 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>	40 °C
<b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>	-25 °C
<b>AMBIENT STORAGE TEMPERATURE - MAX</b>	80 °C
<b>AMBIENT STORAGE TEMPERATURE - MIN</b>	-40 °C
<b>ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE</b>	0.5 HP
<b>ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE</b>	3 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE</b>	1.5 HP
<b>ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE</b>	3 HP
<b>ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE</b>	7.5 HP
<b>ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE</b>	10 HP
<b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>	6.48 W
<b>HEAT DISSIPATION CAPACITY PDISS</b>	0 W
<b>HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID</b>	2.2 W
<b>RATED IMPULSE WITHSTAND VOLTAGE (UIMP)</b>	6000 V AC
<b>ALTITUDE</b>	Max. 2000 m
<b>DEVICE CONSTRUCTION</b>	Built-in device fixed built-in technique
<b>CONNECTION</b>	Push-in terminals on output side Screw terminals on feed side
<b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>	Screw-/spring clamp connection
<b>MOUNTING POSITION</b>	Can be snapped on to

	IEC/EN 60715 top-hat rail with 7.5 or 15 mm height.
<b>OVERVOLTAGE CATEGORY</b>	III
<b>DEGREE OF PROTECTION</b>	Terminals: IP00 IP20
<b>NUMBER OF POLES</b>	Three-pole
<b>LIFESPAN, ELECTRICAL</b>	100,000 operations
<b>SHOCK RESISTANCE</b>	25 g, Mechanical, according to IEC/EN 60068-2-27, Half-sinusoidal shock 10 ms
<b>FUNCTIONS</b>	Motor protection Phase failure sensitive
<b>TERMINAL CAPACITY (SOLID/STRANDED AWG)</b>	18 - 10, screw terminals 18 - 8, Push-in terminals
<b>SWITCHING CAPACITY</b>	10 A, AC-3 up to 690 V
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>	1
<b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>	0
<b>OVERLOAD RELEASE CURRENT SETTING - MAX</b>	10 A
<b>OVERLOAD RELEASE CURRENT SETTING - MIN</b>	10 A
<b>RATED FREQUENCY - MAX</b>	60 Hz
<b>RATED FREQUENCY - MIN</b>	50 Hz
<b>RATED OPERATIONAL VOLTAGE (UE) - MAX</b>	690 V
<b>RATED OPERATIONAL VOLTAGE (UE) - MIN</b>	690 V
<b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b>	10 A
<b>RATED OPERATIONAL POWER AT AC-3E, 220/230 V, 50 HZ</b>	2.2 kW
<b>RATED OPERATIONAL POWER AT AC-3E, 380/400 V, 50 HZ</b>	4 kW
<b>RATED UNINTERRUPTED CURRENT (IU)</b>	10 A
<b>STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>	0 W
<b>STRIPPING LENGTH (MAIN CABLE)</b>	10 mm

<b>PRODUCT CATEGORY</b>	Motor protective circuit breaker
<b>PROTECTION</b>	Finger and back-of-hand proof, Protection against direct contact when actuated from front (EN 50274)
<b>RATED OPERATIONAL POWER AT AC-3E, 440 V, 50 HZ</b>	4 kW
<b>RATED OPERATIONAL POWER AT AC-3E, 500 V, 50 HZ</b>	4 kW
<b>RATED OPERATIONAL POWER AT AC-3E, 690 V, 50 HZ</b>	7.5 kW
<b>TERMINAL CAPACITY (FLEXIBLE WITH UNISOLATED FERRULE)</b>	1 x (1 - 6) mm <sup>2</sup> , Screw terminals 2 x (1 - 6) mm <sup>2</sup> , Screw terminals 1 x (1 - 6) mm <sup>2</sup> , Push-in terminals 2 x (1 - 6) mm <sup>2</sup> , Push-in terminals
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICU AT 400 V AC</b>	150 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS AT 400 V AC</b>	150 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICU AT 440 V AC</b>	50 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS AT 440 V AC</b>	50 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICU AT 500 V AC</b>	42 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS AT 500 V AC</b>	11 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICU AT 690 V AC</b>	3 kA
<b>RATED SHORT-CIRCUIT BREAKING CAPACITY ICS AT 690 V AC</b>	2 kA
<b>TERMINAL CAPACITY (FLEXIBLE WITH ULTRASONIC WELDED CABLE END)</b>	1 x (1 - 10) mm <sup>2</sup> 2 x (1 - 6) mm <sup>2</sup> 1 x (1 - 6) mm <sup>2</sup> , Screw terminals 2 x (1 - 6) mm <sup>2</sup> , Screw terminals

	<p>1 x (1 - 10) mm<sup>2</sup>, Push-in terminals</p> <p>2 x (1 - 6) mm<sup>2</sup>, Push-in terminals</p>
<b>SUITABLE FOR</b>	<p>Also motors with efficiency class IE3</p> <p>Branch circuit: Manual type E if used with terminal, or suitable for group installations, (UL/CSA)</p>
<b>SHORT-CIRCUIT RELEASE</b>	<p>Basic device fixed 15.5 x lu</p> <p>± 20% tolerance</p> <p>155 A, I<sub>rm</sub></p>
<b>TERMINAL CAPACITY (SOLID)</b>	<p>1 x (1 - 6) mm<sup>2</sup>, Screw terminals</p> <p>2 x (1 - 6) mm<sup>2</sup>, Screw terminals</p> <p>1 x (1 - 2.5) mm<sup>2</sup>, Push-in terminals</p> <p>2 x (1 - 2.5) mm<sup>2</sup>, Push-in terminals</p> <p>1 x (0.5 - 1.5) mm<sup>2</sup>, Control circuit cables</p> <p>2 x (0.5 - 1.5) mm, Control circuit cables</p>
<b>RATED OPERATIONAL CURRENT (IE)</b>	10 A
<b>TEMPERATURE COMPENSATION</b>	<p>-5 - 40 °C to IEC/EN 60947, VDE 0660</p> <p>-25 - 55 °C, Operating range</p> <p>≤ 0.25 %/K, residual error for T &gt; 40°</p>
<b>SHORT-CIRCUIT CURRENT RATING (GROUP PROTECTION)</b>	<p>50 kA, 600 V High Fault, Fuse, SCCR (UL/CSA) with 150 A, 600 V High Fault, Fuse, SCCR (UL/CSA)</p> <p>30 kA, 600 V High Fault, Fuse, SCCR (UL/CSA) with 600 A, 600 V High Fault, Fuse, SCCR (UL/CSA)</p> <p>30 kA, 600 V High Fault, CB, SCCR (UL/CSA) with 600 A, 600 V High Fault, CB, SCCR (UL/CSA)</p>
<b>SHORT-CIRCUIT CURRENT RATING (TYPE E)</b>	<p>65 kA, 240 V, SCCR (UL/CSA)</p> <p>50 kA, 600 Y/347 V, SCCR (UL/CSA)</p> <p>65 kA, 480 Y/277 V, SCCR (UL/CSA)</p> <p>Accessories required BK25/3-PKZ0-E</p>
<b>TIGHTENING TORQUE</b>	1.7 Nm, Screw terminals, Main cable

