

Specifications



Photo is representative



Eaton 222870

Eaton Moeller® series T3 Reversing switches, T3, 32 A, surface mounting, 3 contact unit(s), Contacts: 5, 45 °, maintained, With 0 (Off) position, 2-0-1, Design number 2

General specifications

PRODUCT NAME	Eaton Moeller® series T3 Reversing switch
CATALOG NUMBER	222870
MODEL CODE	T3-3-2/I2
EAN	4015082228705
PRODUCT LENGTH/DEPTH	181 mm
PRODUCT HEIGHT	127 mm
PRODUCT WIDTH	100 mm
PRODUCT WEIGHT	0.563 kg
CERTIFICATIONS	UL UL Category Control No.: NLRV UL 60947-4-1 CSA IEC/EN 60204 IEC/EN 60947 VDE 0660 CE IEC/EN 60947-3 CSA File No.: 012528 CSA-C22.2 No. 60947-4-1-14 CSA-C22.2 No. 94 UL File No.: E36332 CSA Class No.: 3211-07
CATALOG NOTES	Rated Short-time Withstand Current (Icw) for a time of 1 second

Actuator

ACTUATOR FUNCTION	Maintained With 0 (Off) position
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
NUMBER OF CONTACTS	5

Climatic environmental conditions

AMBIENT OPERATING TEMPERATURE - MAX	40 °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	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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	0 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	1.1 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	32 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)** 260 A

**RATED BREAKING
CAPACITY AT 400/415 V
(COS PHI TO IEC 60947-3)** 260 A

**RATED BREAKING
CAPACITY AT 500 V (COS
PHI TO IEC 60947-3)** 240 A

**RATED BREAKING
CAPACITY AT 660/690 V
(COS PHI TO IEC 60947-3)** 170 A

**RATED OPERATIONAL
CURRENT (IE)** 32 A at AC-3, 400 V star-
delta
32 A at AC-3, 230 V star-
delta
32 A at AC-3, 500 V star-
delta
25.5 A at AC-3, 690 V star-
delta

**RATED OPERATIONAL
CURRENT (IE) AT AC-21,
440 V** 32 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-23A,
230 V** 32 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-23A,
400 V, 415 V** 32 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-23A,
500 V** 26.4 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-23A,
690 V** 17 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
220 V, 230 V, 240 V** 23.7 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
380 V, 400 V, 415 V** 23.7 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
500 V** 23.7 A

**RATED OPERATIONAL
CURRENT (IE) AT AC-3,
660 V, 690 V** 14.7 A

**RATED OPERATIONAL
CURRENT (IE) AT DC-1,
LOAD-BREAK SWITCHES
L/R = 1 MS** 25 A

RATED OPERATIONAL 20 A

Features & functions

ENCLOSURE MATERIAL Plastic

FEATURES Complete device in
housing

FITTED WITH: 0 (off) position
Black thumb grip and
front plate

INSCRIPTION 2-0-1

NUMBER OF POLES 3

CURRENT (IE) AT DC-13, CONTROL SWITCHES L/R = 50 MS	
RATED OPERATIONAL CURRENT (IE) AT DC-21, 240 V	1 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 120 V	12 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 24 V	25 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 240 V	5 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 48 V	25 A
RATED OPERATIONAL CURRENT (IE) AT DC-23A, 60 V	25 A
RATED OPERATIONAL POWER AT AC-23A, 220/230 V, 50 HZ	7.5 kW
RATED OPERATIONAL POWER AT AC-23A, 400 V, 50 HZ	15 kW
RATED OPERATIONAL POWER AT AC-23A, 500 V, 50 HZ	15 kW
RATED OPERATIONAL POWER AT AC-23A, 690 V, 50 HZ	15 kW
RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ	12 kW
RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	11 kW
RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	11 kW
RATED OPERATIONAL POWER STAR-DELTA AT 220/230 V, 50 HZ	7.5 kW
RATED OPERATIONAL POWER STAR-DELTA AT 380/400 V, 50 HZ	15 kW
RATED OPERATIONAL POWER STAR-DELTA AT 500 V, 50 HZ	18.5 kW
RATED OPERATIONAL POWER STAR-DELTA AT	22 kW

690 V, 50 HZ	
RATED OPERATIONAL VOLTAGE (UE) AT AC - MAX	690 V
RATED UNINTERRUPTED CURRENT (IU)	32 A
UNINTERRUPTED CURRENT	Rated uninterrupted current Iu is specified for max. cross-section.

General information	
DEGREE OF PROTECTION	NEMA 12 IP65 NEMA 1
DEGREE OF PROTECTION (FRONT SIDE)	IP65 NEMA 12
LIFESPAN, MECHANICAL	500,000 Operations
MODEL	Reversing switch
MOUNTING METHOD	Surface mounting
MOUNTING POSITION	As required
NUMBER OF CONTACT UNITS	3
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	12 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms
SUITABLE FOR	Branch circuits, suitable as motor disconnect, (UL/CSA) Ground mounting Front mounting
SWITCHING ANGLE	45 °
TYPE	Reversing switch

Motor rating		
ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE		1.5 HP
ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 1-PHASE		3 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		3 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		10 HP

Short-circuit rating

**RATED CONDITIONAL
SHORT-CIRCUIT CURRENT (IQ)** 1 kA

**RATED SHORT-TIME
WITHSTAND CURRENT (ICW)** 650 A, Contacts, 1 second

**SHORT-CIRCUIT CURRENT
RATING (BASIC RATING)** 5 kA, SCCR (UL/CSA)
40A, max. Fuse, SCCR
(UL/CSA)

**SHORT-CIRCUIT CURRENT
RATING (HIGH FAULT)** 10 kA, SCCR (UL/CSA)
40 A, Class J, max. Fuse,
SCCR (UL/CSA)

**SHORT-CIRCUIT
PROTECTION RATING** 35 A gG/gL, Fuse, Contacts

Switching capacity

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

**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)** 320 A

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

**SWITCHING CAPACITY
(AUXILIARY CONTACTS,
PILOT DUTY)** P600 (UL/CSA)
A600 (UL/CSA)

**SWITCHING CAPACITY
(MAIN CONTACTS,
GENERAL USE)** 25 A, Rated uninterrupted
current max. (UL/CSA)

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

Terminal capacities

SCREW SIZE	M4, Terminal screw
TERMINAL CAPACITY (FLEXIBLE WITH FERRULE)	1 x (0.75 - 4) mm ² , ferrules to DIN 46228 2 x (0.75 - 4) mm ² , ferrules to DIN 46228
TERMINAL CAPACITY (SOLID/FLEXIBLE WITH FERRULE AWG)	14 - 10
TERMINAL CAPACITY (SOLID/STRANDED)	1 x (1 - 6) mm ² 2 x (1 - 6) mm ²
TIGHTENING TORQUE	17.7 lb-in, Screw terminals 1.6 Nm, 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-changeover-switch-declaration-of-conformity-eu250846en.pdf eaton-changeover-switch-declaration-of-conformity-uk251329en.pdf
DRAWINGS	eaton-rotary-switches-t3-changeover-switch-dimensions-002.eps eaton-rotary-switches-dimensions-t3-main-switch-dimensions.eps eaton-general-totally-insulated-t0-main-switch-symbol.eps eaton-rotary-switches-front-plate-t0-changeover-switch-symbol-010.eps eaton-general-rotary-switch-t0-step-switch-symbol.eps
ECAD MODEL	ETN.222870.edz
INSTALLATION INSTRUCTIONS	IL03801008Z2021_06.pdf
INSTALLATION VIDEOS	Eaton's P Switch-disconnectors used in a factory
MCAD MODEL	DA-CS-bauform8 eaton-cam-switches-mcad-drawings-bauform8.dwg
PRODUCT NOTIFICATIONS	MZ008005ZU_Orderform_Customized_Switch.pdf MZ008006ZU_Orderform_Customized_Switch.pdf
WIRING DIAGRAMS	eaton-rotary-switches-t0-reversing-switch-wiring-diagram.eps

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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