Specifications

Eaton 233990

Catalog Number: 233990

Eaton Moeller® series P1 Main switch, P1, 32 A, surface mounting, 3 pole, STOP function, With black rotary handle and locking ring

General specifications

Product Name
Eaton Moeller® series P1 Main switch

Catalog Number
233990

EAN
4015082339906

Product Length/Depth
115 mm

Product Height
137 mm

Product Width
80 mm

Product Weight
0.438 kg

Certifications
IEC/EN 60204
IEC/EN 60947
VDE 0660
IEC/EN 60947-3

Catalog Notes
Rated Short-time Withstand Current (Icw) for a time of 1 second

Product specifications

Product Category

Main switch

Features

Version as maintenance-/service switch

Version as main switch

Actuator color

Black

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.

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

UV resistance only in connection with protective shield.

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.

Resources

Brochures

Brochure - T Rotary Cam switch and P Switch-disconnector

Catalogs

P Switch-disconnectors and T Rotary cam switches catalogue CA042001EN

Declarations of conformity

DA-DC-00005061.pdf

DA-DC-00005059.pdf

Drawings

eaton-rotary-switches-padlock-t0-main-switch-dimensions.eps

eaton-rotary-switches-surface-mounting-t0-main-switch-dimensions.eps

eaton-rotary-switches-t0-main-switch-symbol.eps

eaton-general-switch-t0-main-switch-symbol.eps

eaton-general-totally-insulated-t0-main-switch-symbol.eps

eCAD model

ETN.233990.edz

Installation instructions

IL03802001Z

Installation videos

Eaton's P Switch-disconnectors used in a factory

mCAD model

DA-CS-bauform1

DA-CD-bauform1

Product notifications

MZ008005ZU_Orderform_Customized_Switch.pdf

MZ008006ZU_Orderform_Customized_Switch.pdf

Wiring diagrams

eaton-rotary-switches-on-off-switch-p3-main-switch-wiring-diagram.eps

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.

Fitted with:

Black rotary handle and locking ring

Operating frequency

1200 Operations/h

Pollution degree

3

Climatic proofing

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

Rated impulse withstand voltage (Uimp)

6000 V AC

Rated permanent current at AC-21, 400 V

32 A

Rated permanent current at AC-23, 400 V

32 A

Rated uninterrupted current (Iu)

32 A

Static heat dissipation, non-current-dependent Pvs

0 W

Switching power at 400 V

15 kW

Voltage per contact pair in series

60 V

Accessories

Auxiliary contact or neutral conductor fitted by user.

Rated operational power at AC-3, 500 V, 50 Hz

18.5 kW

Device construction

Complete device in housing

Rated short-time withstand current (Icw)

640 A, Contacts, 1 second

0.64 kA

Electrical connection type of main circuit

Screw connection

Mounting position

As required

Actuator type

Door coupling rotary drive

Ambient operating temperature - max

40 °C

Ambient operating temperature - min

-25 °C

Ambient operating temperature (enclosed) - max

40 °C

Ambient operating temperature (enclosed) - min

-25 °C

Equipment heat dissipation, current-dependent Pvid

1.8 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

1.8 W

Number of auxiliary contacts (change-over contacts)

0

Number of auxiliary contacts (normally closed contacts)

0

Rated conditional short-circuit current (Iq)

80 kA

Overvoltage category

III

Control circuit reliability

1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)

Degree of protection (front side)

IP65

Number of poles

3

Mounting method

Surface mounting

Degree of protection

NEMA 12

Suitable for

Ground mounting

Functions

Interlockable

STOP function

Number of switches

1

Safe isolation

440 V AC, Between the contacts, According to EN 61140

Screw size

M4, Terminal screw

Shock resistance

15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms

Lifespan, mechanical

300,000 Operations

Load rating

1.3 x I_e (with intermittent operation class 12, 60 % duty factor)

2 x I_e (with intermittent operation class 12, 25 % duty factor)

1.6 x I_e (with intermittent operation class 12, 40 % duty factor)

Terminal capacity

1 x (1.5 - 6) mm², solid or stranded

1 x (1 - 4) mm², flexible with ferrules to DIN 46228

2 x (1.5 - 6) mm², solid or stranded

2 x (1 - 4) mm², flexible with ferrules to DIN 46228

Safety parameter (EN ISO 13849-1)

B10d values as per EN ISO 13849-1, table C.1

Number of auxiliary contacts (normally open contacts)

0

Number of contacts in series at DC-23A, 120 V

3

Number of contacts in series at DC-23A, 24 V

1

Number of contacts in series at DC-23A, 48 V

2

Number of contacts in series at DC-23A, 60 V

2

Rated breaking capacity at 220/230 V (cos phi to IEC 60947-3)

260 A

Rated breaking capacity at 400/415 V (cos phi to IEC 60947-3)

300 A

Rated breaking capacity at 500 V (cos phi to IEC 60947-3)

290 A

Rated breaking capacity at 660/690 V (cos phi to IEC 60947-3)

250 A

Rated making capacity up to 690 V (cos phi to IEC/EN 60947-3)

320 A

Rated operating voltage (Ue) - max

690 V

Rated operating voltage (Ue) - min

690 V

Rated operational voltage (Ue) at AC - max

690 V

Short-circuit protection rating

50 A gG/gL, Fuse, Contacts

Rated operational current (Ie) at AC-21, 440 V

32 A

Rated operational current (Ie) at AC-23A, 230 V

32 A

Rated operational current (Ie) at AC-23A, 400 V, 415 V

32 A

Rated operational current (Ie) at AC-23A, 500 V

30 A

Rated operational current (Ie) at AC-23A, 690 V

19.8 A

Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V

26.4 A

Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V

26.4 A

Rated operational current (Ie) at AC-3, 500 V

23.4 A

Rated operational current (Ie) at AC-3, 660 V, 690 V

14.7 A

Rated operational current (Ie) at DC-1, load-break switches l/r = 1 ms

32 A

Rated operational current (Ie) at DC-23A, 120 V

12 A

Rated operational current (Ie) at DC-23A, 24 V

25 A

Rated operational current (Ie) at DC-23A, 48 V

25 A

Rated operational current (Ie) at DC-23A, 60 V

25 A

Rated operational current for specified heat dissipation (In)

32 A

Rated operational power at AC-23A, 220/230 V, 50 Hz

7.5 kW

Rated operational power at AC-23A, 400 V, 50 Hz

15 kW

Rated operational power at AC-23A, 500 V, 50 Hz

18.5 kW

Rated operational power at AC-23A, 690 V, 50 Hz

15 kW

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

13 kW

Rated operational power at AC-3, 415 V, 50 Hz

13 kW

Rated operational power at AC-3, 690 V, 50 Hz

15 kW

Tightening torque

1.6 Nm, Screw terminals

Uninterrupted current

Rated uninterrupted current Iu is specified for max. cross-section.

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