

Eaton 091047

Catalog Number: 091047

Eaton Moeller® series T0 Reversing switches, T0, 20 A, flush mounting, 3 contact unit(s), Contacts: 5, 60 °, maintained, With 0 (Off) position, 1-0-2, Design number 8401



General specifications

Product Name

Eaton Moeller® series T0 Reversing switch

Catalog Number

091047

Model Code

T0-3-8401/E

EAN

4015080910473

Product Length/Depth

95 mm

Product Height

48 mm

Product Width

48 mm

Product Weight

0.121 kg

Certifications

UL File No.: E36332

CSA-C22.2 No. 94

IEC/EN 60204

UL

IEC/EN 60947

UL Category Control No.: NLRV

CSA File No.: 012528

CSA Class No.: 3211-05

CE

UL 60947-4-1

IEC/EN 60947-3

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

CSA

VDE 0660

UL

CSA

Product specifications

Terminal capacity (flexible with ferrule)

1 x (0.75 - 2.5) mm², ferrules to DIN 46228

2 x (0.75 - 2.5) mm², ferrules to DIN 46228

Rated operational current for specified heat dissipation (I_n)

20 A

10.11 Short-circuit rating

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

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

10 A

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

4 kW

10.4 Clearances and creepage distances

Meets the product standard's requirements.

Mounting method

Flush mounting

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

100 A

Design

8401

10.2.3.1 Verification of thermal stability of enclosures

Meets the product standard's requirements.

Fitted with:

0 (off) position

Black thumb grip and front plate

Inscription

1-0-2

Degree of protection (front side)

IP65

NEMA 12

Short-circuit current rating (high fault)

10 kA, SCCR (UL/CSA)

20 A, Class J, max. Fuse, SCCR (UL/CSA)

Short-circuit current rating (basic rating)

5 kA, SCCR (UL/CSA)

50A, max. Fuse, SCCR (UL/CSA)

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-00004895.pdf

DA-DC-00004927.pdf

Drawings

eaton-rotary-switches-mounting-t0-step-switch-dimensions-026.eps

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

eaton-rotary-switches-front-plate-t0-changeover-switch-symbol-009.eps

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

eCAD model

DA-CE-ETN.T0-3-8401_E

Installation instructions

IL03801020Z

Installation videos

Eaton's P Switch-disconnectors used in a factory

mCAD model

DA-CS-t0_3_e

DA-CD-t0_3_e

Wiring diagrams

eaton-rotary-switches-reversing-switch-t0-reversing-switch-wiring-diagram-002.eps

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

5 A

Rated operational current (Ie) at DC-23A, 240 V

5 A

Rated conditional short-circuit current (Iq)

6 kA

Actuator type

Short thumb-grip

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

130 A

Ambient operating temperature - max

50 °C

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

0.5 HP

Electrical connection type of main circuit

Screw connection

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

80 A

Number of poles

3

Rated operational power star-delta at 380/400 V, 50 Hz

7.5 kW

Ambient operating temperature - min

-25 °C

10.6 Incorporation of switching devices and components

Does not apply, since the entire switchgear needs to be evaluated.

Rated uninterrupted current (Iu)

20 A

10.2.6 Mechanical impact

Does not apply, since the entire switchgear needs to be evaluated.

10.3 Degree of protection of assemblies

Does not apply, since the entire switchgear needs to be evaluated.

Operating frequency

1200 Operations/h

Product Category

Control switches

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

2

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

10 A

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

1

Heat dissipation capacity P_{diss}

0 W

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

7.5 HP

Assigned motor power at 200/208 V, 60 Hz, 1-phase

1 HP

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

13.3 A

Switching angle

60 °

10.9.2 Power-frequency electric strength

Is the panel builder's responsibility.

Overvoltage category

III

Degree of protection

IP65

NEMA 12

NEMA 1

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

13.3 A

Rated operational current (Ie) at DC-13, control switches L/R =
50 ms

10 A

Pollution degree

3

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

7.5 kW

Rated impulse withstand voltage (U_{imp})

6000 V AC

Voltage per contact pair in series

60 V

Tightening torque

1 Nm, Screw terminals

8.8 lb-in, Screw terminals

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

4 kW

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

4.9 A

Type

Reversing switch

10.2.2 Corrosion resistance

Meets the product standard's requirements.

10.2.4 Resistance to ultra-violet (UV) radiation

UV resistance only in connection with protective shield.

10.2.7 Inscriptions

Meets the product standard's requirements.

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

11.5 A

Number of auxiliary contacts (normally open contacts)

0

Model

Reversing switch

Number of contacts in series at DC-21A, 240 V

1

Shock resistance

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

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

3 HP

Ambient operating temperature (enclosed) - min

-25 °C

Number of contact units

3

Terminal capacity (solid/flexible with ferrule AWG)

18 - 14

Rated operational current (I_e) at DC-21, 240 V

1 A

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

5.5 kW

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

13.3 A

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

10 A

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

3 kW

10.12 Electromagnetic compatibility

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

10.2.5 Lifting

Does not apply, since the entire switchgear needs to be evaluated.

Ambient operating temperature (enclosed) - max

40 °C

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

20 A

10.8 Connections for external conductors

Is the panel builder's responsibility.

Screw size

M3.5, Terminal screw

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

7.5 HP

Load rating

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

$2 \times I_e$ (with intermittent operation class 12, 25 % duty factor)

$1.3 \times I_e$ (with intermittent operation class 12, 60 % duty factor)

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

7.6 A

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

5.5 kW

Climatic proofing

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

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

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

110 A

Static heat dissipation, non-current-dependent Pvs

0 W

10.9.3 Impulse withstand voltage

Is the panel builder's responsibility.

10.5 Protection against electric shock

Does not apply, since the entire switchgear needs to be evaluated.

Safe isolation

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

Mounting position

As required

Safety parameter (EN ISO 13849-1)

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

Actuator function

Maintained

With 0 (Off) position

10.13 Mechanical function

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

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

5.5 kW

Rated operational power star-delta at 220/230 V, 50 Hz

5.5 kW

10.9.4 Testing of enclosures made of insulating material

Is the panel builder's responsibility.

Heat dissipation per pole, current-dependent Pvid

0.6 W

Switching capacity (auxiliary contacts, general use)

10A, IU, (UL/CSA)

Rated operational power star-delta at 500 V, 50 Hz

7.5 kW

Uninterrupted current

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

Equipment heat dissipation, current-dependent Pvid

0 W

Assigned motor power at 200/208 V, 60 Hz, 3-phase

3 HP

Rated operational current (Ie)

20 A at AC-3, 400 V star-delta

8.5 A at AC-3, 690 V star-delta

20 A at AC-3, 230 V star-delta

15.6 A at AC-3, 500 V star-delta

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

60 A

Suitable for

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

Front mounting

Number of contacts in series at DC-23A, 240 V

5

Number of auxiliary contacts (normally closed contacts)

0

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

10 A

10.2.3.2 Verification of resistance of insulating materials to normal heat

Meets the product standard's requirements.

Rated operational power star-delta at 690 V, 50 Hz

5.5 kW

10.2.3.3 Resist. of insul. mat. to abnormal heat/fire by internal elect. effects

Meets the product standard's requirements.

Lifespan, mechanical

400,000 Operations

Number of contacts

5

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

3

Control circuit reliability

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

Rated short-time withstand current (Icw)

320 A, Contacts, 1 second

Number of auxiliary contacts (change-over contacts)

0

Rated operational voltage (Ue) at AC - max

690 V

10.7 Internal electrical circuits and connections

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.

Switching capacity (main contacts, general use)

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

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

3

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

9 A

Enclosure material

Plastic

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

1.5 HP

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

11.5 A

Terminal capacity (solid/stranded)

1 x (1 - 2.5) mm²

2 x (1 - 2.5) mm²

Short-circuit protection rating

20 A gG/gL, Fuse, Contacts

Switching capacity (auxiliary contacts, pilot duty)

P300 (UL/CSA)

A600 (UL/CSA)