

**Star-delta switches, T3, 32 A, flush mounting, 4 contact unit(s), Contacts: 8, 60 °, maintained, With 0 (Off) position, 0-Y-D, Design number 8410**

**Part no. T3-4-8410/E  
009657**

<b>General specifications</b>		
Product name		Eaton Moeller® series T3 Star-delta switch
Part no.		T3-4-8410/E
EAN		4015080096573
Product Length/Depth		114 millimetre
Product height		54 millimetre
Product width		61 millimetre
Product weight		0.252 kilogram
Certifications		IEC/EN 60204 CSA CSA-C22.2 No. 60947-4-1-14 CE IEC/EN 60947-3 CSA File No.: 012528 IEC/EN 60947 UL Category Control No.: NLRV CSA Class No.: 3211-05 UL File No.: E36332 UL CSA-C22.2 No. 94 VDE 0660 UL 60947-4-1 CSA UL
Product Tradename		T3
Product Type		Star-delta switch
Product Sub Type		None
Catalog Notes		Rated Short-time Withstand Current (Icw) for a time of 1 second
<b>Features &amp; Functions</b>		
Enclosure material		Plastic
Fitted with:		Black thumb grip and front plate 0 (off) position
Inscription		0-Y-D
Number of poles		3
<b>General information</b>		
Degree of protection		NEMA 12 NEMA 1 IP65
Degree of protection (front side)		IP65 NEMA 12
Lifespan, mechanical		500,000 Operations
Model		Star-delta switch
Mounting method		Flush mounting
Mounting position		As required
Number of contact units		4
Operating frequency		1200 Operations/h
Overvoltage category		III
Pollution degree		3
Rated impulse withstand voltage (Uimp)		6000 V AC
Safe isolation		440 V AC, Between the contacts, According to EN 61140
Safety parameter (EN ISO 13849-1)		B10d values as per EN ISO 13849-1, table C.1
Shock resistance		15 g, Mechanical, According to IEC/EN 60068-2-27, Half-sinusoidal shock 20 ms
Suitable for		Branch circuits, suitable as motor disconnect, (UL/CSA) Front mounting
Switching angle		60 °
Type		Star-delta switch

<b>Climatic environmental conditions</b>		
Ambient operating temperature - min		-25 °C
Ambient operating temperature - max		50 °C
Ambient operating temperature (enclosed) - min		-25 °C
Ambient operating temperature (enclosed) - max		40 °C
Climatic proofing		Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
<b>Terminal capacities</b>		
Terminal capacity (flexible with ferrule)		2 x (0.75 - 4) mm <sup>2</sup> , ferrules to DIN 46228 1 x (0.75 - 4) mm <sup>2</sup> , ferrules to DIN 46228
Terminal capacity (solid/flexible with ferrule AWG)		14 - 10
Terminal capacity (solid/stranded)		1 x (1 - 6) mm <sup>2</sup> 2 x (1 - 6) mm <sup>2</sup>
Screw size		M4, Terminal screw
Tightening torque		1.6 Nm, Screw terminals 17.7 lb-in, Screw terminals
<b>Electrical rating</b>		
Rated breaking capacity at 220/230 V (cos phi to IEC 60947-3)		260 A
Rated breaking capacity at 400/415 V (cos phi to IEC 60947-3)		260 A
Rated breaking capacity at 500 V (cos phi to IEC 60947-3)		240 A
Rated breaking capacity at 660/690 V (cos phi to IEC 60947-3)		170 A
Rated operational current (Ie)		32 A at AC-3, 500 V star-delta 25.5 A at AC-3, 690 V star-delta 32 A at AC-3, 230 V star-delta 32 A at AC-3, 400 V star-delta
Rated operational current (Ie) at AC-3, 220 V, 230 V, 240 V		23.7 A
Rated operational current (Ie) at AC-3, 380 V, 400 V, 415 V		23.7 A
Rated operational current (Ie) at AC-3, 500 V		23.7 A
Rated operational current (Ie) at AC-3, 660 V, 690 V		14.7 A
Rated operational current (Ie) at AC-21, 440 V		32 A
Rated operational current (Ie) at AC-23A, 230 V		32 A
Rated operational current (Ie) at AC-23A, 400 V, 415 V		32 A
Rated operational current (Ie) at AC-23A, 500 V		26.4 A
Rated operational current (Ie) at AC-23A, 690 V		17 A
Rated operational current (Ie) at DC-1, load-break switches I/r = 1 ms		25 A
Rated operational current (Ie) at DC-13, control switches L/R = 50 ms		20 A
Rated operational current (Ie) at DC-21, 240 V		1 A
Rated operational current (Ie) at DC-23A, 24 V		25 A
Rated operational current (Ie) at DC-23A, 48 V		25 A
Rated operational current (Ie) at DC-23A, 60 V		25 A
Rated operational current (Ie) at DC-23A, 120 V		12 A
Rated operational current (Ie) at DC-23A, 240 V		5 A
Rated operational power at AC-3, 380/400 V, 50 Hz		18.5 kW
Rated operational power at AC-3, 415 V, 50 Hz		11 kW
Rated operational power at AC-3, 690 V, 50 Hz		11 kW
Rated operational power at AC-23A, 220/230 V, 50 Hz		7.5 kW
Rated operational power at AC-23A, 400 V, 50 Hz		15 kW
Rated operational power at AC-23A, 500 V, 50 Hz		15 kW
Rated operational power at AC-23A, 690 V, 50 Hz		15 kW
Rated operational power star-delta at 220/230 V, 50 Hz		7.5 kW
Rated operational power star-delta at 380/400 V, 50 Hz		15 kW
Rated operational power star-delta at 500 V, 50 Hz		18.5 kW
Rated operational power star-delta at 690 V, 50 Hz		22 kW
Rated operational voltage (Ue) at AC - max		690 V
Rated uninterrupted current (Iu)		32 A
Uninterrupted current		Rated uninterrupted current Iu is specified for max. cross-section.
<b>Short-circuit rating</b>		

Rated conditional short-circuit current (Iq)		1 kA
Rated short-time withstand current (Icw)		650 A, Contacts, 1 second
Short-circuit current rating (basic rating)		5 kA, SCCR (UL/CSA) 40A, max. Fuse, SCCR (UL/CSA)
Short-circuit current rating (high fault)		10 kA, SCCR (UL/CSA) 40 A, Class J, max. Fuse, SCCR (UL/CSA)
Short-circuit protection rating		35 A gG/gL, Fuse, Contacts
<b>Switching capacity</b>		
Load rating		1.3 x I# (with intermittent operation class 12, 60 % duty factor) 1.6 x I# (with intermittent operation class 12, 40 % duty factor) 2 x I# (with intermittent operation class 12, 25 % duty factor)
Number of contacts in series at DC-21A, 240 V		1
Number of contacts in series at DC-23A, 24 V		1
Number of contacts in series at DC-23A, 48 V		2
Number of contacts in series at DC-23A, 60 V		3
Number of contacts in series at DC-23A, 120 V		3
Number of contacts in series at DC-23A, 240 V		5
Switching capacity (main contacts, general use)		25 A, Rated uninterrupted current max. (UL/CSA)
Switching capacity (auxiliary contacts, general use)		10A, IU, (UL/CSA)
Switching capacity (auxiliary contacts, pilot duty)		P600 (UL/CSA) A600 (UL/CSA)
Rated making capacity up to 690 V (cos phi to IEC/EN 60947-3)		320 A
Voltage per contact pair in series		60 V
<b>Motor rating</b>		
Assigned motor power at 115/120 V, 60 Hz, 1-phase		1.5 HP
Assigned motor power at 200/208 V, 60 Hz, 1-phase		3 HP
Assigned motor power at 200/208 V, 60 Hz, 3-phase		3 HP
Assigned motor power at 230/240 V, 60 Hz, 1-phase		3 HP
Assigned motor power at 230/240 V, 60 Hz, 3-phase		3 HP
Assigned motor power at 460/480 V, 60 Hz, 3-phase		7.5 HP
Assigned motor power at 575/600 V, 60 Hz, 3-phase		10 HP
<b>Contacts</b>		
Control circuit reliability		1 failure per 100,000 switching operations statistically determined, at 24 V DC, 10 mA)
Number of auxiliary contacts (change-over contacts)		0
Number of auxiliary contacts (normally closed contacts)		0
Number of auxiliary contacts (normally open contacts)		0
Number of contacts		8
<b>Actuator</b>		
Actuator function		With 0 (Off) position Maintained
Actuator type		Short thumb-grip
<b>Design verification</b>		
Equipment heat dissipation, current-dependent Pvid		0 W
Heat dissipation capacity Pdis		0 W
Heat dissipation per pole, current-dependent Pvid		1.1 W
Rated operational current for specified heat dissipation (In)		32 A
Static heat dissipation, non-current-dependent Pvs		0 W
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.9.2 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 9.0

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 / Load-break switch (ecl@ss13-27-37-14-05 [AKF062018])		
Model		Star-delta switch
Number of poles		3
With zero (off) position		Yes
With retraction in 0-position		No
Rated permanent current I <sub>u</sub>	A	32
Rated operation current I <sub>e</sub> at AC-3, 400 V	A	23.7
Rated operation power at AC-3, 400 V	kW	18.5
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		No
Suitable for front mounting		Yes
Suitable for distribution board installation		No
Suitable for intermediate mounting		No
Complete device in housing		No
Housing material		Plastic
Type of control element		Short thumb-grip
Type of electrical connection of main circuit		Screw connection