#### **DATASHEET - T3-5-8247/Z**



**Delivery program** 

Step switches, T3, 32 A, rear mounting, 5 contact unit(s), Contacts: 9, 30  $^{\circ}$ , maintained, With 0 (Off) position, 0-9, design no. 8247



Part no. T3-5-8247/Z Catalog No. 052372

Product range	Control switches
Part group reference	T3
Basic function	Step switches
	with black thumb grip and front plate
Contacts	9
Degree of Protection	Front IP65
Design	rear mounting
Contact sequence	
Switching angle °	30
Switching performance	maintained With 0 (Off) position
Design number	8247
Front plate no.	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$

## Technical data

Number of contact units

Rated uninterrupted current

Motor rating AC-23A, 50 - 60 Hz

Note on rated uninterrupted current  $!_{\mathsf{u}}$ 

front plate

400 V

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

Р

Ιu

FS 312

Rated uninterrupted current  $\boldsymbol{I}_{\boldsymbol{u}}$  is specified for max. cross-section.

0-9

15

kW

Α

contact 5 unit(s)

Mechanical shock resistance		g	15
Mounting position			As required
Contacts			
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	Iu	Α	32
Note on rated uninterrupted current !u	u .		Rated uninterrupted current $I_u$ is specified for max. cross-section.
Load rating with intermittent operation, class 12			Traced difficult rights operation for max. cross section.
AB 25 % DF		u I	
		x l <sub>e</sub>	2
AB 40 % DF		x I <sub>e</sub>	1.6
AB 60 % DF		x l <sub>e</sub>	1.3
Short-circuit rating			
Fuse		A gG/gL	35
Rated short-time withstand current (1 s current)	I <sub>cw</sub>	$A_{rms}$	650
Note on rated short-time withstand current lcw			Current for a time of 1 second
Rated conditional short-circuit current	Iq	kA	1
Switching capacity			
$\cos \phi$ rated making capacity as per IEC 60947-3		Α	320
Rated breaking capacity $\cos \phi$ to IEC 60947-3		Α	
230 V		Α	260
400/415 V		Α	260
500 V		Α	240
690 V		Α	170
Safe isolation to EN 61140			
between the contacts		V AC	440
Current heat loss per contact at l <sub>e</sub>		W	1.1
Current heat loss per auxiliary circuit at I <sub>e</sub> (AC-15/230 V)		CO	1.1
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	> 0.5
Maximum operating frequency	Operations/h	X 10	1200
AC	Operations/ii		1200
AC-3 Rating, motor load switch	P	LAAZ	
220 V 230 V	P	kW	5.5
	P		
230 V Star-delta		kW	7.5
400 V 415 V	P	kW	11
400 V Star-delta	P	kW	15
500 V	P	kW	15
500 V Star-delta	P	kW	18.5
690 V	P	kW	11
690 V Star-delta	Р	kW	22
Rated operational current motor load switch			
230 V	l <sub>e</sub>	Α	23.7
230 V star-delta	l <sub>e</sub>	Α	32
400V 415 V	l <sub>e</sub>	Α	23.7
400 V star-delta	le	Α	32
500 V	I <sub>e</sub>	Α	23.7
500 V star-delta	I <sub>e</sub>	Α	32
690 V	I <sub>e</sub>	Α	14.7
690 V star-delta	I <sub>e</sub>	A	25.5
AC-23A	'e	^	
	D	L\A/	
Motor rating AC-23A, 50 - 60 Hz	P	kW	7.5
230 V	P	kW	7.5
400 V 415 V	Р	kW	15
500 V	P	kW	15

690 V	Р	kW	15
Rated operational current motor load switch			
230 V	l <sub>e</sub>	A	32
400 V 415 V		A	32
	l <sub>e</sub>		
500 V	l <sub>e</sub>	Α	26.4
690 V	l <sub>e</sub>	Α	17
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	l <sub>e</sub>	Α	25
Voltage per contact pair in series		V	60
DC-21A	I <sub>e</sub>	Α	
Rated operational current	I <sub>e</sub>	Α	1
Contacts		Quantity	1
DC-23A, motor load switch L/R = 15 ms			
24 V			
Rated operational current	I <sub>e</sub>	Α	25
Contacts		Quantity	1
48 V			
Rated operational current	I <sub>e</sub>	Α	25
Contacts		Quantity	2
60 V			
Rated operational current	l <sub>e</sub>	Α	25
Contacts		Quantity	3
120 V		,	
Rated operational current	l <sub>e</sub>	A	12
Contacts	· ·	Quantity	
240 V		Zuumary	
Rated operational current	I <sub>e</sub>	A	5
Contacts	·e	Quantity	
DC-13, Control switches L/R = 50 ms		Quantity	
Rated operational current	I <sub>e</sub>	A	20
Voltage per contact pair in series	'e	V	24
Control circuit reliability at 24 V DC, 10 mA	Fault	V H <sub>F</sub>	
Control Circuit remainity at 24 V DG, 10 IIIA	probability	''F	< 10 <sup>-5</sup> ,< 1 failure in 100,000 switching operations
Terminal capacities			
Solid or stranded		$mm^2$	1 x (1 - 6) 2 x (1 - 6)
Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x (0.75 - 4)
		mm	2 x (0.75 - 4)
Terminal screw			M4
Tightening torque for terminal screw		Nm	1.6
Technical safety parameters:			
Notes			B10 <sub>d</sub> values as per EN ISO 13849-1, table C1
Rating data for approved types			
Contacts		V/ A C	000
Rated operational voltage	U <sub>e</sub>	V AC	600
Rated uninterrupted current max.			
Main conducting paths			
General use		Α	25
Auxiliary contacts			
General Use	lu	Α	10
Pilot Duty			A 600
Switching capacity			
Maximum motor rating			
Single-phase			
120 V AC		HP	1.5

200 V AC	НР	3
240 V AC	НР	3
Three-phase		
200 V AC	НР	3
240 V AC	НР	3
480 V AC	НР	7.5
600 V AC	НР	10
Short Circuit Current Rating	SCCR	
Basic Rating	kA	5
max. Fuse	Α	40
High fault rating	kA	10
max. Fuse	Α	40, Class J
Terminal capacity		
Solid or flexible conductor with ferrule	AWG	14 - 10
Terminal screw		M4
Tightening torque	lb-in	17.7

# Design verification as per IEC/EN 61439

Rated operational currant for specified heat dissipation of Paul W 1.1  Equipment heat dissipation, current-dependent Paul Static heat dissipation, non-current-dependent Paul Static heat dissipation, non-current-dependent Paul Static heat dissipation, non-current-dependent Paul Static Paul Sta	•			
Heat dissipation per pole, current-dependent Pod W Equipment heat dissipation, current-dependent Pod W O Static heat dissipation, current-dependent Pod W O O O Operating ambient temperature min. Operating ambient temperature m	Fechnical data for design verification			
Equipment heat dissipation, non-current-dependent Profits W 0 Static heat dissipation, non-current-dependent Profits W 0 Operating ambient temperature min. Operating ambient temperature min. Operating ambient temperature max. CC 25 Operating ambient temperature max. CC 50 CC 25 CC 25 Operating ambient temperature max. CC 50 CC 25 Operating ambient temperature max. CC 50 CC 25 Operating ambient temperature max. CC 50 CC 25 Operating ambient temperature max. CC 60 CC 25 Operating ambient standard's requirements. CC 60 CC 25 CC 25 Operating ambient standard's requirements. CC 60 CC 25 CC 2	Rated operational current for specified heat dissipation	In	Α	32
Static heat dissipation, non-current-dependent Pros W 0  Heat dissipation capacity Pdiss W 0  Operating ambient temperature min. C - 25  Operating ambient temperature max. C 50  CEC	Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	1.1
Heat dissipation capacity Operating ambient temperature min. Operating ambient temperature max.  CCC 650  CCCCN 61439 design verification 10.2 Strongth of materials and parts 10.2.2 Overage of corosion resistance 10.2.3 I Verification of tesistance of insulating materials to normal heat and fire due to internal electric diffects 10.2.3.2 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric diffects 10.2.4 Resistance to ultra-violet (UV) radiation 10.2.5 Uting 10.2.5 Uting 10.2.5 Iting 10.2.6 Mechanical impact 10.2.7 Internal conductors 10.2.7 Internal electric accidences 10.2.7 Protection of ASSEMBLIES 10.2.7 Internal electric accidences 10.2.7 Protection of switching devices and components 10.3 Degrace of protection of switching devices and components 10.3 Impulse withstand voltage 10.3.2 Power-frequency electric strongth 10.3.3 Impulse withstand voltage 10.3.3 Testing of encolaries and of insulating material 10.1.1 Short-circuit rating 10.1.1 Short-circuit rating 10.1.2 Electromagnetic compatibility. 10.2.3 Impace and protection of switching devices and control of switching devices and components 10.3.2 Power-frequency electric strongth 10.3.3 Econocious for external conductors 10.3.4 Expensional switching devices and components 10.3.5 Internal electrical circuits and connections 10.3.6 Expensional switching devices and components 10.3.6 Expensional switching devices and components 10.3.7 Internal electrical circuits and connections 10.3.8 Expensional switching devices and components 10.3.9 Impulse withstand voltage 10.3.9 Power-frequency electric strongth 10.3.9 Impulse withstand voltage 10.3.9 Power-frequency electric strongth 10.4 Impulse a sepansibility. 10.5 Impulse withstand voltage 10.5 Impulse withstand voltage 10.5 Impulse withstand voltage 10.6 Impulse withstand voltage 10.7 Impulse withstand voltage 10.8 Impulse withstand voltage 10.9 Impulse withstand	Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Operating ambient temperature min.  Operating ambient temperature max.  CECN S1438 design verification  10.2 Strength of materials and parts  10.2.2 Corrosion resistance  10.2.3.1 Verification of resistance  10.2.3.1 Verification of resistance of insulating materials to normal heat  10.2.3.2 Verification of resistance of insulating materials to abnormal heat  10.2.3.2 Verification of resistance of insulating materials to abnormal heat  10.2.3.3 Verification of resistance of insulating materials to abnormal heat  10.2.4 Resistance to ultra-violet (UV) radiation  10.2.5 Lifting  10.2.6 Mechanical impact  10.2.6 Mechanical impact  10.2.7 Inscriptions  10.3 Degree of protection of ASSEMBLIES  10.3 Degree of protection of ASSEMBLIES  10.4 Clearances and creepage distances  Meets the product standard's requirements.  Meets the product standard's requirements.  Meets the product standard's requirements.  Does not apply, since the entire switchgear needs to be evaluated.  Meets the product standard's requirements.  Meets the product standard's requirements.  Does not apply, since the entire switchgear needs to be evaluated.  Meets the product standard's requirements.  10.3 Degree of protection of ASSEMBLIES  Does not apply, since the entire switchgear needs to be evaluated.  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  10.8 Connections for external conductors  10.9 Insulation properties  10.9 Prover-frequency electric strength  10.9 Prover-frequency electric strength  10.9 Prover-frequency electric strength  10.9 Temperature rise  10.9 Prover-frequency electric strength  10.1 Short-circuit rating	Static heat dissipation, non-current-dependent	P <sub>vs</sub>	W	0
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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.  10.9.1 Insulation properties  10.9.2 Power-frequency electric strength  10.9.3 Impulse withstand voltage  10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  10.10 Temperature rise  10.11 Short-circuit rating  Is the panel builder's responsibility. The specifications for the switchgear mus observed.  10.12 Electromagnetic compatibility  10.13 Mechanical function  The device meets the requirements, provided the information in the instruction	10.2.5 Lifting			Does not apply, since the entire switchgear needs to be evaluated.
10.3 Degree of protection of ASSEMBLIES  10.4 Clearances and creepage distances  10.5 Protection against electric shock  10.6 Incorporation of switching devices and components  10.7 Internal electrical circuits and connections  10.8 Connections for external conductors  10.9 Insulation properties  10.9.2 Power-frequency electric strength  10.9.3 Impulse withstand voltage  10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.13 Mechanical function  Does not apply, since the entire switchgear needs to be evaluated.  Does not apply, since the entire switchgear needs to be evaluated.  Does not apply, since the entire switchgear needs to be evaluated.  Is the panel builder's responsibility.  Is the panel builder is responsibility. The specifications for the switchgear must observed.  Is the panel builder's responsibility. The specifications for the switchgear must observed.  The device meets the requirements, provided the information in the instruction	10.2.6 Mechanical impact			Does not apply, since the entire switchgear needs to be evaluated.
Meets the product standard's requirements.  10.5 Protection against electric shock  10.6 Incorporation of switching devices and components  10.7 Internal electrical circuits and connections  10.8 Connections for external conductors  10.9 Insulation properties  10.9.2 Power-frequency electric strength  10.9.3 Impulse withstand voltage  10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.13 Mechanical function  Meets the product standard's requirements.  Does not apply, since the entire switchgear needs to be evaluated.  Is the panel builder's responsibility.  Is the panel builder is responsibility. The specifications for the switchgear mus observed.  Is the panel builder's responsibility. The specifications for the switchgear mus observed.  In the device meets the requirements, provided the information in the instruction	10.2.7 Inscriptions			Meets the product standard's requirements.
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  10.9.3 Impulse withstand voltage  Is the panel builder's responsibility.  10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.13 Mechanical function  10.13 Mechanical function  10.14 Education entire switchgear needs to be evaluated.  10.15 Internal electric switchgear needs to be evaluated.  10.16 Internal electrics witchgear needs to be evaluated.  10.17 Internal electrics witchgear needs to be evaluated.  10.18 Internal electrics witchgear needs to be evaluated.  10.19 Internal electrical circuits and connections  Is the panel builder's responsibility.  10.10 Internal electrical circuits and connections  Internal electrical circuits witchgear needs to be evaluated.  10.19 Internal electrical circuits witchgear needs to be evaluated.  10.19 Internal electrical circuits and connections  10.19 Internal electrical circuits and connections  10.10 Internal electrical circuits and conductors  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.14 Internal electrical circuits and connections  10.15 Internal electrical circuits and connections  10.16 Internal electrical circuits and connections  10.17 Internal electrical circuits a	10.3 Degree of protection of ASSEMBLIES			Does not apply, since the entire switchgear needs to be evaluated.
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10.7 Internal electrical circuits and connections  10.8 Connections for external conductors  10.9 Insulation properties  10.9.2 Power-frequency electric strength  10.9.3 Impulse withstand voltage  10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.13 Mechanical function  Is the panel builder's responsibility.  Is the panel builder's responsibility.  Is the panel builder's responsibility.  Is the panel builder is responsibility.  Is the panel builder's responsibility.  Is the panel builder is responsibility. The specifications for the switchgear must observed.  Is the panel builder's responsibility. The specifications for the switchgear must observed.  The device meets the requirements, provided the information in the instruction	10.5 Protection against electric shock			Does not apply, since the entire switchgear needs to be evaluated.
10.8 Connections for external conductors   Is the panel builder's responsibility.	10.6 Incorporation of switching devices and components			Does not apply, since the entire switchgear needs to be evaluated.
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10.9.3 Impulse withstand voltage  10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  10.11 Short-circuit rating  10.12 Electromagnetic compatibility  10.13 Mechanical function  10.13 We panel builder's responsibility. The specifications for the switchgear must observed.  10.14 Short-circuit rating  15 the panel builder's responsibility. The specifications for the switchgear must observed.  16 the panel builder's responsibility. The specifications for the switchgear must observed.  17 The device meets the requirements, provided the information in the instruction	10.9 Insulation properties			
10.9.4 Testing of enclosures made of insulating material  10.10 Temperature rise  The panel builder is responsibility.  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 observed.  10.12 Electromagnetic compatibility  Is the panel builder's responsibility. The specifications for the switchgear must observed.  10.13 Mechanical function  The device meets the requirements, provided the information in the instruction	10.9.2 Power-frequency electric strength			Is the panel builder's responsibility.
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observed.  10.13 Mechanical function  The device meets the requirements, provided the information in the instruction	10.11 Short-circuit rating			· · · · · · · · · · · · · · · · · · ·
	10.12 Electromagnetic compatibility			
	10.13 Mechanical function			

### **Technical data ETIM 7.0**

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

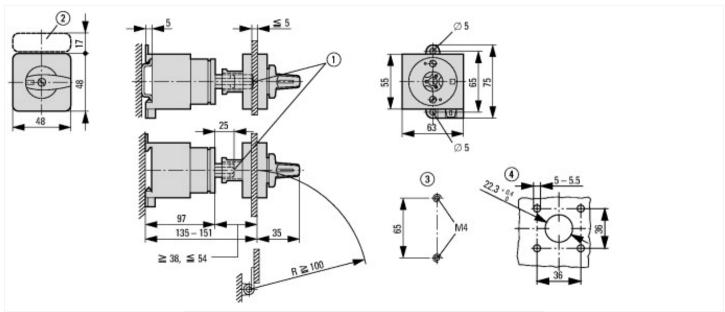
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Control switch (ecl@ss10.0.1-27-37-14-14 [ACN998011])

[ACN398011])		
Type of switch		Level switch
Number of poles		1
Max. rated operation voltage Ue AC	V	690
Rated permanent current lu	Α	32
Number of switch positions		10
With 0 (off) position		Yes
With retraction in 0-position		No
Device construction		Built-in device
Width in number of modular spacings		0
Suitable for ground mounting		Yes
Suitable for front mounting 4-hole		No
Suitable for distribution board installation		No
Suitable for intermediate mounting		Yes
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**

marking  Ly File No.  E36332  Ly Category Control No.  NLRV  CSA File No.  12528  CSA Class No.  North America Certification  Suitable for  marking  E36332  NURV  12528  3211-05  UL listed, CSA certified  Branch circuits, suitable as motor disconnect	• •	
UL Category Control No.  CSA File No.  12528  CSA Class No.  3211-05  North America Certification  UL listed, CSA certified  Branch circuits, suitable as motor disconnect	Product Standards	, , , , , , , , , , , , , , , , , , , ,
CSA File No.  12528  CSA Class No.  3211-05  North America Certification  UL listed, CSA certified  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  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**



- Shaft extension with ZAV-T0 possible, max. 4 x 25 = 100 mm
   ZFS-... Label mount not included as standard
   Drilling dimensions base
   Drilling dimensions door