Specifications

Eaton 280945



Catalog Number: 280945

Eaton Moeller® series P5 Main switch, P5, 250 A, rear mounting, 3 pole, STOP function, With black rotary handle and locking ring, Lockable in the 0 (Off) position

General specifications

Product Name
Eaton Moeller® series P5 Main switch

Catalog Number
280945

EAN
4015082809454

Product Length/Depth
150 mm

Product Height
150 mm

Product Width
130 mm

Product Weight
2.134 kg

Compliances
CE Marked

Certifications
IEC 60947
EN 60947-3
UL 508
CSA Std. C22.2 No. 14-05
VDE
CSA-C22.2 No. 14-05
CSA-C22.2 No. 94
IEC/EN 60204
UL Category Control No.: NLRV, NLRV7
VDE 0660
CE
CSA File No.: 223805
IEC/EN 60947
CSA
CSA Class No.: 3211-05
IEC/EN 60947-3
UL
UL File No.: E36332

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

Powering Business Worldwide

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-00004899.pdf

DA-DC-00004930.pdf

Drawings

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

eaton-rotary-switches-mounting-p5-main-switch-dimensions-002.eps

eaton-rotary-switches-mounting-p1-main-switch-3d-drawing-002.eps

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

eaton-general-mounting-p1-main-switch-symbol-002.eps

eCAD model

ETN.280945.edz

Installation instructions

IL03802011Z2021_10.pdf

Installation videos

Eaton's P Switch-disconnectors used in a factory

mCAD model

p5_250_v_svb_sw.stp

p5_250_v_svb_sw

Wiring diagrams

eaton-rotary-switches-p5-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

50 Operations/h

Pollution degree

3

Climatic proofing

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

Rated impulse withstand voltage (Uimp)

8000 V AC

Rated permanent current at AC-21, 400 V

250 A

Rated permanent current at AC-23, 400 V

250 A

Rated uninterrupted current (Iu)

250 A

Static heat dissipation, non-current-dependent Pvs

0 W

Switching power at 400 V

90 kW

Voltage per contact pair in series

42 V

Accessories

Auxiliary contact or neutral conductor fitted by user.

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

75 kW

Device construction

Built-in device fixed built-in technique

Rated short-time withstand current (Icw)

4,6 kA, Contacts, 1 second

4.6 kA

Electrical connection type of main circuit

Frame clamp

Mounting position

As required

Actuator type

Door coupling rotary drive

Ambient operating temperature - max

50 °C

Ambient operating temperature - min

-25 °C

Ambient operating temperature (enclosed) - max

40 °C

Ambient operating temperature (enclosed) - min

-25 °C

Assigned motor power at 115/120 V, 60 Hz, 1-phase

15 HP

Assigned motor power at 115/120 V, 60 Hz, 3-phase

30 HP

Assigned motor power at 230/240 V, 60 Hz, 1-phase

30 HP

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

60 HP

Assigned motor power at 277 V, 60 Hz, 1-phase

30 HP

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

75 HP

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

75 HP

Equipment heat dissipation, current-dependent Pvid

8 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

8 W

Number of auxiliary contacts (change-over contacts)

0

Number of auxiliary contacts (normally closed contacts)

0

Rated conditional short-circuit current (Iq)

30 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

Rear mounting

Degree of protection

NEMA 12

Suitable for

Branch circuits, suitable as motor disconnect, (UL/CSA)
Intermediate mounting

Locking facility

Lockable in the 0 (Off) position

Functions

Interlockable

STOP function

Number of switches

1

Safe isolation

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

Screw size

6 mm AF, Hexagon socket-head spanner, Terminal screw

Lifespan, mechanical

80,000 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)

Switching capacity (auxiliary contacts, general use)

10A, IU, (UL/CSA)

Switching capacity (auxiliary contacts, pilot duty)

A600 (UL/CSA)

Terminal capacity

2 x 20 x 3 mm Number of segments x width x thickness, copper strip

350 MCM (AWG), solid or flexible conductor with ferrule

1 x 20 x 5 mm Number of segments x width x thickness, copper strip

1 x 185 mm², solid or stranded

2 x 70 mm², solid or stranded

1 x 120 mm², flexible with ferrules to DIN 46228

2 x 50 mm², flexible with ferrules to DIN 46228

300 MCM (AWG), flexible

Switching capacity (main contacts, general use)

250 A, Rated uninterrupted current max. (UL/CSA)

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

3

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

3

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

3

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

1600 A

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

1380 A

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

1250 A

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

400 A

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

1700 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 current rating (basic rating)

600A Class RK1, max. Fuse, SCCR (UL/CSA)
10 kA, SCCR (UL/CSA)

Short-circuit current rating (high fault)

65 kA, SCCR (UL/CSA)
400 A, Class J, max. Fuse, SCCR (UL/CSA)

Short-circuit protection rating

250 A gG/gL, Fuse, Contacts

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

250 A

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

126 A

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

170 A

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

156 A

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

50 A

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

126 A

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

105 A

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

118 A

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

45 A

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

250 A

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

80 A

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

250 A

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

250 A

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

250 A

Rated operational current for specified heat dissipation (In)

250 A

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

37 kW

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

90 kW

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

110 kW

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

45 kW

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

55 kW

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

55 kW

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

40 kW

Tightening torque

16 Nm, Screw terminals

140 lb-in, Screw terminals

Uninterrupted current

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

Rated Switching Capacity

15 HP at 120 V AC, single-phase

30 HP at 120 V AC, three-phase

30 HP at 240 V AC, single-phase

30 HP at 277 V AC, single-phase

60 HP at 240 V AC, three-phase

75 HP at 480 V AC, three-phase

75 HP at 600 V AC, three-phase

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