DATASHEET - T0-1-102/l1



On-Off switch, T0, 20 A, surface mounting, 1 contact unit(s), 2 pole, with black thumb grip and front plate



Part no. T0-1-102/l1 Catalog No. 207061

EL-Nummer

(Norway)

0001456243

Delivery program

Product range			On-Off switch
Part group reference			ТО
			with black thumb grip and front plate
Number of poles			2 pole
Degree of Protection			IP65
			totally insulated
Design			surface mounting
Contact sequence			
Switching angle		0	90
Switching performance			maintained
Design number			102
Front plate no.			FS 908
front plate			0-1
Motor rating AC-23A, 50 - 60 Hz			
400 V	Р	kW	5.5
Rated uninterrupted current	l _u	A	20
Note on rated uninterrupted current !u			Rated uninterrupted current I_{u} is specified for max. cross-section.
Number of contact units		contact unit(s)	1

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			111/3
Rated impulse withstand voltage	U _{imp}	V AC	6000
Mechanical shock resistance		g	15
Mounting position Contacts			As required
Mechanical variables			
Number of poles			2 pole
Electrical characteristics			
Rated operational voltage	Ue	V AC	690
Rated uninterrupted current	lu	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 _e	2
AB 40 % DF		x l _e	1.6
AB 60 % DF		x l _e	1.3
Short-circuit rating			
Fuse		A gG/gL	
Rated short-time withstand current (1 s current)	l _{cw}	A _{rms}	320
Note on rated short-time withstand current Icw			Current for a time of 1 second
Rated conditional short-circuit current	Ι _q	kA	6
Switching capacity		•	400
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 l _e		W	0.6
Current heat loss per auxiliary circuit at $\rm I_{e}$ (AC-15/230 V)		CO	0.6
Lifespan, mechanical	Operations	x 10 ⁶	> 0.4
Maximum operating frequency	Operations/h		1200
AC			
AC-3			
Rating, motor load switch	Р	kW	
220 V 230 V	Р	kW	3
230 V Star-delta	Р	kW	5.5
400 V 415 V	Р	kW	5.5
400 V Star-delta	Р	kW	7.5
500 V	Р	kW	5.5
500 V Star-delta	Р	kW	7.5
690 V	Р	kW	4
690 V Star-delta	Р	kW	5.5
Rated operational current motor load switch			
230 V	l _e	A	11.5
230 V star-delta	l _e	А	20
400V 415 V	le	А	11.5
400 V star-delta	l _e	A	20
500 V	l _e	А	9
500 V star-delta	l _e	A	15.6
690 V	l _e	A	4.9
690 V star-delta	l _e	A	8.5
AC-23A	6		

Motor rating AC-23A, 50 - 60 Hz	Р	kW	
230 V	Р	kW	3
400 V 415 V	Р	kW	5.5
500 V	Р	kW	7.5
690 V	Р	kW	5.5
Rated operational current motor load switch			
230 V	le	А	13.3
400 V 415 V	l _e	А	13.3
500 V	l _e	A	13.3
690 V	l _e	A	7.6
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	le	A	10
Voltage per contact pair in series		V	60
DC-21A	l _e	A	
Rated operational current	l _e	A	1
Contacts	C	Quantity	
DC-23A, motor load switch L/R = 15 ms		additity	
24 V			
Rated operational current	le	A	10
Contacts	.6	Quantity	
48 V		Quantity	
Rated operational current	le	A	10
	'e		
Contacts 60 V		Quantity	2
Rated operational current		A	10
Contacts	l _e		
120 V		Quantity	3
		A	5
Rated operational current	l _e		
Contacts		Quantity	3
240 V		٨	-
Rated operational current	l _e	A	5
Contacts		Quantity	5
DC-13, Control switches L/R = 50 ms			10
Rated operational current	le	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
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	In	А	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
C/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		No
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	А	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	5.5
Rated short-time withstand current Icw	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		2
Number of auxiliary contacts as normally closed contact		0

Motor drive optional No Motor drive optional No Motor drive integrated No Voltage release optional No Device construction Complete device in housing Suitable for ground mounting Yes Suitable for front mounting 4-hole No Suitable for front mounting centre No Suitable for front mounting centre No Suitable for intermediate mounting No Suitable for intermediate mounting Motor Suitable for intermediate mounting So Suitable for intermediate mounting So Suitable for intermediate mounting So Suitable for intermediate mounting		
Motor drive optional No Motor drive optional No Motor drive integrated No Voltage release optional No Device construction Complete device in housing Suitable for ground mounting Yes Suitable for front mounting 4-hole No Suitable for front mounting centre No Suitable for front mounting centre No Suitable for intermediate mounting No Suitable for intermediate mounting Motor Suitable for intermediate mounting So Suitable for intermediate mounting So Suitable for intermediate mounting So Suitable for intermediate mounting	Number of auxiliary contacts as normally open contact	0
Motor drive integrated No Voltage release optional No Device construction Complete device in housing Suitable for ground mounting Yes Suitable for front mounting centre No Suitable for front mounting centre No Suitable for intermediate mounting Yes Suitable for intermediate mounting No Suitable for intermediate mounting No Suitable for intermediate mounting Yes Colour control element No Type of electrical connection of main circuit Yes Type of electrical connection of main circuit Section Surger of protection (IP), front side Section	Number of auxiliary contacts as change-over contact	0
Voltage release optionalNoDevice constructionComplete device in housingSuitable for ground mountingYesSuitable for front mounting 4-holeNoSuitable for front mounting centreNoSuitable for distribution board installationNoSuitable for intermediate mountingNoColour control elementNoType of control elementNoType of electrical connection of main circuitMoSuitable for intermediate mountingNoSuitable for intermediate mountingSi Si S	Motor drive optional	No
Device constructionComplete device in housingSuitable for ground mountingYesSuitable for front mounting 4-holeNoSuitable for front mounting centreNoSuitable for distribution board installationNoSuitable for intermediate mountingNoSuitable for intermediate mountingNoColour control elementSoleType of control elementSoleType of electrical connection of main circuitSoleSuitable for intermediate mountingSoleSuitable for intermediate m	Motor drive integrated	No
Suitable for ground mounting Fig Suitable for front mounting 4-hole No Suitable for front mounting centre No Suitable for distribution board installation No Suitable for intermediate mounting No Colour control element No Type of control element Sole Type of electrical connection of main circuit Sole Suitable for (IP), front side Sole	Voltage release optional	No
Suitable for front mounting 4-hole No Suitable for front mounting centre No Suitable for distribution board installation No Suitable for intermediate mounting Mo Colour control element No Type of control element Toggle Interlockable No Type of electrical connection of main circuit Mo Degree of protection (IP), front side Mo	Device construction	Complete device in housing
Suitable for front mounting centre No Suitable for distribution board installation No Suitable for intermediate mounting No Colour control element No Type of control element Sold Interlockable No Type of electrical connection of main circuit Sold Degree of protection (IP), front side Sold	Suitable for ground mounting	Yes
Suitable for distribution board installationNoSuitable for intermediate mountingNoColour control elementBlackType of control elementToggleInterlockableNoType of electrical connection of main circuitSerew connectionDegree of protection (IP), front sideImage of the side of the	Suitable for front mounting 4-hole	No
Suitable for intermediate mountingNoSuitable for intermediate mountingNoColour control elementBlackType of control elementToggleInterlockableNoType of electrical connection of main circuitScrew connectionDegree of protection (IP), front sideGood	Suitable for front mounting centre	No
Colour control element Black Type of control element Toggle Interlockable No Type of electrical connection of main circuit Screw connection Degree of protection (IP), front side Image: Control element	Suitable for distribution board installation	No
Type of control element Toggle Interlockable No Type of electrical connection of main circuit Screw connection Degree of protection (IP), front side Image: Control of main circuit	Suitable for intermediate mounting	No
Interlockable No Type of electrical connection of main circuit Screw connection Degree of protection (IP), front side IP65	Colour control element	Black
Type of electrical connection of main circuit Screw connection Degree of protection (IP), front side IP65	Type of control element	Toggle
Degree of protection (IP), front side	Interlockable	No
	Type of electrical connection of main circuit	Screw connection
Degree of protection (NEMA) Other	Degree of protection (IP), front side	IP65
	Degree of protection (NEMA)	Other

Dimensions



