

# Eaton 222355

Catalog Number: 222355

Eaton Moeller® series PKZM4 Motor-protective circuit-breaker, I<sub>r</sub>= 40 - 50 A, Screw terminals, Terminations: IP00 PKZM4-50



## General specifications

### Product Name

Eaton Moeller® series PKZM4 Motor-protective circuit-breaker

### Catalog Number

222355

### Model Code

PKZM4-50

### EAN

4015082223557

### Product Length/Depth

160 mm

### Product Height

140 mm

### Product Width

55 mm

### Product Weight

1.136 kg

### Certifications

UL Category Control No.: NLRV

IEC/EN 60947-4-1

CSA

IEC/EN 60947

CE

CSA Class No.: 3211-05

CSA File No.: 165628

VDE 0660

CSA-C22.2 No. 60947-4-1-14

UL 60947-4-1

UL

UL File No.: E36332



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## Features & Functions

### Actuator type

Turn 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

### Explosion safety category for dust

ATEX dust-ex-protection, PTB 10, ATEX 3012, Ex II(2) G

### Lifespan, electrical

30,000 operations (at 400V, AC-3)

### Lifespan, mechanical

30,000 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

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

15 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

-25 - 55 °C, Operating range

≤ 0.25 %/K, residual error for T > 40°

-5 - 40 °C to IEC/EN 60947, VDE 0660

## Climatic environmental conditions

Altitude

## Terminal capacities

Terminal capacity (flexible with ferrule)

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, cyclic, to IEC 60068-2-30

Damp heat, constant, to IEC 60068-2-78

1 x (0.75 - 35) mm<sup>2</sup>, Main cables

2 x (0.75 - 25) mm<sup>2</sup>, Main cables

Terminal capacity (solid)

1 x (0.75 - 16) mm<sup>2</sup>, Main cables

2 x (0.75 - 16) mm<sup>2</sup>

Terminal capacity (solid/stranded AWG)

14 - 2

Stripping length (main cable)

14 mm

Tightening torque

3.3 Nm, Screw terminals, Main cable

## Electrical rating

Rated frequency - min

50 Hz

Rated frequency - max

60 Hz

Rated operational current (I<sub>e</sub>)

50 A

Rated operational power at AC-3, 220/230 V, 50 Hz

14 kW

Rated operational power at AC-3, 380/400 V, 50 Hz

25 kW

Rated operational voltage (U<sub>e</sub>) - min

690 V

Rated operational voltage (U<sub>e</sub>) - max

690 V

Rated uninterrupted current (I<sub>u</sub>)

50 A

## Short-circuit rating

Short-circuit current

60 kA DC, up to 250 V DC, Main conducting paths

Short-circuit current rating (group protection)

42 kA, 600 V High Fault, Fuse, SCCR (UL/CSA)

600 A, 600 V High Fault, max. Fuse, SCCR (UL/CSA)

42 kA, 600 V High Fault, CB, SCCR (UL/CSA)

## Motor rating

Assigned motor power at 230/240 V, 60 Hz, 3-phase

15 HP

Assigned motor power at 460/480 V, 60 Hz, 3-phase

30 HP

Assigned motor power at 575/600 V, 60 Hz, 3-phase

600 A, 600 V High Fault, max. CB, SCCR (UL/CSA)

#### Short-circuit current rating (type E)

Accessories required BK50/3-PKZ4-E

50 kA, 480 Y/277 V, SCCR (UL/CSA)

50 kA, 240 V, SCCR (UL/CSA)

#### Short-circuit release

± 20% tolerance, Trip blocks

775 A, I<sub>rm</sub>, Setting range max.

Basic device fixed 15.5 x I<sub>u</sub>, Trip Blocks

40 HP

## Communication

#### Connection

Screw terminals

## Trip blocks

#### Overload release current setting - min

40 A

#### Overload release current setting - max

50 A

#### Tripping characteristic

Overload trigger: tripping class 10 A

## Design verification

#### Equipment heat dissipation, current-dependent P<sub>vid</sub>

24.6 W

#### Heat dissipation capacity P<sub>diss</sub>

0 W

#### Heat dissipation per pole, current-dependent P<sub>vid</sub>

8.2 W

#### Rated operational current for specified heat dissipation (I<sub>n</sub>)

50 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

## Resources

#### Brochures

Save time and space thanks to the new link module PKZM0-XDM32ME

Motor Starters in System xStart - brochure

#### Catalogues

Product Range Catalog Switching and protecting motors

Switching and protecting motors - catalog

#### Characteristic curve

[eaton-manual-motor-starters-characteristic-pkzm4-characteristic-curve.eps](#)

[eaton-manual-motor-starters-pkzm4-characteristic-curve-002.eps](#)

[eaton-manual-motor-starters-characteristic-pkzm4-characteristic-curve-002.eps](#)

[eaton-manual-motor-starters-tripping-characteristic-pkzm4-characteristic-curve-002.eps](#)

#### Declarations of conformity

[DA-DC-00004960.pdf](#)

[DA-DC-00004953.pdf](#)

#### Drawings

[eaton-manual-motor-starters-pkzm4-dimensions.eps](#)

[eaton-manual-motor-starters-circuit-breaker-pkzm4-dimensions.eps](#)

[eaton-manual-motor-starters-pkzm4-3d-drawing.eps](#)

[eaton-manual-motor-starters-circuit-breaker-pkzm4-3d-drawing.eps](#)

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

[eaton-manual-motor-starters-mounting-3d-drawing-002.eps](#)

[eaton-general-ie-ready-dilm-contactor-standards.eps](#)

[eCAD model](#)

[ETN.PKZM4-50](#)

[Installation instructions](#)

[eaton-motors-starters-pkzm4-motor-protective-circuit-breaker-instruction-leaflet-il03407012z.pdf](#)

[Installation videos](#)

[WIN-WIN with push-in technology](#)

[Manuals and user guides](#)

[MN03402002Z\\_DE\\_EN](#)

[mCAD model](#)

[DA-CD-pkzm4](#)

[DA-CS-pkzm4](#)

[Wiring diagrams](#)

[eaton-manual-motor-starters-transformer-pkzm0-wiring-diagram.eps](#)

[eaton-manual-motor-starters-starter-nzm-mccb-wiring-diagram.eps](#)

switchgear must be observed.

#### 10.13 Mechanical function

The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.



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