# Specifications

## Eaton 011403

Eaton Moeller® series T0 Changeoverswitches, T0, 20 A, rear mounting, 2 contact unit(s), Contacts: 4, 90 °, maintained, Without 0 (Off) position, 1-2, Design number 15442

#### General specifications

PRODUCT NAME	Eaton Moeller® series T0 Changeover switch
CATALOG NUMBER	011403
EAN	4015080114031
PRODUCT LENGTH/DEPTH	128 mm
PRODUCT HEIGHT	48 mm
PRODUCT WIDTH	48 mm
PRODUCT WEIGHT	0.134 kg
CERTIFICATIONS	CSA CSA-C22.2 No. 94 UL File No.: E36332 UL Category Control No.: NLRV UL CSA Class No.: 3211-05 UL 60947-4-1 CSA File No.: 012528 CSA-C22.2 No. 60947-4-1- 14 IEC/EN 60204 VDE 0660 CE IEC/EN 60947-3
CATALOG NOTES	Rated Short-time Withstand Current (lcw) for a time of 1 second
MODEL CODE	T0-2-15442/Z



#### Features & Functions

FITTED WITH:	Black thumb grip and front plate
INSCRIPTION	1-2
NUMBER OF POLES	Two-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	Rear mounting
MOUNTING POSITION	As required
NUMBER OF CONTACT UNITS	2
OPERATING FREQUENCY	1200 Operations/h
OVERVOLTAGE CATEGORY	Ш
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	Ground mounting Intermediate mounting Branch circuits, suitable as motor disconnect, (UL/CSA)
SUITABLE FOR SWITCHING ANGLE	Ground mounting Intermediate mounting Branch circuits, suitable as motor disconnect,
	Ground mounting Intermediate mounting Branch circuits, suitable as motor disconnect, (UL/CSA)

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#### 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)	2 x (1 - 2.5) mm² 1 x (1 - 2.5) mm²
SCREW SIZE	M3.5, Terminal screw
TIGHTENING TORQUE	1 Nm, Screw terminals 8.8 lb-in, Screw terminals

## Electrical rating

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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	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 lu is specified for max. cross-section.

## Switching capacity

LOAD RATING	2 x l <sub>e</sub> (with intermittent operation class 12, 25 % duty factor) 1.6 x l <sub>e</sub> (with intermittent operation class 12, 40 % duty factor) 1.3 x l <sub>e</sub> (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)	A600 (UL/CSA) P300 (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

## 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	4

Actuator	
ACTUATOR FUNCTION	Without 0 (Off) position Maintained
ACTUATOR TYPE	Toggle
NUMBER OF SWITCH POSITIONS	2

#### 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	ls the panel builder's responsibility.
10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS	ls the panel builder's responsibility.
10.9.2 POWER- FREQUENCY ELECTRIC STRENGTH	ls the panel builder's responsibility.
10.9.3 IMPULSE WITHSTAND VOLTAGE	ls the panel builder's responsibility.
10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL	ls 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	<u>P Switch-disconnectors and T Rotary cam</u> switches catalogue CA042001EN
DECLARATIONS OF CONFORMITY	DA-DC-00004927.pdf DA-DC-00004895.pdf
DRAWINGS	<u>eaton-rotary-switches-mounting-t0-step-switch-</u> <u>dimensions-019.eps</u>

	eaton-rotary-switches-front-plate-t0-changeover- switch-symbol-008.eps
	<u>eaton-general-rotary-switch-t0-step-switch-</u> <u>symbol-003.eps</u>
ECAD MODEL	DA-CE-ETN.T0-2-15442 Z
INSTALLATION INSTRUCTIONS	<u>IL03801021Z</u>
INSTALLATION VIDEOS	Eaton's P Switch-disconnectors used in a factory
MCAD MODEL	DA-CS-t0 2 z DA-CD-t0 2 z
PRODUCT NOTIFICATIONS	MZ008005ZU_Orderform_Customized_Switch.pdf
	MZ008006ZU_Orderform_Customized_Switch.pdf
WIRING DIAGRAMS	eaton-rotary-switches-t0-changeover-switch- wiring-diagram-034.eps
	eaton-rotary-switches-t0-changeover-switch- wiring-diagram-033.eps

#### **PROJECT NAME:**

**PROJECT NUMBER:** 

PREPARED BY:

DATE:



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