## **DATASHEET - T0-2-1/E/SVC(S)-RT**



Panic switches, T0, 20 A, flush mounting, 3 pole, with red thumb grip and yellow front plate, Padlocking feature SVC



Part no. T0-2-1/E/SVC(S)-RT Catalog No. 044973

110	INCE	nro	gram
116	IIVEIV	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	,	Pio	9

Delivery program			
Product range			Switch with locking mechanism
Part group reference			ТО
Basic function			Panic switches
Stop Function			Emergency switching off function
			with red thumb grip and yellow front plate
Number of poles			3 pole
locking arrangement			Padlocking feature SVC
Notes			Lockable with max. 3 padlocks.  If the locking slide is interlocked with lock in position 1 the switch can be switched off but not on again without removing the lock.
Locking facility			Lockable in the 0 (Off) position
Degree of Protection			Front IP65
Design			flush mounting
Contact sequence			0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Switching angle		0	90
Switching performance			maintained
Design number			1
Front plate no.			
front plate			FS 908 GE
Motor rating AC-23A, 50 - 60 Hz			
400 V	P .	kW	5.5
Rated uninterrupted current	Iu	Α	20
Note on rated uninterrupted current !u			Rated uninterrupted current $\mathbf{I}_{\mathbf{u}}$ is specified for max. cross-section.
Number of contact units		contact unit(s)	2

# Technical data

#### Genera

delleral	
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			
Open		°C	-25 - +50
Enclosed		°C	-25 - +40
Overvoltage category/pollution degree		U	III/3
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
	O <sub>IMp</sub>		
Mechanical shock resistance		g	15
Mounting position  Contacts			As required
Mechanical variables			
Number of poles			3 pole
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	Iu	A	20
Note on rated uninterrupted current !u			Rated uninterrupted current $I_u$ is specified for max. cross-section.
Load rating with intermittent operation, class 12			
AB 25 % DF		x l <sub>e</sub>	2
AB 40 % DF		x l <sub>e</sub>	1.6
AB 60 % DF			
		x l <sub>e</sub>	1.3
Short-circuit rating		A 0/ 1	20
Fuse		A gG/gL	
Rated short-time withstand current (1 s current)	I <sub>cw</sub>	A <sub>rms</sub>	320
Note on rated short-time withstand current lcw			Current for a time of 1 second
Rated conditional short-circuit current	Iq	kA	6
Switching capacity cos φ rated making capacity as per IEC 60947-3		Α	130
Rated breaking capacity cos φ to IEC 60947-3		A	130
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 <sub>e</sub>		W	0.6
Current heat loss per auxiliary circuit at I <sub>e</sub> (AC-15/230 V)		CO	0.6
Lifespan, mechanical	Operations		> 0.4
		x 10 <sup>6</sup>	
Maximum operating frequency	Operations/h		1200
AC			
AC-3		130	
Rating, motor load switch	P	kW	
220 V 230 V	Р	kW	3
230 V Star-delta	P	kW	5.5
400 V 415 V	Р	kW	5.5
400 V Star-delta	P P	kW	7.5
500 V	P P	kW	5.5
500 V Star-delta		kW	7.5
690 V 690 V Star-delta	P P	kW	4
Rated operational current motor load switch		KVV	5.5
Rated operational current motor load switch  230 V		۸	11.5
	l <sub>e</sub>	A	11.5
230 V star-delta	l <sub>e</sub>	A	20
400V 415 V	I <sub>e</sub>	Α	11.5
400 V star-delta	le	Α	20
500 V	I <sub>e</sub>	Α	9
500 V star-delta	I <sub>e</sub>	Α	15.6

690 V	I <sub>e</sub>	Α	4.9
690 V star-delta	l <sub>e</sub>	Α	8.5
AC-21A			
Rated operational current switch			
440 V	l <sub>e</sub>	Α	20
AC-23A			
Motor rating AC-23A, 50 - 60 Hz	Р	kW	
230 V	P	kW	3
400 V 415 V	P	kW	5.5
500 V	P	kW	7.5
690 V	Р	kW	5.5
Rated operational current motor load switch			
230 V	le	Α	13.3
400 V 415 V	I <sub>e</sub>	A	13.3
500 V		A	13.3
	l <sub>e</sub>		
690 V	l <sub>e</sub>	Α	7.6
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	I <sub>e</sub>	Α	10
Voltage per contact pair in series		V	60
DC-21A	l <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	10
Contacts	C	Quantity	
48 V		Quantity	'
Rated operational current	1	A	10
·	l <sub>e</sub>		
Contacts		Quantity	2
60 V			
Rated operational current	l <sub>e</sub>	Α	10
Contacts		Quantity	3
120 V			
Rated operational current	l <sub>e</sub>	Α	5
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	le	Α	10
Voltage per contact pair in series		V	32
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
	probability	'	< 10 ,< 1 famule in 100,000 switching operations
Terminal capacities			
Solid or stranded		mm <sup>2</sup>	1 x (1 - 2,5) 2 x (1 - 2,5)
Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x (0.75 - 2.5)
		IIIM	2 x (0.75 - 2.5)
Terminal screw			M3.5
Tightening torque for terminal screw		Nm	1
Technical safety parameters:			
Notes			B10 <sub>d</sub> values as per EN ISO 13849-1, table C1
Rating data for approved types  Terminal capacity  Terminal screw			M3.5

Tightening torque Ib-in 8.83	
------------------------------	--

### **Design verification as per IEC/EN 61439**

Design Verification as per IEG/EN 61439			
Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	20
Heat dissipation per pole, current-dependent	P <sub>vid</sub>	W	0.6
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 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.

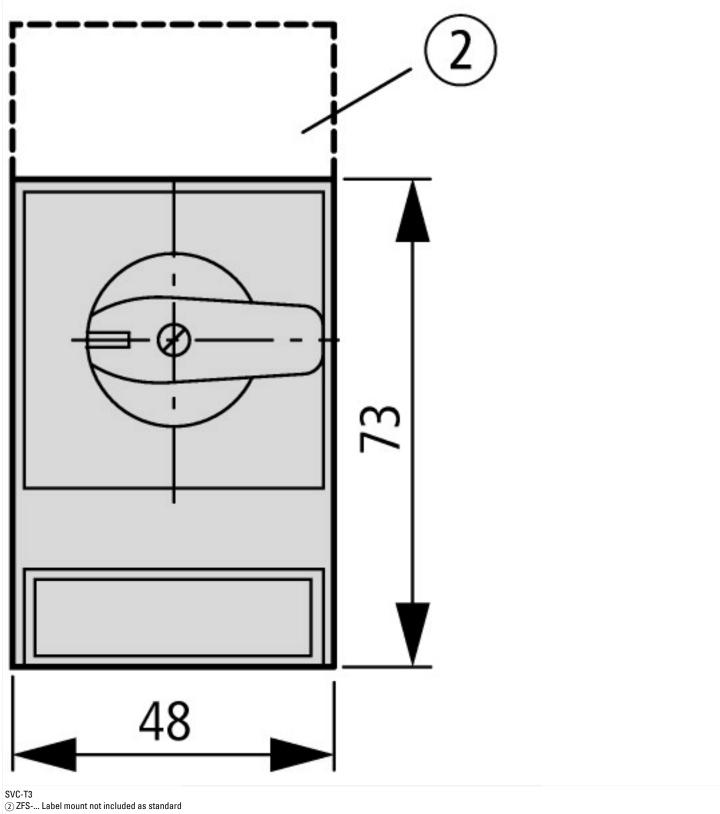
#### **Technical data ETIM 7.0**

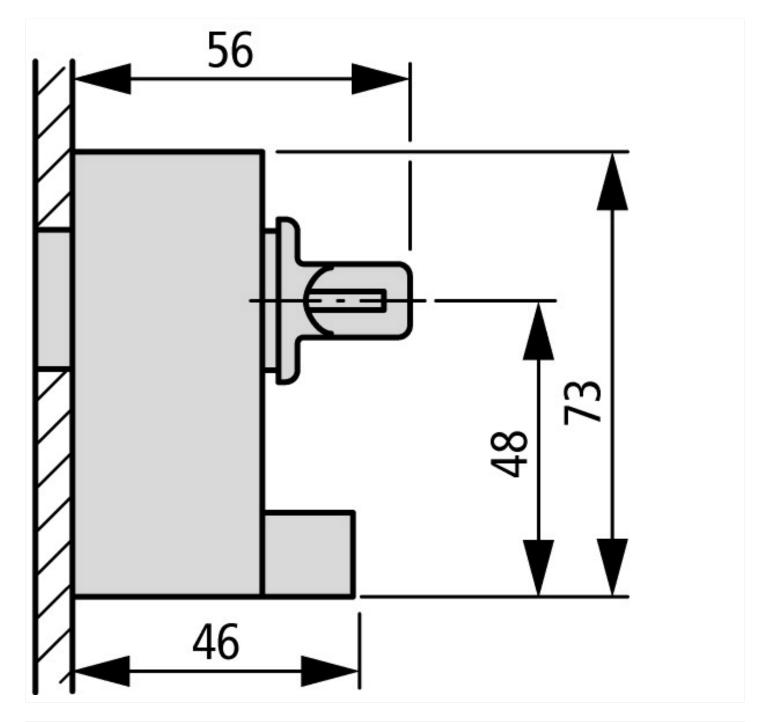
Low-voltage industrial components (EG000017) / Switch disconnector (EC000216)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnector (ecl@ss10.0.1-27-37-14-03 [AKF060013])

Version as main switch			No
Version as maintenance-/service switch			No
Version as safety switch			No
Version as emergency stop installation			Yes
Version as reversing switch			No
Number of switches			1
Max. rated operation voltage Ue AC	V		690
Rated operating voltage	V		690 - 690
Rated permanent current lu	Α		20
Rated permanent current at AC-23, 400 V	А		13.3
Rated permanent current at AC-21, 400 V	А		20
Rated operation power at AC-3, 400 V	kW	V	5.5

Rated short-time withstand current lcw	kA	0.32
Rated operation power at AC-23, 400 V	kW	5.5
Switching power at 400 V	kW	5.5
Conditioned rated short-circuit current Iq	kA	6
Number of poles		3
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
Motor drive optional		No
Motor drive integrated		No
Voltage release optional		No
Device construction		Built-in device fixed built-in technique
Suitable for ground mounting		No
Suitable for front mounting 4-hole		Yes
Suitable for front mounting centre		No
Suitable for distribution board installation		No
Suitable for intermediate mounting		No
Colour control element		Red
Type of control element		Toggle
Interlockable		Yes
Type of electrical connection of main circuit		Screw connection
Degree of protection (IP), front side		IP65
Degree of protection (NEMA)		Other





## Assets (links)

**Declaration of CE Conformity** 00003075

**Instruction Leaflets** 

IL03801015Z2018\_05

# **Additional product information (links)**

IL03801015Z (AWA1150-1367, AWA115-1368) Cylinder lock, Padlocking feature		
IL03801015Z (AWA1150-1367, AWA115-1368) Cylinder lock, Padlocking feature	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL03801015Z2018_05.pdf	
Display flip catalog page.	http://ecat.moeller.net/flip-cat/?edition=K115A&startpage=40	
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	
Ordering form for SOND switches and SOND front plates(DE_EN)	ftp://ftp.moeller.net/DOCUMENTATION/PDF/MZ008005ZU_Orderform_Customized_Switch.pdf	