#### **DATASHEET - T3-3-8401/E**



Reversing switches, T3, 32 A, flush mounting, 3 contact unit(s), Contacts: 5, 60  $^{\circ}$ , maintained, With 0 (Off) position, 1-0-2, design no. 8401



Part no. T3-3-8401/E Catalog No. 030992

Similar to illustration

Delivery program			
Product range			Control switches
Part group reference			Т3
Basic function			Reversing switches
			with black thumb grip and front plate
Contacts			5
Degree of Protection			Front IP65
Design			flush mounting
Contact sequence			
Switching angle		0	60
Switching performance			maintained With 0 (Off) position
Design number			8401
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
Note on rated uninterrupted current !u			Rated uninterrupted current I <sub>u</sub> 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, 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	٥	С	-25 - +50
Enclosed	٥	С	-25 - +40

Rated impulse withstand voltage  Mechanical shock resistance  Mounting position  Contacts  Electrical characteristics  Rated operational voltage  Rated uninterrupted current lu Note on rated uninterrupted current lu AB 55 % DF AB 40 % DF AB 40 % DF AB 60 % DF AB 6				111/0
Monitor persions 100 monitor	Overvoltage category/pollution degree		V 40	111/3
Nometon Description         New Transmisted Control         New Transmisted C		U <sub>imp</sub>		
Content   Con			g	
Biested journationality (1986)   Part   Pa				As required
Rested spentional voltage   U <sub>2</sub>				
Note of marted seminarrogand corrent   No.   No.   Seminarization control seminarrogand corrent   No.   N		П	۷۸۲	690
Note on rated uninternuted current l <sub>1</sub> use persions, class 17 cm				
Lead rating with intermitment operation, class 12         4         x kg         2           AB 59 50 IP         5, 12         1.5         1.5           AB 59 50 IP         7, 12         2.2         1.5           Short-currating         9         45 50         1.5           Rate abort-cline withstand current I/o a current I/o		'u	А	
AB 05 % 16 F         K 16 kg         1 kg				Hated uninterrupted current $I_{\mathbf{u}}$ is specified for max. cross-section.
AB 88 No Fine         A leg         Lig				
Short-circutating			x l <sub>e</sub>	2
Profession   Pro	AB 40 % DF		x I <sub>e</sub>	1.6
Fates	AB 60 % DF		x I <sub>e</sub>	1.3
Rated short-time withstand current (vs current)	Short-circuit rating			
Note on ratioal short-time withstand current low	Fuse		A gG/gL	35
Name   Part	Rated short-time withstand current (1 s current)	I <sub>cw</sub>	$A_{rms}$	650
Switching capacity cosp or IEC 80947-3	Note on rated short-time withstand current lcw			Current for a time of 1 second
Roce of prated making capacity as per IEC 68947-3         4         3         20           ARead breaking capacity ose you IEC 68947-3         4         26         20           400415 V         4         20         20           550 V         4         20         20           680 V         5         40         20           15 Existination to IN S1100         5         40         40           15 Current heat loss per contact at I <sub>1</sub> VAC         40         40           15 Current heat loss per auxiliary circuit at I <sub>1</sub> (AC-15/230 V)         7         1         1           15 Current heat loss per auxiliary circuit at I <sub>1</sub> (AC-15/230 V)         7         20         1           15 Current heat loss per auxiliary circuit at I <sub>1</sub> (AC-15/230 V)         7         20         1           15 Current heat contacts         9         10         20         1           16 Current heat contacts         9         10         20         20           Maximum portation for data witch         P         N/W         25         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20         20	Rated conditional short-circuit current	Iq	kA	1
Reted broaking capacity cas on tile 68947-3         A         280           230 V         A         280           480(415 V         A         280           580 V         A         240           680 V         Bere isolation to EN 61140         VAC         440           Current heat loss per contact at l <sub>e</sub> VAC         40           Current heat loss per auxiliary circuit st l <sub>e</sub> (AC-15/230 V)         Operations         1.0°           Miximum operating frequency         Operations         1.0°           AC-3         Reting, motor load switch         P         KW           Reating, motor load switch         P         KW         5           Red 400 V Star-delta         P         KW         1           400 V Star-delta         P         KW         1           500 V Star-delta         P         KW         15           600 V Star-delta         P         KW         15           700 V Star-delta         P         KW         15           800 V Star-delta         P         KW         15           900 V Star-delta         P         KW         12           100 V Star-delta         R         22         220 V Star-delta         22	Switching capacity			
230 \	$\cos \phi$ rated making capacity as per IEC 60947-3		Α	320
Moder   1	Rated breaking capacity cos φ to IEC 60947-3		Α	
Sign	230 V		Α	260
Sale isolation to EN 61140   Service metha contacts 1	400/415 V		Α	260
Safe isolation to EN 61140         Hotevamen the contacts         VAC         40           Current hear loss per contact at I <sub>6</sub> W         VAC         40           Current hear loss per contact at I <sub>6</sub> VAC         VAC         11           Lifespan, mechanical         Operations / Lifespan, mechanical         YAC         40           Maximum operating frequency         Operations / Lifespan, motor load switch         YAC         120           AC-3         Rating, motor load switch         P         KW         5           220 V 230 V         P         KW         5         1           400 V 5tar-delta         P         KW         15           400 V 5tar-delta         P         KW         15           500 V Star-delta         P         KW         15           600 V Star-delta         P         KW         15           816 do perational current motor load switch         P         KW         15           230 V star-delta         I <sub>6</sub> A         23           400 V Star-delta         I <sub>6</sub> A         23           400 V star-delta         I <sub>6</sub> A         23           400 V star-delta         I <sub>6</sub> A         23 <tr< td=""><td>500 V</td><td></td><td>Α</td><td>240</td></tr<>	500 V		Α	240
between the contacts         VAC         440           Current heat loss per contact at la         VAC         1.1           Current heat loss per auxiliary circuit at la (AC-15/230 V)         Operations by a 1.1         1.1           Litiespan, mechanical         Operations by a 1.2         2.0           Maximum operating frequency         Operations by a 1.2         200           AC-3         Post of the part of the pa	690 V		Α	170
Current heat loss per contact at le Current heat loss per auxiliary circuit at le (AC-15/230 V)         V         11           Liflespan, mechanical         Operations y 150 generating frequency         > 0.5           AC-3         200           AC-3         - V           AC-3 (200 y 230 V)         N         V           200 y 230 V         P         kW         5.5           200 y Star-delta         P         kW         1.0           400 y 15 V         P         kW         1.5           500 V         P         kW         1.5           680 V Star-delta         P         kW         1.5           230 V star-delta         P         kW         2.2           400 V star-delta         P         A         2.3           400 V star-delta         P         A         2.3           400 V star-delta         P         A         2.3           500 V v star-delta         P <td< td=""><td>Safe isolation to EN 61140</td><td></td><td></td><td></td></td<>	Safe isolation to EN 61140			
Current heat loss per auxiliary circuit at l <sub>e</sub> (AC-15/230 V)         CD         1.1           Lifespan, mechanical         Operations x x 10 <sup>6</sup> v         >0.5           Maximum operating frequency         Operations x 10 <sup>6</sup> v         200           AC-3         The company of	between the contacts		V AC	440
Lifespan, mechanical Operations x 108  Maximum operating frequency Operations/ AC	Current heat loss per contact at I <sub>e</sub>		W	1.1
Maximum operating frequency  AC-3  Rating, motor load switch 220 V 230 V 200 V 154r-delta 400 V 154r-delta 500 V V 154r-delta 680 V 680 V 78	Current heat loss per auxiliary circuit at I <sub>e</sub> (AC-15/230 V)		CO	1.1
AC-3 Rating_motor load switch Rating_motor loa	Lifespan, mechanical	Operations	x 10 <sup>6</sup>	> 0.5
AC-3       Rating, motor load switch       P       kW         220 V 230 V       P       kW       5.5         230 V Star-delta       P       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       11         690 V Star-delta       P       kW       11         690 V Star-delta       P       kW       11         88ted operational current motor load switch       230 V       230 V       230 V         230 V star-delta       I <sub>0</sub> A       23.7         400 V star-delta       I <sub>0</sub> A       23.7         400 V star-delta       I <sub>0</sub> A       23.7         500 V       I <sub>0</sub> A       23.7         500 V star-delta       I <sub>0</sub> A       23.7         500 V star-delta       I <sub>0</sub> A       23.7         690 V star-delta       I <sub>0</sub> A       23.7         690 V star-delta       I <sub>0</sub> A       25.5         AC-23A       Motor rating AC-23A, 50 - 60 Hz       P       kW	Maximum operating frequency	Operations/h		1200
Rating, motor load switch         P         kW           220 V 230 V         P         kW         5.5           230 V Star-delta         P         kW         7.5           400 V 415 V         P         kW         11           400 V Star-delta         P         kW         15           500 V         P         kW         18.5           690 V Star-delta         P         kW         11           690 V Star-delta         P         kW         22           Rated operational current motor load switch         230 V         le         A         23.7           230 V star-delta         le         A         32           400 V star-delta         le         A         23.7           400 V star-delta         le         A         23.7           500 V         le         A         23.7           500 V star-delta         le         A         23.7           690 V star-delta         le         A         22.5           690 V star-delta         le         A         25.5           AC-23A         Motor rating AC-23A, 50 - 60 Hz         P         kW	AC			
220 V 230 V P	AC-3			
230 V Star-delta	Rating, motor load switch	Р	kW	
A00 V 415 V   P   kW   15	220 V 230 V	Р	kW	5.5
400 V Star-delta P kW 15 500 V Star-delta P kW 15 500 V Star-delta P kW 18.5 690 V C Star-delta P kW 11 690 V Star-delta P kW 22 Rated operational current motor load switch	230 V Star-delta	Р	kW	7.5
SOO V Star-delta	400 V 415 V	Р	kW	11
S00 V Star-delta	400 V Star-delta	Р	kW	15
S00 V Star-delta		P	kW	
690 V Star-delta       P       kW       22         Rated operational current motor load switch       Ie       A       23.7         230 V star-delta       Ie       A       32         400 V star-delta       Ie       A       23.7         400 V star-delta       Ie       A       32         500 V       Ie       A       23.7         500 V star-delta       Ie       A       32         690 V       Ie       A       32         690 V star-delta       Ie       A       14.7         690 V star-delta       Ie       A       25.5         AC-23A       Motor rating AC-23A, 50 - 60 Hz       P       kW	500 V Star-delta	P	kW	18.5
Rated operational current motor load switch       Ie       A       23.7         230 V star-delta       Ie       A       32         400V 415 V       Ie       A       23.7         400 V star-delta       Ie       A       32         500 V       Ie       A       23.7         500 V star-delta       Ie       A       32         690 V       Ie       A       32         690 V star-delta       Ie       A       14.7         690 V star-delta       Ie       A       25.5         AC-23A       Motor rating AC-23A, 50 - 60 Hz       P       kW	690 V	P	kW	11
230 V star-delta   Ie	690 V Star-delta	P	kW	22
230 V star-delta   Ie	Rated operational current motor load switch			
230 V star-delta   Ie		I <sub>e</sub>	Α	23.7
400V 415 V       Ie       A       23.7         400 V star-delta       Ie       A       32         500 V       Ie       A       23.7         500 V star-delta       Ie       A       32         690 V       Ie       A       14.7         690 V star-delta       Ie       A       25.5         AC-23A       B       WW	230 V star-delta	l <sub>e</sub>	Α	32
400 V star-delta	400V 415 V		Α	23.7
500 V				
500 V star-delta				
690 V I <sub>e</sub> A 14.7 690 V star-delta I <sub>e</sub> A 25.5  AC-23A  Motor rating AC-23A, 50 - 60 Hz P kW				
690 V star-delta				
AC-23A  Motor rating AC-23A, 50 - 60 Hz  P kW				
Motor rating AC-23A, 50 - 60 Hz		le	А	20.0
230 V P kW 7.5				
	230 V	۲	kVV	1.5

400 V 415 V	P	kW	15
500 V	P	kW	15
690 V	P	kW	15
Rated operational current motor load switch			
230 V	I <sub>e</sub>	Α	32
400 V 415 V	I <sub>e</sub>	Α	32
500 V	I <sub>e</sub>	Α	26.4
690 V	I <sub>e</sub>	A	17
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	I <sub>e</sub>	A	25
Voltage per contact pair in series	·e	V	60
DC-21A	I <sub>e</sub>	A	
			1
Rated operational current	I <sub>e</sub>	A	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	I <sub>e</sub>	Α	12
Contacts		Quantity	3
240 V			
Rated operational current	I <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		٧	24
Control circuit reliability at 24 V DC, 10 mA	Fault	H <sub>F</sub>	< 10 <sup>-5</sup> ,< 1 failure in 100,000 switching operations
Terminal conscition	probability		
Terminal capacities Solid or stranded		mm <sup>2</sup>	1 x (1 - 6)
		ШП	2 x (1 - 6)
Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x (0.75 - 4)
Terminal corow			2 x (0.75 - 4)
Terminal screw		Nm	M4
Tightening torque for terminal screw  Technical safety parameters:		Nm	1.6
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		Α	25
Auxiliary contacts			
General Use	I <sub>U</sub>	Α	10
Pilot Duty			A 600
Switching capacity			
Maximum motor rating			

Single-phase		
120 V AC	HP	1.5
200 V AC	HP	3
240 V AC	НР	3
Three-phase		
200 V AC	НР	3
240 V AC	НР	3
480 V AC	HP	7.5
600 V AC	HP	10
Short Circuit Current Rating	SCCR	
Basic Rating	kA	5
max. Fuse	А	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

Technical 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 <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 switch gear must be observed. $\label{eq:specification}$
10.12 Electromagnetic compatibility			Is the panel builder's responsibility. The specifications for the switch gear must be observed. $\label{eq:specification}$
10.13 Mechanical function			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) / 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 [AKF062013])

Model		Reversing switch
Number of poles		3
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
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 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
Material housing		Plastic
Type of control element		Toggle
Type of electrical connection of main circuit		Screw connection

### **Approvals**

Product Standards	UL 60947-4-1;CSA - C22.2 No. 60947-4-1-14; 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**

