

Specifications



Eaton 031758

Eaton Moeller® series T0 On-Off switch, T0, 20 A, service distribution board mounting, 2 contact unit(s), 3 pole, with black thumb grip and front plate

General specifications

PRODUCT NAME	Eaton Moeller® series T0 On-off switch
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CATALOG NUMBER	031758
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MODEL CODE	T0-2-1/IVS
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EAN	4015080317586
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PRODUCT LENGTH/DEPTH	92 mm
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PRODUCT HEIGHT	55 mm
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PRODUCT WIDTH	54 mm
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PRODUCT WEIGHT	0.12 kg
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CERTIFICATIONS	IEC/EN 60204 IEC/EN 60947-3 UL UL Category Control No.: NLRV IEC/EN 60947 UL 60947-4-1 CSA CSA File No.: 012528 CE UL File No.: E36332 CSA-C22.2 No. 94 VDE 0660 CSA-C22.2 No. 60947-4-1-14 CSA Class No.: 3211-05
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CATALOG NOTES	Rated Short-time Withstand Current (Icw) for a time of 1 second
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Actuator

ACTUATOR COLOR	Black
ACTUATOR FUNCTION	Maintained
ACTUATOR TYPE	Short thumb-grip

Contacts

CONTROL CIRCUIT RELIABILITY	1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)	0
NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)	0

Climatic environmental conditions

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

Design verification

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	Meets the product standard's requirements.
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.
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

Electrical rating

RATED BREAKING CAPACITY AT 220/230 V (COS PHI TO IEC 60947-3)	100 A
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RATED BREAKING CAPACITY AT 400/415 V (COS PHI TO IEC 60947-3)	110 A
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RATED BREAKING CAPACITY AT 500 V (COS PHI TO IEC 60947-3)	80 A
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RATED BREAKING CAPACITY AT 660/690 V (COS PHI TO IEC 60947-3)	60 A
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RATED OPERATIONAL CURRENT (IE) AT AC-21, 440 V	20 A
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RATED OPERATIONAL CURRENT (IE) AT AC-23A, 230 V	13.3 A
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RATED OPERATIONAL CURRENT (IE) AT AC-23A, 400 V, 415 V	13.3 A
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RATED OPERATIONAL CURRENT (IE) AT AC-23A, 500 V	13.3 A
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RATED OPERATIONAL CURRENT (IE) AT AC-23A, 690 V	7.6 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 220 V, 230 V, 240 V	11.5 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V	11.5 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 500 V	9 A
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RATED OPERATIONAL CURRENT (IE) AT AC-3, 660 V, 690 V	4.9 A
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RATED OPERATIONAL CURRENT (IE) AT DC-1, LOAD-BREAK SWITCHES L/R = 1 MS	10 A
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RATED OPERATIONAL CURRENT (IE) AT DC-13, CONTROL SWITCHES L/R = 50 MS	10 A
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RATED OPERATIONAL CURRENT (IE) AT DC-21, 240 V	1 A
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RATED OPERATIONAL	5 A
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Features & functions

FITTED WITH:	Black thumb grip and front plate
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INSCRIPTION	0-1
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NUMBER OF POLES	3
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CURRENT (IE) AT DC-23A, 120 V	
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 24 V	10 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 240 V	5 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) STAR- DELTA AT AC-3, 220/230 V	20 A
RATED OPERATIONAL CURRENT (IE) STAR- DELTA AT AC-3, 380/400 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-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 POWER AT AC-3, 380/400 V, 50 HZ	5.5 kW
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 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 OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
RATED UNINTERRUPTED CURRENT (IU)	20 A
UNINTERRUPTED CURRENT	Rated uninterrupted current I _u is specified for max. cross-section.

General information

DEGREE OF PROTECTION	NEMA Other
DEGREE OF PROTECTION (FRONT SIDE)	IP30
LIFESPAN, MECHANICAL	400,000 Operations
MOUNTING METHOD	Service distribution board mounting
MOUNTING POSITION	As required
NUMBER OF CONTACT UNITS	2
OPERATING FREQUENCY	1200 Operations/h
OVERVOLTAGE CATEGORY	III
POLLUTION DEGREE	3
PRODUCT CATEGORY	On-Off switch
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	Distribution board installation Branch circuits, suitable as motor disconnect, (UL/CSA) Ground mounting
SWITCHING ANGLE	90 °

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

Short-circuit rating

**RATED CONDITIONAL
SHORT-CIRCUIT CURRENT (IQ)** 6 kA

**RATED SHORT-TIME
WITHSTAND CURRENT (ICW)** 0.32 kA
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

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, 120 V** 3

**NUMBER OF CONTACTS
IN SERIES AT DC-23A, 24 V** 1

**NUMBER OF CONTACTS
IN SERIES AT DC-23A, 240 V** 5

**NUMBER OF CONTACTS
IN SERIES AT DC-23A, 48 V** 2

**NUMBER OF CONTACTS
IN SERIES AT DC-23A, 60 V** 3

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

**SWITCHING CAPACITY
(AUXILIARY CONTACTS,
GENERAL USE)** 10A, IU, (UL/CSA)

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

**SWITCHING CAPACITY
(MAIN CONTACTS,
GENERAL USE)** 16 A, Rated uninterrupted current max. (UL/CSA)

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

Terminal capacities

SCREW SIZE	M3.5, Terminal screw
TERMINAL CAPACITY	2 x (0.75 - 2.5) mm ² , flexible with ferrules to DIN 46228 2 x (1 - 2.5) mm ² , solid or stranded 1 x (1 - 2.5) mm ² , solid or stranded 18 - 14 AWG, solid or flexible with ferrule 1 x (0.75 - 2.5) mm ² , flexible with ferrules to DIN 46228
TIGHTENING TORQUE	1 Nm, Screw terminals 8.8 lb-in, Screw terminals

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	eaton-step-switch-declaration-of-conformity-eu250844en.pdf eaton-step-switch-declaration-of-conformity-uk251327en.pdf
DRAWINGS	eaton-rotary-switches-mounting-t0-step-switch-dimensions.eps eaton-rotary-switches-mounting-t0-step-switch-dimensions-003.eps eaton-rotary-switches-front-plate-t0-on-off-switch-symbol-002.eps eaton-general-rotary-switch-t0-step-switch-symbol-005.eps eaton-rotary-switches-mounting-t0-changeover-switch-3d-drawing.eps
ECAD MODEL	eaton-t0-on-off-switch-eplan-031758.edz
INSTALLATION INSTRUCTIONS	IL03801006Z
INSTALLATION VIDEOS	Eaton's P Switch-disconnectors used in a factory
MCAD MODEL	eaton-universal-control-switches-mcad-drawings-t0-2-ivs.dwg DA-CS-t0 2 ivs
PRODUCT NOTIFICATIONS	MZ008005ZU_Orderform_Customized_Switch.pdf MZ008006ZU_Orderform_Customized_Switch.pdf

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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

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