

Specifications

Photo is representative

Eaton 014221

Eaton Moeller® series T0 Step switches, T0, 20 A, centre mounting, 5 contact unit(s), Contacts: 10, 30 °, maintained, Without 0 (Off) position, 1-10, Design number 15251

General specifications

PRODUCT NAME	Eaton Moeller® series T0 Step switch
CATALOG NUMBER	014221
EAN	4015080142218
PRODUCT LENGTH/DEPTH	134 mm
PRODUCT HEIGHT	48 mm
PRODUCT WIDTH	48 mm
PRODUCT WEIGHT	0.201 kg
CERTIFICATIONS	IEC/EN 60947-3 UL File No.: E36332 IEC/EN 60204 UL CSA UL Category Control No.: NLRV NLRV CSA File No.: 012528 UL 60947-4-1 IEC/EN 60947 VDE 0660 CE CSA Class No.: 3211-05 CSA-C22.2 No. 60947-4-1-14 CSA-C22.2 No. 94
CATALOG NOTES	Rated Short-time Withstand Current (I _{cw}) for a time of 1 second
MODEL CODE	T0-5-15251/EZ



Powering Business Worldwide

Features & Functions

FITTED WITH: Black thumb grip and front plate

INSCRIPTION 1-10

NUMBER OF POLES Single-pole

General

DEGREE OF PROTECTION IP65
NEMA 12
NEMA 1

DEGREE OF PROTECTION (FRONT SIDE) IP65
NEMA 12

LIFESPAN, MECHANICAL 400,000 Operations

MOUNTING METHOD Center mounting

MOUNTING POSITION As required

NUMBER OF CONTACT UNITS 5

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 30 °

TYPE Step switch

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)	2 x (0.75 - 2.5) mm ² , ferrules to DIN 46228 1 x (0.75 - 2.5) mm ² , ferrules to DIN 46228
TERMINAL CAPACITY (SOLID/FLEXIBLE WITH FERRULE AWG)	18 - 14
TERMINAL CAPACITY (SOLID/STRANDED)	1 x (1 - 2.5) mm ² 2 x (1 - 2.5) mm ²
SCREW SIZE	M3.5, Terminal screw
TIGHTENING TORQUE	1 Nm, Screw terminals 8.8 lb-in, 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 (IE) AT AC-23A, 400 V, 415 V 13.3 A

RATED OPERATIONAL CURRENT (IE) AT AC-23A, 500 V 13.3 A

RATED OPERATIONAL CURRENT (IE) AT AC-23A, 690 V 7.6 A

RATED OPERATIONAL CURRENT (IE) AT DC-1, LOAD-BREAK SWITCHES L/R = 1 MS 10 A

RATED OPERATIONAL CURRENT (IE) AT DC-13, CONTROL SWITCHES L/R 10 A

Short-circuit rating

RATED CONDITIONAL SHORT-CIRCUIT CURRENT (IQ) 6 kA

RATED SHORT-TIME WITHSTAND CURRENT (ICW) 320 A, Contacts, 1 second

SHORT-CIRCUIT CURRENT RATING (BASIC RATING) 5 kA, SCCR (UL/CSA) 50A, max. Fuse, 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

= 50 MS	
RATED OPERATIONAL CURRENT (IE) AT DC-21, 240 V	1 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 24 V	10 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 48 V	10 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 60 V	10 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 120 V	5 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 240 V	5 A
RATED OPERATIONAL CURRENT (IE) STAR-DELTA AT AC-3, 230 V	20 A
RATED OPERATIONAL CURRENT (IE) STAR-DELTA AT AC-3, 400 V	20 A
RATED OPERATIONAL CURRENT (IE) STAR-DELTA AT AC-3, 500 V	15.6 A
RATED OPERATIONAL CURRENT (IE) 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
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	5.5 kW

**POWER STAR-DELTA AT
220/230 V, 50 HZ**

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 (IU)	20 A
---	------

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

Switching capacity

LOAD RATING	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)
	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)
---	-------------------

SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	P300 (UL/CSA) A600 (UL/CSA)
--	--------------------------------

RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947-3)	130 A
--	-------

VOLTAGE PER CONTACT PAIR IN SERIES	60 V
---	------

Contacts

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

NUMBER OF CONTACTS	10
---------------------------	----

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
--	--------

Actuator

ACTUATOR FUNCTION	Maintained Without 0 (Off) position
--------------------------	--

ACTUATOR TYPE	Toggle
----------------------	--------

NUMBER OF SWITCH POSITIONS	10
-----------------------------------	----

Design verification

EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0.6 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	20 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	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.
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.

Resources

BROCHURES

[Brochure - T Rotary Cam switch and P Switch-disconnector](#)

CATALOGUES

[P Switch-disconnectors and T Rotary cam switches catalogue CA042001EN](#)

DECLARATIONS OF CONFORMITY

[DA-DC-00004927.pdf](#) [DA-DC-00004895.pdf](#)

DRAWINGS

[eaton-rotary-switches-mounting-t0-step-switch-dimensions-013.eps](#)

	eaton-general-rotary-switch-t0-step-switch-symbol-004.eps
	eaton-rotary-switches-front-plate-t0-step-switch-symbol-033.eps
ECAD MODEL	eaton-t0-step-switch-eplan-014221.edz
INSTALLATION INSTRUCTIONS	IL03801020Z
INSTALLATION VIDEOS	Eaton's P Switch-disconnectors used in a factory
MCAD MODEL	DA-CS-t0_5_ez DA-CD-t0_5_ez
PRODUCT NOTIFICATIONS	MZ008005ZU_Orderform_Customized_Switch.pdf MZ008006ZU_Orderform_Customized_Switch.pdf
WIRING DIAGRAMS	eaton-rotary-switches-t0-step-switch-wiring-diagram-058.eps eaton-rotary-switches-t0-step-switch-wiring-diagram-057.eps

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



Eaton Corporation plc
 Eaton House
 30 Pembroke Road
 Dublin 4, Ireland
 Eaton.com

Follow us on social media to get the latest product and support information.

