Specifications

# Eaton 280949

## Catalog Number: 280949

Eaton Moeller® series P5 On-Off switch, P5, 315 A, flush mounting, 3 pole, with black thumb grip and front plate



### General specifications

**Product Name**
Eaton Moeller® series P5 On-off switch

**Catalog Number**
280949

**EAN**
4015082809492

**Product Length/Depth**
150 mm

**Product Height**
150 mm

**Product Width**
130 mm

**Product Weight**
1.8 kg

**Compliances**
CE Marked

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

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

Powering Business Worldwide

## Product specifications

### Product Category

On-Off 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.

### 10.2.7 Inscriptions

Meets the product standard's requirements.

### 10.3 Degree of protection of assemblies

## 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-00004930.pdf

DA-DC-00004899.pdf

### Drawings

eaton-rotary-switches-mounting-p5-on-off-switch-dimensions-002.eps

eaton-rotary-switches-front-plate-t0-on-off-switch-symbol-002.eps

eaton-general-rotary-switch-t0-step-switch-symbol-002.eps

eaton-rotary-switches-mounting-t0-changeover-switch-3d-drawing-002.eps

### eCAD model

ETN.280949.edz

### Installation instructions

IL03802010Z

### Installation videos

Eaton's P Switch-disconnectors used in a factory

### mCAD model

p5_315_e.stp

p5_315_e

### Wiring diagrams

eaton-rotary-switches-p5-main-switch-wiring-diagram.eps

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 thumb grip and front plate

### Operating frequency

50 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)

8000 V AC

### Rated permanent current at AC-21, 400 V

315 A

### Rated permanent current at AC-23, 400 V

315 A

### Rated uninterrupted current (Iu)

315 A

### Static heat dissipation, non-current-dependent Pvs

0 W

Switching power at 400 V

110 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

90 kW

Device construction

Built-in device fixed built-in technique

Rated short-time withstand current (Icw)

5,8 kA, Contacts, 1 second

5.8 kA

Electrical connection type of main circuit

Frame clamp

Mounting position

As required

Actuator type

Short thumb-grip

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

20 HP

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

40 HP

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

35 HP

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

75 HP

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

35 HP

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

100 HP

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

100 HP

Equipment heat dissipation, current-dependent Pvid

12.7 W

Heat dissipation capacity Pdiss

0 W

Heat dissipation per pole, current-dependent Pvid

12.7 W

Number of auxiliary contacts (change-over contacts)

0

Number of auxiliary contacts (normally closed contacts)

0

Rated conditional short-circuit current (Iq)

15 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

Flush mounting

Degree of protection

NEMA 12

Suitable for

Front mounting 4-hole

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

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

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

### Switching capacity (auxiliary contacts, general use)

10A, IU, (UL/CSA)

### Switching capacity (auxiliary contacts, pilot duty)

A600 (UL/CSA)

### Terminal capacity

350 MCM (AWG), solid or flexible conductor with ferrule
300 MCM (AWG), flexible
1 x 120 mm², flexible with ferrules to DIN 46228
2 x 70 mm², solid or stranded
2 x 20 x 3 mm Number of segments x width x thickness, copper strip
1 x 185 mm², solid or stranded
1 x 20 x 5 mm Number of segments x width x thickness, copper strip
2 x 50 mm², flexible with ferrules to DIN 46228

### Switching capacity (main contacts, general use)

300 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)

1800 A

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

1650 A

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

1550 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)

2050 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)

10 kA, SCCR (UL/CSA)

800A Class RK1, max. Fuse, 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

315 A gG/gL, Fuse, Contacts

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

315 A

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

182 A

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

205 A

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

184 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

147 A

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

138 A

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

135 A

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

50 A

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

315 A

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

100 A

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

315 A

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

315 A

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

315 A

Rated operational current for specified heat dissipation (In)

315 A

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

55 kW

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

110 kW

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

132 kW

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

45 kW

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

75 kW

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

75 kW

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

45 kW

Tightening torque

140 lb-in, Screw terminals

16 Nm, Screw terminals

Uninterrupted current

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

Rated Switching Capacity

100 HP at 480 V AC, three-phase
100 HP at 600 V AC, three-phase
20 HP at 120 V AC, single-phase
35 HP at 240 V AC, single-phase
35 HP at 277 V AC, single-phase
40 HP at 120 V AC, three-phase
75 HP at 240 V AC, three-phase

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