## DATASHEET - T0-6-15057/EZ



Step switches, T0, 20 A, centre mounting, 6 contact unit(s), Contacts: 12, 90 °, maintained, Without 0 (Off) position, 1-4, design no. 15057



Part no. Catalog No. T0-6-15057/EZ 015334

Similar to illustration

Product range   Product mage   Product mage   Product mage   Product mage     Party norderation   Served Mathematic matches   Served Mathematic matches   Served Mathematic matches     Basel Municipal Mathematic matches   Served Mathematic matches   Served Mathematic matches   Served Mathematic matches     Datages Production   Served Mathematic matches   Served Mathematic matches   Served Mathematic matches     Datages Production   Served Mathematic matches   Served Mathematic matches   Served Mathematic matches     Datages Production   Served Mathematic matches   Served Mathematic matches   Served Mathematic matches     Constrain Mathematic matches   Served Mathematic matches   Served Mathematic matches   Served Mathematic matches     Served Mathematic matches   Served Mathematic matches   Served Mathematic matches   Served Mathematic matches     Served Mathematic matches   Served Mathematic matches   Served Mathematic matches   Served Mathematic matches     Served Mathematic matches   Served Mathematic matches   Served Mathematic matches   Served Mathematic matches     Served Mathematic matches   Served Mathematic matches   Served Mathematic matches   Served Mathematic matches     Served Mathematic matches   Served Mathematic matches   Served Mathematic matches   Served Mathematicon     Served Mathematic mathema	Delivery program			
Basic function   Response of Protection   Response of Protection     Degree of Protection   Image: Second Seco	Product range			Control switches
initial sequence   initial sequence   initial sequence   initial sequence     Switching angle   initial sequence   initial sequence   initial sequence     Switching and Catao, Solo Hit   initial sequence   initial sequence   initial sequence     Switching and Catao, Solo Hit   initial sequence   initial sequence   initial sequence <tr< td=""><td>Part group reference</td><td></td><td></td><td>то</td></tr<>	Part group reference			то
Contacts   Degree of Protection     Degree of Protection   Ford IPES     Degree of Protection   Ford IPES     Design   Image: State of State	Basic function			Step switches
Degree of Protection   Form P69     Design   centre mouning     Contract sequence   Image: Centre mouning     Discret sequence   Image: Centre mouning     Switching angle   Image: Centre mouning				with black thumb grip and front plate
Design   Image: Second	Contacts			12
Contact sequence   Image: Sequence <t< td=""><td>Degree of Protection</td><td></td><td></td><td>Front IP65</td></t<>	Degree of Protection			Front IP65
Svitching angle   •   9     Svitching performance   •   9     Daign number   •   1000000000000000000000000000000000000	Design			centre mounting
Svitching angle   •   9     Svitching performance   •   9     Daign number   •   1000000000000000000000000000000000000				
Switching performance   Image: Procession number   Image: Procession number   Image: Procession number   Image: Procession number     Font plate no.   Image: Procession number   Image: Procession number   Image: Procession number     font plate   Image: Procession number   Image: Procession number   Image: Procession number     Motor rating AC-23A, 50 - 60 Hz   Image: Procession number   Image: Procession number   Image: Procession number     400 V   P   KW   Image: Procession number   Image: Procession number     400 V   P   KW   Image: Procession number     A00 V   P   KW   Image: Procession number     Note on rated uninterrupted current 1u   Image: Procession number   Image: Procession number     Number of contact units   Image: Procession number   Image: Procession number	Contact sequence			
Design number     5057       Front plate no.     2       front plate no.     2       1 3     3       Fort plate no.     3       front plate no.	Switching angle		0	90
Front plate no.     Image: Second Sec	Switching performance			maintained Without 0 (Off) position
Image: state of contact unitsImage: state of contact of conta	Design number			15057
Motor rating AC-23A, 50 - 60 Hz   Motor   Motor   Motor   Motor     400 V   P   kW   5.5     Rated uninterrupted current   Iu   A   20     Note on rated uninterrupted current !u   Motor   F   Bated uninterrupted current Iu is specified for max. cross-section.     Number of contact units   Contact   6	Front plate no.			
400 V   P   kW   5.5     Rated uninterrupted current   Iu   A   20     Note on rated uninterrupted current Iu   Rated uninterrupted current Iu is specified for max. cross-section.   Rated uninterrupted current Iu is specified for max. cross-section.     Number of contact units   contact   6	front plate			1-4
Rated uninterrupted current   Iu   A   20     Note on rated uninterrupted current Iu   Rated uninterrupted current Iu is specified for max. cross-section.     Number of contact units   contact   6	Motor rating AC-23A, 50 - 60 Hz			
Note on rated uninterrupted current !u   Rated uninterrupted current lu is specified for max. cross-section.     Number of contact units   contact	400 V	Р	kW	5.5
Number of contact units contact 6	Rated uninterrupted current	lu	А	20
	Note on rated uninterrupted current !u			Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section.
	Number of contact units			6

**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			111/3
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
Mechanical shock resistance	- Imp		15
Mounting position		g	As required
Contacts			As required
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	l <sub>u</sub>	A	20
Note on rated uninterrupted current !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 l <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		٨	100
cos φ rated making capacity as per IEC 60947-3		A	130
Rated breaking capacity cos φ to IEC 60947-3		A	100
230 V		A	100
400/415 V		A	110
500 V		A	80
690 V Safa inclution to EN 61140		A	60
Safe isolation to EN 61140		VAC	40
between the contacts		V AC	440
Current heat loss per contact at le		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	Ρ	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	Ρ	kW	5.5
Rated operational current motor load switch			
230 V	l <sub>e</sub>	A	11.5
230 V star-delta	le	А	20
400V 415 V	I <sub>e</sub>	А	11.5
400 V star-delta	I <sub>e</sub>	А	20
500 V	l <sub>e</sub>	А	9
500 V star-delta	le	A	15.6
690 V	l <sub>e</sub>	A	4.9
690 V star-delta	l <sub>e</sub>	A	8.5
AC-23A	C C		
Motor rating AC-23A, 50 - 60 Hz	Р	kW	
230 V	P	kW	3
200 -			-

400 V 415 V	Р	kW	5.5
500 V	Р	kW	7.5
690 V	Р	kW	5.5
Rated operational current motor load switch			
230 V	l <sub>e</sub>	A	13.3
400 V 415 V	۱ <sub>e</sub>	А	13.3
500 V	l <sub>e</sub>	А	13.3
690 V	I <sub>e</sub>	А	7.6
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	I <sub>e</sub>	A	10
Voltage per contact pair in series		V	60
DC-21A	le	A	
Rated operational current	l <sub>e</sub>	A	1
Contacts		Quantity	1
DC-23A, motor load switch L/R = 15 ms			
24 V			
Rated operational current	l <sub>e</sub>	A	10
Contacts		Quantity	1
48 V			
Rated operational current	l <sub>e</sub>	A	10
Contacts		Quantity	2
60 V			
Rated operational current	I <sub>e</sub>	A	10
Contacts		Quantity	3
120 V			
Rated operational current	le	A	5
Contacts		Quantity	
240 V		,	
Rated operational current	I <sub>e</sub>	A	5
Contacts	0	Quantity	
DC-13, Control switches L/R = 50 ms		addinity	
Rated operational current	l <sub>e</sub>	A	10
Voltage per contact pair in series	0	v	32
Control circuit reliability at 24 V DC, 10 mA	Fault	Н <sub>F</sub>	< 10 <sup>-5</sup> ,< 1 failure in 100,000 switching operations
	probability		< ru ,< r randre in ruo,000 switching operations
Terminal capacities		-	
Solid or stranded		mm <sup>2</sup>	1 x (1 - 2,5) 2 x (1 - 2,5)
Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x (0.75 - 2.5)
			2 x (0.75 - 2.5)
Terminal screw			M3.5
Tightening torque for terminal screw		Nm	1
Technical safety parameters: Notes			$B10_d$ values as per EN ISO 13849-1, table C1
Rating data for approved types			
Contacts			
Rated operational voltage	Ue	V AC	600
Rated uninterrupted current max.	-		
Main conducting paths			
General use		A	16
Auxiliary contacts			
General Use	۱ <sub>Ս</sub>	A	10
Pilot Duty	5		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	A	50
High fault rating	kA	10
max. Fuse	A	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	In	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.
10.12 Electromagnetic compatibility			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)

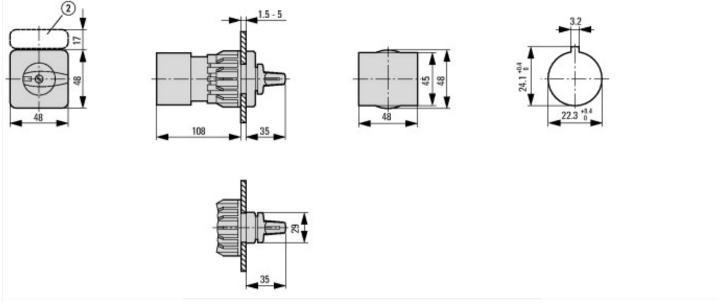
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Control switch (ecl@ss10.0.1-27-37-14-14 [ACN998011])

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		4
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**

Imarking   marking     IL File No.   E36332     UL Category Control No.   Imarking     CSA File N		
UL Category Control No.   P   MLRV     CSA File No.   F   12528     CSA Class No.   F   3211-05     North America Certification   F   UL listed, CSA certified     Suitable for   Image: Solution of the sector of	Product Standards	
CSA File No.   12528     CSA Class No.   12528     North America Certification   12528     Suitable for   12528     Branch circuits, suitable as motor disconnect	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