

Specifications

Eaton 029452

Eaton Moeller® series T0 Voltmeter selector switches, T0, 20 A, service distribution board mounting, 2 contact unit(s), Contacts: 4, 45 °, maintained, With 0 (Off) position, 0-Phase/Phase, Design number 15920

General specifications

PRODUCT NAME	Eaton Moeller® series T0 Voltmeter selector switch
CATALOG NUMBER	029452
EAN	4015080294528
PRODUCT LENGTH/DEPTH	92 mm
PRODUCT HEIGHT	55 mm
PRODUCT WIDTH	54 mm
PRODUCT WEIGHT	0.12 kg
CERTIFICATIONS	UL 60947-4-1 CE CSA Class No.: 3211-05 CSA-C22.2 No. 60947-4-1-14 IEC/EN 60947 VDE 0660 IEC/EN 60947-3 UL CSA UL File No.: E36332 IEC/EN 60204 CSA File No.: 012528 UL Category Control No.: NLRV CSA-C22.2 No. 94
CATALOG NOTES	Rated Short-time Withstand Current (Icw) for a time of 1 second
MODEL CODE	T0-2-15920/IVS



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Features & Functions

FEATURES	Modular version
FITTED WITH:	Black thumb grip and front plate 0 (off) position Control unit
FUNCTIONS	Measurement between phases possible
INSCRIPTION	" 0-Phase/Phase "
NUMBER OF POLES	2
SWITCH FUNCTION TYPE	3 x phase-phase

General

DEGREE OF PROTECTION	IP30 NEMA 2
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	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)
SWITCHING ANGLE	45 °
TYPE	Voltmeter selector 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)	1 x (0.75 - 2.5) mm ² , ferrules to DIN 46228 2 x (0.75 - 2.5) mm ² , ferrules to DIN 46228
TERMINAL CAPACITY (SOLID/FLEXIBLE WITH FERRULE AWG)	18 - 14
TERMINAL CAPACITY (SOLID/STRANDED)	2 x (1 - 2.5) mm ² 1 x (1 - 2.5) mm ²
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 OPERATIONAL CURRENT (IE)	15.6 A at AC-3, 500 V star-delta 20 A at AC-3, 230 V star-delta 20 A at AC-3, 400 V star-delta 8.5 A at AC-3, 690 V star-delta
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,	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)	20 A, Class J, max. Fuse, SCCR (UL/CSA) 10 kA, SCCR (UL/CSA)
SHORT-CIRCUIT PROTECTION RATING	20 A gG/gL, Fuse, Contacts

LOAD-BREAK SWITCHES**L/R = 1 MS**

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 CURRENT (IE) AT DC-23A, 24 V	10 A
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RATED OPERATIONAL CURRENT (IE) AT DC-23A, 48 V	10 A
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RATED OPERATIONAL CURRENT (IE) AT DC-23A, 60 V	10 A
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RATED OPERATIONAL CURRENT (IE) AT DC-23A, 120 V	5 A
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RATED OPERATIONAL CURRENT (IE) AT DC-23A, 240 V	5 A
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RATED OPERATIONAL POWER AT AC-3, 415 V, 50 HZ	5.5 kW
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RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ	4 kW
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RATED OPERATIONAL POWER AT AC-23A, 220/230 V, 50 HZ	3 kW
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RATED OPERATIONAL POWER AT AC-23A, 400 V, 50 HZ	5.5 kW
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RATED OPERATIONAL POWER AT AC-23A, 500 V, 50 HZ	7.5 kW
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RATED OPERATIONAL POWER AT AC-23A, 690 V, 50 HZ	5.5 kW
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RATED OPERATIONAL POWER STAR-DELTA AT 220/230 V, 50 HZ	5.5 kW
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RATED OPERATIONAL POWER STAR-DELTA AT 380/400 V, 50 HZ	7.5 kW
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RATED OPERATIONAL POWER STAR-DELTA AT	7.5 kW
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500 V, 50 HZ

**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.

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
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NUMBER OF CONTACTS IN SERIES AT DC-23A, 24 V	1
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NUMBER OF CONTACTS IN SERIES AT DC-23A, 48 V	2
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NUMBER OF CONTACTS IN SERIES AT DC-23A, 60 V	3
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NUMBER OF CONTACTS IN SERIES AT DC-23A, 120 V	3
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NUMBER OF CONTACTS IN SERIES AT DC-23A, 240 V	5
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SWITCHING CAPACITY (MAIN CONTACTS, GENERAL USE)	16 A, Rated uninterrupted current max. (UL/CSA)
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SWITCHING CAPACITY (AUXILIARY CONTACTS, GENERAL USE)	10A, IU, (UL/CSA)
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SWITCHING CAPACITY (AUXILIARY CONTACTS, PILOT DUTY)	A600 (UL/CSA) P300 (UL/CSA)
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RATED MAKING CAPACITY UP TO 690 V (COS PHI TO IEC/EN 60947-3)	130 A
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VOLTAGE PER CONTACT PAIR IN SERIES	60 V
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Contacts

CONTROL CIRCUIT RELIABILITY	1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
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NUMBER OF CONTACTS	4
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Motor rating

ASSIGNED MOTOR POWER AT 115/120 V, 60 HZ, 1-PHASE	0.5 HP
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ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 1-PHASE	1 HP
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ASSIGNED MOTOR POWER AT 200/208 V, 60 HZ, 3-PHASE	3 HP
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ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 1-PHASE	1.5 HP
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ASSIGNED MOTOR POWER AT 230/240 V, 60 HZ, 3-PHASE	3 HP
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ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE	7.5 HP
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ASSIGNED MOTOR POWER AT 575/600 V, 60 HZ, 3-PHASE	7.5 HP
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Actuator

ACTUATOR FUNCTION	With 0 (Off) position Maintained
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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	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.
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-003.eps](#)

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

[eaton-general-rotary-switch-t0-step-switch-symbol-005.eps](#)

[eaton-rotary-switches-mounting-t0-changeover-switch-3d-drawing.eps](#)

[eaton-rotary-switches-front-plate-t0-voltmeter-selector-switch-symbol-006.eps](#)

ECAD MODEL

[eaton-t0-voltmeter-selector-switch-eplan-029452.edz](#)

INSTALLATION INSTRUCTIONS

[IL03801006Z](#)

INSTALLATION VIDEOS

[Eaton's P Switch-disconnectors used in a factory](#)

MCAD MODEL

[DA-CS-t0_2_ivs](#) [DA-CD-t0_2_ivs](#)

PRODUCT NOTIFICATIONS

[MZ008005ZU_Orderform_Customized_Switch.pdf](#)

[MZ008006ZU_Orderform_Customized_Switch.pdf](#)

WIRING DIAGRAMS

[eaton-rotary-switches-t0-voltmeter-selector-switch-wiring-diagram-029.eps](#)

PROJECT NAME:

PROJECT NUMBER:

PREPARED BY:

DATE:



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