

Changeoverswitches, Contacts: 16, 32 A, front plate: 1-0-2, 60 °, maintained, flush mounting





Part no. T3-8-8364/E Article no. 097432

Similar to illustration

Delivery program	
Product range	Control switches
Part group reference	Т3
Basic function	Changeoverswitches
	with black thumb grip and front plate
Contacts	16
Degree of Protection	Front IP65
Design	flush mounting
Contact sequence	1 0 2 1 0 2 3 0 X 3 0 X 5 0 X 7 0 X 11 0 12 0 11 0 12 0 11 0 12 0 11 0 12 0 11 0 12 0 11 0 12 0 11 0 12 0 12 0 12 0 14 0 12 0 15 0 16 0 17 0 18 0 19 0 19 0 10 0 10 0 10 0 11 0 10 0 11 0 10 0 12 0 10 0 13 0 10 0 14 0 10 0 15 0 10 0 16 0 10 0 17 0 18 0 10 0 18 0 10 0 19 0 10 0 10 0 10 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 19 0 0 10 0 0 11 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 18 0 0 19 0 0 10 0 0 11 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 18 0 0 19 0 0 10 0 0 11 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 18 0 0 19 0 0 10 0 0 10 0 0 11 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 18 0 0 18 0 0 19 0 0 18 0 0 19 0 0 10 0 0 10 0 0 11 0 0 11 0 0 12 0 0 13 0 0 14 0 0 15 0 0 16 0 0 17 0 0 18 0 0 18 0 0 19 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18 0 0 18
Switching angle	° 60
Switching performance	maintained With 0 (Off) position

Front plate no.			FS 684
front plate			1-0-2
Motor rating AC-23A, 50 - 60 Hz			
400 V	P	kW	15
Rated uninterrupted current	I <sub>u</sub>	Α	32
Number of contact units		contact unit(s)	8

IEC/EN 60947, VDE 0660, IEC/EN 60204, CSA, UL Switch-disconnector according to IEC/EN 60947-3

Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30

# Technical data

Climatic proofing

#### **General** Standards

Ambient temperature			
Open		°C	-25 - +50
Enclosed		°C	-25 - +40
Overvoltage category/pollution degree			III/3
Rated impulse withstand voltage	$U_{imp}$	V AC	6000
Mechanical shock resistance		g	15
Mounting position			As required
Protection against direct contact when actuated from front (EN 50274)			Finger and back-of-hand proof
Contacts			
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	I <sub>u</sub>	Α	32
Note on rated uninterrupted current $\boldsymbol{!}_{\boldsymbol{u}}$			Rated uninterrupted current lu is specified for max. cross-section.
Load rating with intermittent operation, class 12			
AB 25 % DF		x I <sub>e</sub>	2
AB 40 % DF		x I <sub>e</sub>	1.6
AB 60 % DF		x I <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 I <sub>e</sub>		W	1.1
Current heat loss per auxiliary circuit at I $_{\rm e}$ (AC-15/230 V)		CO	1.1
Lifespan, mechanical	Operations	x 10 <sup>6</sup>	> 0.5
Maximum operating frequency	Operations/h		1200

AC			
AC-3			
Rating, motor load switch	Р	kW	
220 V 230 V	Р	kW	5.5
230 V Star-delta	Р	kW	7.5
400 V 415 V	Р	kW	11
400 V Star-delta	Р	kW	15
500 V	Р	kW	15
500 V Star-delta	Р	kW	18.5
690 V	Р	kW	11
690 V Star-delta	P	kW	22
Rated operational current motor load switch			
230 V	le	Α	23.7
230 V star-delta	I <sub>e</sub>	Α	32
400V 415 V	I <sub>e</sub>	Α	23.7
400 V star-delta	I <sub>e</sub>	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	l <sub>e</sub>	Α	25.5
AC-21A			
Rated operational current switch			
440 V	I <sub>e</sub>	Α	32
AC-23A			
Motor rating AC-23A, 50 - 60 Hz	P	kW	
230 V	Р	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		A	32
400 V 415 V	l <sub>e</sub>	A	32
500 V	I <sub>e</sub>	A	26.4
690 V	I <sub>e</sub>	A	17
OC V	16		17
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	I <sub>e</sub>	A	25
Voltage per contact pair in series	6	V	60
DC-21A	I <sub>e</sub>	A	
Rated operational current	I <sub>e</sub>	Α	1
Contacts	Ü	Quantity	
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	I <sub>e</sub>	Α	25
Contacts		Quantity	3
120 V			
Rated operational current	I <sub>e</sub>	Α	12
Contacts		Quantity	3

240 V			
Rated operational current	l <sub>e</sub>	Α	5
Contacts		Quantity	5
DC-13, Control switches L/R = 50 ms			
Rated operational current	I <sub>e</sub>	Α	20
Voltage per contact pair in series		V	24
Control circuit reliability at 24 V DC, 10 mA	Fault	H <sub>F</sub>	< 10 <sup>-5</sup> , < 1 fault in 100000 operations
Terminal capacities	probability		
Solid or stranded		mm <sup>2</sup>	1 x (1 - 6)
		IIIIII	2 x (1 - 6)
Flexible with ferrules to DIN 46228		$\text{mm}^2$	1 x (0.75 - 4) 2 x (0.75 - 4)
Terminal screw			M4
Max. tightening torque		Nm	1.6
Technical safety parameters:		74111	
Notes			B10 <sub>d</sub> values as per EN ISO 13849-1, table C1
Rating data for approved types			
Contacts			
Rated operational voltage	U <sub>e</sub>	V AC	600
Rated uninterrupted current max.			
Main conducting paths			
General use	I <sub>U</sub>	Α	25
Auxiliary contacts			
General Use	I <sub>U</sub>	Α	10
Pilot Duty			A 600 P 600
Switching capacity			
Maximum motor rating			
Single-phase			
120 V AC		НР	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			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		A	40, Class J
Terminal capacity			
Solid or flexible conductor with ferrule		AWG	14 - 10
Terminal screw			M4

## Design verification as per IEC/EN 61439

Tightening torque

echnical data for design verification			
Rated operational current for specified heat dissipation	In	Α	32
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	1.1
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	0
Static heat dissipation, non-current-dependent	$P_{vs}$	W	0
Heat dissipation capacity	P <sub>diss</sub>	W	0
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	50

lb-in

17.6

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	Please enquire
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.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

#### **Technical data ETIM 6.0**

Low-voltage industrial components (EG000017) / Off-load switch (EC001105)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Changeover switch (ecl@ss8.1-27-37-14-05 [AKF062010])

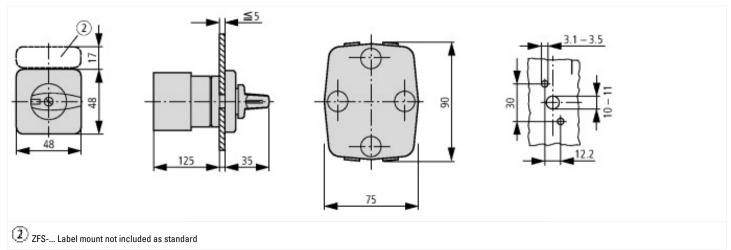
Model		Reverser
Number of poles		8
With 0 (off) position		Yes
With retraction in 0-position		No
Rated permanent current lu	Α	32
Rated operation current le at AC-3, 400 V	Α	23.7
Rated operation power at AC-3, 400 V	kW	12
Degree of protection (IP), front side		IP65
Number of auxiliary contacts as normally closed contact		0
Number of auxiliary contacts as normally open contact		0
Number of auxiliary contacts as change-over contact		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
Type of electrical connection of main circuit		Screw connection

## Approvals

Product Standards	UL 508; CSA-C22.2 No. 14-05; CSA-C22.2 No. 94; IEC/EN 60947-3; CE marking
UL File No.	E36332
UL Category Control No.	NLRV
CSA File No.	12528

CSA Class No.	3211-05
North America Certification	UL listed, CSA certified
Specially designed for North America	Yes, with an alternative front plate and/or terminal markings to those of the IEC type in combination with "+NA" (105864)
Suitable for	Branch circuits, suitable as motor disconnect
Degree of Protection	IEC: IP65; UL/CSA Type 1, 12

### **Dimensions**



## **Additional product information (links)**

IL03801020Z (AWA1150-0586) Cam switches: fl	ush mounting
IL03801020Z (AWA1150-0586) Cam switches: flush mounting	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03801020Z2016_07.pdf
Display flip catalog page.	http://ecat.moeller.net/flip-cat/?edition=K115A&startpage=44
Technical overview cam switch, switch-disconnector	http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.2
System overview cam switch T	http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.4
System overview switch-disconnector P	http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.6
Key to part numbers Cam switch	http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.8
Key to part numbers Switch-disconnector	http://de.ecat.moeller.net/flip-cat/?edition=HPLTEv1&startpage=4.8
Switches for ATEX	http://www.coopercrouse-hinds.eu/en/products/25-ex-safety-and-main-current-switches.html