DATASHEET - T5B-2-148/E

Step switches, T5B, 63 A, flush mounting, 2 contact unit(s), Contacts: 3, 45 °, maintained, Without 0 (Off) position, 1-3, Design number 148

Part no. T5B-2-148/E
094088

Product name	Eaton Moeller® series T5B Step switch
Part no.	T5B-2-148/E
EAN	4015080940883
Product Length/Depth	108 millimetre
Product height	88 millimetre
Product width	88 millimetre
Product weight	0.457 kilogram
Certifications	CSA Class No.: 3211-07 UL 60947-4-1 CSA IEC/EN 60947-3 VDE 0660 CSA File No.: 012528 CSA-C22.2 No. 94 UL Category Control No.: NLRV UL CSA-C22.2 No. 60947-4-1-14 CE IEC/EN 60204 UL File No.: E36332 IEC/EN 60947
Product Tradename	T5B
Product Type	Step switch
Product Sub Type	None
Catalog Notes	Rated Short-time Withstand Current (Icw) for a time of 1 second
Fitted with:	Black thumb grip and front plate
Inscription	1-3
Number of poles	Single-pole
Degree of protection	IP65 NEMA 1 NEMA 12
Degree of protection (front side)	IP65 NEMA 12
Lifespan, mechanical	500,000 Operations
Mounting method	Flush 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) Front mounting
Switching angle	45 °
Type	Step switch
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 capacity (flexible with ferrule)	1 x (1 - 25) mm^2, ferrules to DIN 46228 2 x (1.5 - 10) mm^2, ferrule to DIN 46228
Terminal capacity (solid/flexible with ferrule AWG)	12 - 4
Terminal capacity (solid/stranded)	1 x (2.5 - 35) mm^2 2 x (2.5 - 16) mm^2
Screw size	M6, Terminal screw
Tightening torque	4 Nm, Screw terminals 35.4 lb-in, Screw terminals
Rated breaking capacity at 220/230 V (cos phi to IEC 60947-3)	520 A
Rated breaking capacity at 400/415 V (cos phi to IEC 60947-3)	600 A
Rated breaking capacity at 500 V (cos phi to IEC 60947-3)	480 A
Rated breaking capacity at 660/690 V (cos phi to IEC 60947-3)	340 A
Rated operating voltage (Ue) at AC - max	690 V
Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V	51 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V	41 A
Rated operational current (Ie) at AC-3, 500 V	33 A
Rated operational current (Ie) at AC-3, 660 V, 690 V	17 A
Rated operational current (Ie) at AC-21, 440 V	63 A
Rated operational current (Ie) at AC-23A, 230 V	63 A
Rated operational current (Ie) at AC-23A, 400 V, 415 V	63 A
Rated operational current (Ie) at AC-23A, 500 V	33 A
Rated operational current (Ie) at AC-23A, 690 V	23.8 A
Rated operational current (Ie) at DC-1, load-break switches l/r = 1 ms	63 A
Rated operational current (Ie) at DC-13, control switches L/R = 50 ms	25 A
Rated operational current (Ie) at DC-23A, 24 V	50 A
Rated operational current (Ie) at DC-23A, 48 V	50 A
Rated operational current (Ie) at DC-23A, 60 V	50 A
Rated operational current (Ie) at DC-23A, 120 V	25 A
Rated operational current (Ie) at DC-23A, 240 V	20 A
Rated operational current (Ie) star-delta at AC-3, 230 V	63 A
Rated operational current (Ie) star-delta at AC-3, 400 V	63 A
Rated operational current (Ie) star-delta at AC-3, 500 V	57.2 A
Rated operational current (Ie) star-delta at AC-3, 690 V	29.4 A
Rated operational power at AC-3, 415 V, 50 Hz	22 kW
Rated operational power at AC-3, 500 V, 50 Hz	22 kW
Rated operational power at AC-3, 690 V, 50 Hz	15 kW
Rated operational power at AC-23A, 220/230 V, 50 Hz	18.5 kW
Rated operational power at AC-23A, 400 V, 50 Hz	30 kW
Rated operational power at AC-23A, 500 V, 50 Hz	22 kW
Rated operational power at AC-23A, 690 V, 50 Hz	22 kW
Rated operational power star-delta at 220/230 V, 50 Hz	18.5 kW
Rated operational power star-delta at 380/400 V, 50 Hz	30 kW
Rated operational power star-delta at 500 V, 50 Hz	37 kW
Rated operational power star-delta at 690 V, 50 Hz	22 kW
Rated uninterrupted current (Iu)	63 A
Uninterrupted current	Rated uninterrupted current Iu is specified for max. cross-section.
Rated conditional short-circuit current (Iq)	2 kA
Rated short-time withstand current (Icw)	1,3 kA, Contacts, 1 second
Short-circuit current rating (high fault)	10 kA, SCCR (UL/CSA) 100 A, Class J, max. Fuse, SCCR (UL/CSA)

Short-circuit protection rating	80 A gG/gL, Fuse, Contacts
Load rating	1.6 x I# (with intermittent operation class 12, 40 % duty factor) 1.3 x I# (with intermittent operation class 12, 60 % duty factor) 2 x I# (with intermittent operation class 12, 25 % duty factor)
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	6
Switching capacity (main contacts, general use)	63 A, Rated uninterrupted current max. (UL/CSA)
Rated making capacity up to 690 V (cos phi to IEC/EN 60947-3)	800 A
Voltage per contact pair in series	24 V
Assigned motor power at 115/120 V, 60 Hz, 1-phase	3 HP
Assigned motor power at 200/208 V, 60 Hz, 1-phase	7.5 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase	15 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase	10 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase	15 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase	40 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase	40 HP
Control circuit reliability	1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
Number of contacts	3
Actuator function	Without 0 (Off) position Maintained
Actuator type	Toggle
Number of switch positions	3
Equipment heat dissipation, current-dependent Pvid	0 W
Heat dissipation capacity Pdiss	0 W
Heat dissipation per pole, current-dependent Pvid	4.5 W
Rated operational current for specified heat dissipation (In)	63 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.

Technical data ETIM 8.0

Low-voltage industrial components (EG000017) / Control switch (EC002611)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Control switch (ecl@ss10.0.1-27-37-14-14 [ACN998011])

Type of switch			Level switch
Number of poles			1
Max. rated operation voltage Ue AC		V	690
Rated permanent current Iu		A	63
Number of switch positions			3
With zero (off) position			No
With retraction in 0-position			No
Device construction			Built-in device
Width in number of modular spacings			0
Suitable for floor mounting			No
Suitable for front mounting			Yes
Suitable for distribution board installation			No
Suitable for intermediate mounting			No
Complete device in housing			No
Type of control element			Toggle
Front shield size			88x88 mm
Degree of protection (IP), front side			IP65
Degree of protection (NEMA), front side			12

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