

Eaton 022245

Catalog Number: 022245

Eaton Moeller® series T0 Changeoverswitches, T0, 20 A, centre mounting, 1 contact unit(s), Contacts: 2, 45 °, maintained, With 0 (Off) position, HAND-0-AUTO, Design number 15431



General specifications

Product Name

Eaton Moeller® series T0 Changeover switch

Catalog Number

022245

Model Code

T0-1-15431/EZ

EAN

4015080222453

Product Length/Depth

96 mm

Product Height

48 mm

Product Width

48 mm

Product Weight

0.101 kg

Certifications

UL Category Control No.: NLRV
CSA
CSA-C22.2 No. 60947-4-1-14
VDE 0660
IEC/EN 60947
CSA Class No.: 3211-05
CSA-C22.2 No. 94
UL
CSA File No.: 012528
IEC/EN 60204
CE
IEC/EN 60947-3
UL 60947-4-1
UL File No.: E36332

Catalog Notes

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

Features & Functions

Fitted with:

0 (off) position
Black thumb grip and front plate

Inscription

" HAND-0-AUTO "

Number of poles

Single-pole

General

Degree of protection

IP65
NEMA 1
NEMA 12

Degree of protection (front side)

IP65
NEMA 12

Lifespan, mechanical

400,000 Operations

Mounting method

Center mounting

Number of contact units

1

Operating frequency

1200 Operations/h

Overvoltage category

III

Pollution degree

3

Product category

Control switches

Rated impulse withstand voltage (Uimp)

6000 V AC

Safe isolation

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

Safety parameter (EN ISO 13849-1)

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

Shock resistance

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

Suitable for

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

Switching angle

45 °

Type

Climatic environmental conditions

Ambient operating temperature - min

-25 °C

Ambient operating temperature - max

50 °C

Ambient operating temperature (enclosed) - min

-25 °C

Ambient operating temperature (enclosed) - max

40 °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 - 2.5) mm², ferrules to DIN 46228

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

Terminal capacity (solid/flexible with ferrule AWG)

18 - 14

Terminal capacity (solid/stranded)

1 x (1 - 2.5) mm²

2 x (1 - 2.5) mm²

Screw size

M3.5, Terminal screw

Tightening torque

8.8 lb-in, Screw terminals

1 Nm, Screw terminals

Electrical rating

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

100 A

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

110 A

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

80 A

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

60 A

Rated operating voltage (Ue) at AC - max

690 V

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

11.5 A

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

11.5 A

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

9 A

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

4.9 A

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

20 A

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

13.3 A

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

13.3 A

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

13.3 A

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

7.6 A

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

10 A

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

10 A

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

1 A

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

5 A

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

10 A

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

5 A

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

10 A

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

10 A

Rated operational current (I_e) star-delta at AC-3, 230 V

20 A

Rated operational current (I_e) star-delta at AC-3, 400 V

20 A

Rated operational current (I_e) star-delta at AC-3, 500 V

15.6 A

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

8.5 A

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

5.5 kW

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

4 kW

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

3 kW

Short-circuit rating

Rated conditional short-circuit current (I_q)

6 kA

Rated short-time withstand current (I_{cw})

320 A, Contacts, 1 second

Short-circuit current rating (basic rating)

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

5 kA, SCCR (UL/CSA)

Short-circuit current rating (high fault)

10 kA, SCCR (UL/CSA)

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

Short-circuit protection rating

20 A gG/gL, Fuse, Contacts

Switching capacity

Load rating

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

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

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

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

1

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

3

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

3

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

5

Switching capacity (main contacts, general use)

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

Switching capacity (auxiliary contacts, general use)

10A, IU, (UL/CSA)

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

5.5 kW

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

7.5 kW

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

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

7.5 kW

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

7.5 kW

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

5.5 kW

Rated uninterrupted current (I_u)

20 A

Uninterrupted current

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

Switching capacity (auxiliary contacts, pilot duty)

A600 (UL/CSA)

P300 (UL/CSA)

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

130 A

Voltage per contact pair in series

60 V

Motor rating

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

0.5 HP

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

1 HP

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

3 HP

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

1.5 HP

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

3 HP

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

7.5 HP

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

7.5 HP

Contacts

Control circuit reliability

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

Number of contacts

2

Actuator

Actuator function

With 0 (Off) position

Maintained

Actuator type

Toggle

Number of switch positions

3

Design verification

Equipment heat dissipation, current-dependent P_{vid}

0 W

Resources

Brochures

Heat dissipation capacity P_{diss}

0 W

Heat dissipation per pole, current-dependent P_{vid}

0.6 W

Rated operational current for specified heat dissipation (I_n)

20 A

Static heat dissipation, non-current-dependent P_{vs}

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

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

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.

Brochure - T Rotary Cam switch and P Switch-disconnector

Catalogues

P Switch-disconnectors and T Rotary cam switches catalogue

CA042001EN

Drawings

eaton-rotary-switches-mounting-t0-step-switch-dimensions-009.eps

eaton-rotary-switches-front-plate-t0-changeover-switch-symbol-017.eps

eaton-general-rotary-switch-t0-step-switch-symbol-004.eps

eaton-rotary-switches-mounting-t0-changeover-switch-3d-drawing-003.eps

eCAD model

DA-CE-ETN.T0-1-15431_EZ

Installation instructions

IL03801020Z

Installation videos

Eaton's P Switch-disconnectors used in a factory

mCAD model

DA-CS-t0_1_ez

DA-CD-t0_1_ez

Wiring diagrams

eaton-rotary-switches-switch-t0-changeover-switch-wiring-diagram.eps

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.

10.13 Mechanical function

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



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