

**Reversing switches, T0, 20 A, surface mounting, 3 contact unit(s),
Contacts: 5, 60 °, maintained, With 0 (Off) position, 1-0-2, design no. 8401**



Part no. **T0-3-8401/I1**

Catalog No. **207132**

**EL-Nummer
(Norway)** **1456427**

Similar to illustration

Delivery program

Product range	Control switches		
Part group reference	T0		
Basic function	Reversing switches		
	with black thumb grip and front plate		
Contacts	5		
Degree of Protection	IP65		
Design	surface mounting		
Switching angle	60 °		
Switching performance	maintained With 0 (Off) position		
Design number	8401		
front plate	1-0-2		
Motor rating AC-23A, 50 - 60 Hz			
400 V	P	kW	5.5
Rated uninterrupted current	I _u	A	20
Note on rated uninterrupted current I _u	Rated uninterrupted current I _u is specified for max. cross-section.		
Number of contact units	contact unit(s) 3		

Technical data

General

Standards	IEC/EN 60947, VDE 0660, IEC/EN 60204 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			
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		

Contacts

Electrical characteristics			
Rated operational voltage	U _e	V AC	690
Rated uninterrupted current	I _u	A	20
Note on rated uninterrupted current I _u	Rated uninterrupted current I _u is specified for max. cross-section.		
Load rating with intermittent operation, class 12			
AB 25 % DF	x I _e	2	
AB 40 % DF	x I _e	1.6	
AB 60 % DF	x I _e	1.3	
Short-circuit rating			
Fuse	A gG/gL	20	
Rated short-time withstand current (1 s current)	I _{cw}	A _{rms}	320
Note on rated short-time withstand current I _{cw}	Current for a time of 1 second		

Rated conditional short-circuit current	I_q	kA	6
Switching capacity			
cos φ rated making capacity as per IEC 60947-3		A	130
Rated breaking capacity cos φ 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_e		W	0.6
Current heat loss per auxiliary circuit at I_e (AC-15/230 V)		CO	0.6
Lifespan, mechanical	Operations	$\times 10^6$	>0.4
Maximum operating frequency	Operations/h		1200
AC			
AC-3			
Rating, motor load switch	P	kW	
220 V 230 V	P	kW	3
230 V Star-delta	P	kW	5.5
400 V 415 V	P	kW	5.5
400 V Star-delta	P	kW	7.5
500 V	P	kW	5.5
500 V Star-delta	P	kW	7.5
690 V	P	kW	4
690 V Star-delta	P	kW	5.5
Rated operational current motor load switch			
230 V	I_e	A	11.5
230 V star-delta	I_e	A	20
400V 415 V	I_e	A	11.5
400 V star-delta	I_e	A	20
500 V	I_e	A	9
500 V star-delta	I_e	A	15.6
690 V	I_e	A	4.9
690 V star-delta	I_e	A	8.5
AC-23A			
Motor rating AC-23A, 50 - 60 Hz	P	kW	
230 V	P	kW	3
400 V 415 V	P	kW	5.5
500 V	P	kW	7.5
690 V	P	kW	5.5
Rated operational current motor load switch			
230 V	I_e	A	13.3
400 V 415 V	I_e	A	13.3
500 V	I_e	A	13.3
690 V	I_e	A	7.6
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	I_e	A	10
Voltage per contact pair in series		V	60
DC-21A	I_e	A	
Rated operational current	I_e	A	1
Contacts		Quantity	1
DC-23A, motor load switch L/R = 15 ms			
24 V			

Rated operational current	I_e	A	10
Contacts		Quantity	1
48 V			
Rated operational current	I_e	A	10
Contacts		Quantity	2
60 V			
Rated operational current	I_e	A	10
Contacts		Quantity	3
120 V			
Rated operational current	I_e	A	5
Contacts		Quantity	3
240 V			
Rated operational current	I_e	A	5
Contacts		Quantity	5
DC-13, Control switches L/R = 50 ms			
Rated operational current	I_e	A	10
Voltage per contact pair in series		V	32
Control circuit reliability at 24 V DC, 10 mA	Fault probability	H_F	$< 10^{-5}$, < 1 failure in 100,000 switching operations

Terminal capacities

Solid or stranded	mm^2	1 x (1 - 2,5) 2 x (1 - 2,5)
Flexible with ferrules to DIN 46228	mm^2	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
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Rating data for approved types

Terminal capacity		
Terminal screw		M3.5
Tightening torque	lb-in	8.83

Design verification as per IEC/EN 61439

Technical data for design verification		
Rated operational current for specified heat dissipation	I_h	A 20
Heat dissipation per pole, current-dependent	P_{vid}	W 0.6
Equipment heat dissipation, current-dependent	P_{vid}	W 0
Static heat dissipation, non-current-dependent	P_{vs}	W 0
Heat dissipation capacity	P_{diss}	W 0
Operating ambient temperature min.	°C	-25
Operating ambient temperature max.	°C	40
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.
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) / Off-load switch (EC001105)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Changeover switch (ecl@ss10.0.1-27-37-14-05 [AKFO62013])

Model		Reversing switch
Number of poles		3
With zero (off) position		Yes
With retraction in 0-position		No
Rated permanent current I_{p}	A	20
Rated operation current I_{e} at AC-3, 400 V	A	11.5
Rated operation power at AC-3, 400 V	kW	4
Degree of protection (IP), front side		IP65
Degree of protection (NEMA), front side		12
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 floor mounting		Yes
Suitable for front mounting		No
Suitable for distribution board installation		No
Suitable for intermediate mounting		No
Complete device in housing		Yes
Material housing		Plastic
Type of control element		Short thumb-grip
Type of electrical connection of main circuit		Screw connection