Specifications

Eaton 039431

Catalog Number: 039431

Eaton Moeller® series PKZM0 Motor-protective circuit-breaker, 3p+1N/O+1N/C, Ir=0.4-0.63A, screw connection



General specifications

Product Name
Eaton Moeller® series PKZM0 Motor-protective circuit-breaker

Catalog Number
039431

EAN
4015080394310

Product Length/Depth
76 mm

Product Height
93 mm

Product Width
54 mm

Product Weight
0.286 kg

Certifications
VDE 0660
CSA
UL
IEC/EN 60947
CE
CSA-C22.2 No. 60947-4-1-14
IEC/EN 60947-4-1
UL Category Control No.: NLRV
CSA File No.: 165628
UL 60947-4-1
CSA Class No.: 3211-05
UL File No.: E36332

Powering Business Worldwide

Features & Functions

Actuator type

Turn button

Features

Phase-failure sensitivity (according to IEC/EN 60947-4-1, VDE 0660 Part 102)

Fitted with:

Auxiliary switch

Functions

Motor protection

Phase failure sensitive

Number of poles

Three-pole

General

Connection

Screw terminals

Explosion safety category for dust

PTB 10, ATEX 3013

Ex II (2) G [Ex eb Gb] [Ex db Gb] [Ex pxb Gb]

Ex II (2) D [Ex tb Db] [Ex pxb Db]

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

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°

-5 - 40 °C to IEC/EN 60947, VDE 0660

-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, cyclic, to IEC 60068-2-30
Damp heat, constant, to IEC 60068-2-78

Terminal capacities

Terminal capacity (flexible with ferrule)
1 x (0.75 - 1.5) mm²
2 x (0.75 - 1.5) mm²

Terminal capacity (solid)
1 x (0.75 - 2.5) mm², Control circuit cables
2 x (0.75 - 2.5) mm², Control circuit cables

Terminal capacity (solid/stranded AWG)
18 - 10
18 - 14

Stripping length (main cable)
10 mm

Tightening torque
1 Nm, Screw terminals, Control circuit cables
1.7 Nm, Screw terminals, Main cable

Electrical rating

Rated frequency - min
50 Hz

Rated frequency - max
60 Hz

Rated operational current (Ie)
0.63 A

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

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

Rated operational voltage (Ue) - min
690 V

Rated operational voltage (Ue) - max
690 V

Rated uninterrupted current (Iu)
0.63 A

Short-circuit rating

Short-circuit current

Contacts

Number of auxiliary contacts (change-over contacts)

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 current rating (type E)

50 kA, 600 Y/347 V, SCCR (UL/CSA)

Accessories required BK25/3-PKZ0-E

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

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

Short-circuit release

± 20% tolerance, Trip blocks

Basic device fixed 15.5 x Iu, Trip Blocks

9.8 A, Irm, Setting range max.

Rated short-circuit breaking capacity Ics at 400 V AC

150 kA

Rated short-circuit breaking capacity Icu 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

150 kA

Rated short-circuit breaking capacity Ics at 690 V AC

150 kA

0

Number of auxiliary contacts (normally closed contacts)

1

Number of auxiliary contacts (normally open contacts)

1

Trip blocks

Overload release current setting - min

0.4 A

Overload release current setting - max

0.63 A

Tripping characteristic

Overload trigger: tripping class 10 A

Design verification

Equipment heat dissipation, current-dependent Pvid

5.16 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

1.72 W

Rated operational current for specified heat dissipation (In)

0.63 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.

Resources

Brochures

eaton-motor-starters-system-xstart-brochure-br03407001en-en-us.pdf

Catalogs

Switching and protecting motors - catalog

eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf

Product Range Catalog Switching and protecting motors

Characteristic curve

eaton-manual-motor-starters-characteristic-characteristic-curve-008.eps

eaton-manual-motor-starters-characteristic-characteristic-curve-009.eps

eaton-manual-motor-starters-characteristic-characteristic-curve-004.eps

Declarations of conformity

DA-DC-00005041.pdf

DA-DC-00005040.pdf

Drawings

eaton-manual-motor-starters-pkz-dimensions-002.eps

eaton-manual-motor-starters-pkz-dimensions.eps

eaton-manual-motor-starters-pkz-dimensions-003.eps

eaton-general-ie-ready-dilm-contactor-standards.eps

eaton-manual-motor-starters-circuit-breaker-pkzm0-3d-drawing.eps

eaton-manual-motor-starters-mounting-3d-drawing-002.eps

eaton-manual-motor-starters-pkzm0-3d-drawing-008.eps

eCAD model

ETN.039431.edz

Installation instructions

IL03407011Z.pdf

IL03402034Z

Installation videos

WIN-WIN with push-in technology

Manuals and user guides

eaton-motor-protection-pkzm0-mn03402003z-de-de-en-us.pdf

IL122023ZU

mCAD model

DA-CS-pkzm0_nhi11

DA-CD-pkzm0_nhi11

Sales notes

10.13 Mechanical function

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

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