## DATASHEET - T0-5-15150/E



Step switches, T0, 20 A, flush mounting, 5 contact unit(s), Contacts: 9, 45 °, maintained, Without 0 (Off) position, 1-3, design no. 15150



Part no. Catalog No. T0-5-15150/E 014145

Similar to illustration

Product range			Control switches
Part group reference			ТО
Basic function			Step switches
			with black thumb grip and front plate
Contacts			9
Degree of Protection			Front IP65
Design			flush mounting
Contact sequence			
Switching angle		•	45
Switching performance			maintained Without 0 (Off) position
Design number			15150
Front plate no.			FS 404
front plate			1-3
Motor rating AC-23A, 50 - 60 Hz			
400 V	Р	kW	5.5
Rated uninterrupted current	I <sub>u</sub>	А	20
Note on rated uninterrupted current !u			Rated uninterrupted current $I_{u}$ is specified for max. cross-section.
Number of contact units		contact unit(s)	5

# **Technical data**

General	
Standards	IEC/EN 60947, VDE 0660, IEC/EN 60204, CSA, UL Switch-disconnector according to IEC/EN 60947-3
Climatic proofing	Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature	

Open		°C	-25 - +50
Enclosed		°C	-25 - +40
Overvoltage category/pollution degree		-	III/3
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
Mechanical shock resistance	Cimp		15
Mounting position		g	As required
Contacts			As required
Electrical characteristics			
Rated operational voltage	Ue	V AC	690
Rated uninterrupted current	l <sub>u</sub>	A	20
Note on rated uninterrupted current !u	·u		Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section.
Load rating with intermittent operation, class 12			
AB 25 % DF		x l <sub>e</sub>	2
AB 40 % DF		x l <sub>e</sub>	1.6
AB 60 % DF		x I <sub>e</sub>	1.3
Short-circuit rating			
Fuse		A gG/gL	
Rated short-time withstand current (1 s current)	I <sub>cw</sub>	A <sub>rms</sub>	320
Note on rated short-time withstand current lcw			Current for a time of 1 second
Rated conditional short-circuit current	Ι <sub>q</sub>	kA	6
Switching capacity			
$\cos \phi$ rated making capacity as per IEC 60947-3		A	130
Rated breaking capacity $\cos \phi$ to IEC 60947-3		A	
230 V		A	100
400/415 V		A	110
500 V		A	80
690 V		A	60
Safe isolation to EN 61140			
between the contacts		V AC	440
Current heat loss per contact at I <sub>e</sub>		W	0.6
Current heat loss per auxiliary circuit at I <sub>e</sub> (AC-15/230 V)		CO	0.6
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	> 0.4
Maximum operating frequency	Operations/h		1200
AC			
AC-3			
Rating, motor load switch	Р	kW	
220 V 230 V	Р	kW	3
230 V Star-delta	Р	kW	5.5
400 V 415 V	Р	kW	5.5
400 V Star-delta	Р	kW	7.5
500 V	Ρ	kW	5.5
500 V Star-delta	Р	kW	7.5
690 V	Р	kW	4
690 V Star-delta	Р	kW	5.5
Rated operational current motor load switch			
230 V	le	A	11.5
230 V star-delta	le	A	20
400V 415 V	l <sub>e</sub>	A	11.5
400 V star-delta	l <sub>e</sub>	A	20
500 V		A	9
	l <sub>e</sub>		
500 V star-delta	l <sub>e</sub>	A	15.6
690 V	le	A	4.9
690 V star-delta	l <sub>e</sub>	А	8.5
AC-23A			

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DC 2AIARed dependence functional server functional	Rated operational current	le	A	10
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Rated operational current     Image: space			addinary	
Contacts     Manual Mathematical M		la	Δ	5
Dc-13, Control switches L/R = 50 ms     Image: Mathematical Science of Sci		·e		
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Control circuit reliability at 24 VDC, 10 mA Fault probability Hr clo <sup>5</sup> , 1 failure in 100,000 switching operations   Terminal capacities Terminal capacities Terminal capacities   Solid or stranded Image: Provide Capacity Provide Cap		'e		
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Flexible with ferrules to DIN 46228 mm 2 x (1 - 2,5)   Terminal screw mm² 1 x (0.75 - 2.5)   Terminal screw M3.5   Tightening torque for terminal screw Mm 1   Technical safety parameters: Mm 10   Technical safety parameters: Mm 10   Rated operational voltage Main Main   Rated operational voltage Main Main   Main conducting paths Main Main   General use Main Main   Auxiliary contacts Main Main   Jeneral Use June Main	Terminal capacities			
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Technical safety parameters:     Notes   Image: Section of the section	Terminal screw			M3.5
Technical safety parameters:     Notes   Image: Section of the section	Tightening torque for terminal screw		Nm	1
Rating data for approved types   Contacts Image: Contact sector s	Technical safety parameters:			
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Rated operational voltage Ue V AC 600   Rated uninterrupted current max. Main conducting paths Main conducting paths Main conducting paths   General use Auxiliary contacts A A   General Use Iu A Iu	Rating data for approved types			
Rated uninterrupted current max. Part Part Part Part Part Part Part Part				
Main conducting paths Image: Constraint of the second of	Rated operational voltage	U <sub>e</sub>	V AC	600
General use A A   Auxiliary contacts I I   General Use Iu A	Rated uninterrupted current max.			
Auxiliary contacts Image: Contact set of the se	Main conducting paths			
General Use IU A 10	General use		А	16
	Auxiliary contacts			
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	Pilot Duty			A 600

		P 300
Switching capacity		
Maximum motor rating		
Single-phase		
120 V AC	HP	0.5
200 V AC	HP	1
240 V AC	HP	1.5
Three-phase		
200 V AC	HP	3
240 V AC	HP	3
480 V AC	HP	7.5
600 V AC	HP	7.5
Short Circuit Current Rating	SCCR	
Basic Rating	kA	5
max. Fuse	А	50
High fault rating	kA	10
max. Fuse	А	20, Class J
Terminal capacity		
Solid or flexible conductor with ferrule	AWG	18 - 14
Terminal screw		M3.5
Tightening torque	lb-in	8.8

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	А	20
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0.6
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	50
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties			
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.

10.13 Mechanical function

Is the panel builder's responsibility. The specifications for the switchgear must be observed.

The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

### **Technical data ETIM 7.0**

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

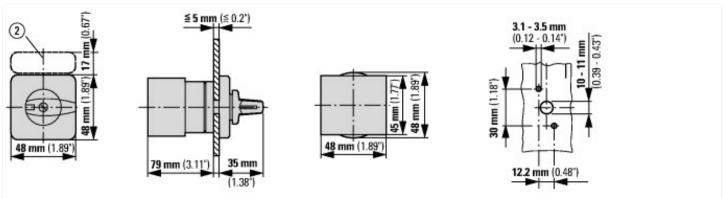
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Control switch (ecl@ss10.0.1-27-37-14-14	
[ACN998011])	

Type of switch		Level switch
Number of poles		3
Max. rated operation voltage Ue AC	V	690
Rated permanent current lu	А	20
Number of switch positions		3
With 0 (off) position		No
With retraction in 0-position		No
Device construction		Built-in device
Width in number of modular spacings		0
Suitable for ground mounting		No
Suitable for front mounting 4-hole		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		48x48 mm
Degree of protection (IP), front side		IP65
Degree of protection (NEMA), front side		12

#### **Approvals**

IL File No. File No. E36332   JL File No. NLRV   SSA File No. File No. 12528   CSA Class No. File No. Same file No.   North America Certification File No. Same file No.   Suitable for File No. File No.		
JL Category Control No. NLRV   CSA File No. ISSA File No.   CSA Class No. ISSA Class No.   Nutry Issa	Product Standards	
CSA File No. 12528   CSA Class No. 12528   North America Certification 12528   Suitable for 12528	UL File No.	E36332
CSA Class No. 3211-05   North America Certification UL listed, CSA certified   Suitable for Branch circuits, suitable as motor disconnect	UL Category Control No.	NLRV
North America Certification UL listed, CSA certified   Suitable for Branch circuits, suitable as motor disconnect	CSA File No.	12528
Suitable for Branch circuits, suitable as motor disconnect	CSA Class No.	3211-05
	North America Certification	UL listed, CSA certified
Degree of Protection IEC: IP65; UL/CSA Type 1, 12	Suitable for	Branch circuits, suitable as motor disconnect
	Degree of Protection	IEC: IP65; UL/CSA Type 1, 12

#### **Dimensions**



(2) ZFS-... Label mount not included as standard