### **DATASHEET - T0-2-15679/IVS**



On-Off switch, 3 pole + 1 N/O, 20 A, 90 °, service distribution board mounting





Similar to illustration

Part no. T0-2-15679/IVS Catalog No. 036506

EL-Nummer (Norway) 0001417036

Delivery program			
Product range			On-Off switch
Part group reference			ТО
			with black thumb grip and front plate
Number of poles			3 pole
Auxiliary contacts			
1		N/0	1
<b>7</b>		N/C	0
Degree of Protection			Front IP30
Design			service distribution board 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			15679
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	I <sub>u</sub>	Α	20
Note on rated uninterrupted current !u			Rated uninterrupted current $I_{\rm u}$ is specified for max. cross-section.
Number of contact units		contact unit(s)	

#### Technical data General

delicital	
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		°C	-25 - +50
Enclosed		°C	-25 - +40
Overvoltage category/pollution degree			III/3
Rated impulse withstand voltage	U <sub>imp</sub>	V AC	6000
Mechanical shock resistance		g	15
Mounting position			As required
Contacts			
Mechanical variables			
Number of poles			3 pole
Auxiliary contacts			
		N/0	1
		N/C	0
Electrical characteristics			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	l <sub>u</sub>	Α	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 I <sub>e</sub>	1.3
Short-circuit rating		e	
Fuse		A gG/gL	20
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	'CW	rms	Current for a time of 1 second
Rated conditional short-circuit current		kA	6
Switching capacity	Iq	NA.	
cos φ rated making capacity as per IEC 60947-3		Α	130
Rated breaking capacity cos $\phi$ 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 <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			
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			
		Α	11.5
230 V	I <sub>e</sub>	^`	
230 V 230 V star-delta	I <sub>e</sub>	Α	20

Sign V servicins				
1900   standation	400 V star-delta	l <sub>e</sub>	Α	20
Control of the cont	500 V	l <sub>e</sub>	Α	9
Mac	500 V star-delta	I <sub>e</sub>	Α	15.6
AC-21A	690 V	I <sub>e</sub>	Α	4.9
Pasted operational current synths	690 V star-delta	I <sub>e</sub>	Α	8.5
Mail	AC-21A			
Multiple rating AC-23A, 50 - 80 Hz	Rated operational current switch			
Mateur rating AC-23A So - 180 Nr	440 V	I <sub>e</sub>	Α	20
	AC-23A			
	Motor rating AC-23A, 50 - 60 Hz	P	kW	
SOUV	230 V	P	kW	3
### Rated operational current motor load switch 228V	400 V 415 V	Р	kW	5.5
Rated operational current motor load switch	500 V	Р	kW	7.5
1	690 V	P	kW	5.5
400 V 415 V   10	Rated operational current motor load switch			
	230 V	l <sub>e</sub>	Α	13.3
BC	400 V 415 V	l <sub>e</sub>	Α	13.3
Post	500 V	l <sub>e</sub>	Α	13.3
DC	690 V	I <sub>e</sub>	A	7.6
DC-1, Load-broak switches LR = 1 ms   Fasted operational current   Faste	DC			
Rated operational current         I <sub>e</sub> A         10           Voltage per contact pair in series         I <sub>e</sub> A         10           DC-21A         I <sub>e</sub> A         1           Rated operational current         I <sub>e</sub> A         1           Contacts         Quantity         1           Bot 23A, motor load switch L/R = 15 ms         A         10           24 V         Quantity         1           Contacts         Quantity         1           Contacts         Quantity         2           Rated operational current         I <sub>e</sub> A         10           Contacts         Quantity         2           Bot Q         Quantity         2           Rated operational current         I <sub>e</sub> A         10           Rated operational current         I <sub>e</sub> A         10           Contacts         Quantity         2           Rated operational current         I <sub>e</sub> A         10           Rated operational current         I <sub>e</sub> A         5           Rated operational current         I <sub>e</sub> A         10           Contacts         I <sub>e</sub> A         10				
Vottage per contact pair in series         V         0C-21A         Is         A           Bated operational current         Is         A         1           Contacts         Ouarthy         1           DC-23A, motor load switch L/R = 15 ms         V         V           24 V         Rated operational current         Is         A         10           Contacts         Quantity         1         1           B Rated operational current         Is         A         10           Contacts         Quantity         2         1           B Rated operational current         Is         A         10           Contacts         Quantity         2         1           Contacts         Quantity         3         1           Contacts         Quantity         3         1           Contacts         Quantity         2         1           Contacts         Quantity         3         1           Contacts         Quantity         3         1           Contacts         Quantity         4         1           DC-13, Control switch L/R = 50 ms         Y         3         1           Rated operational current         Y		I <sub>e</sub>	Α	10
DC-21A   Rated operational current   La   A   Duantity     DC-23A, motor load switch L/R = 15 ms			V	60
Rated operational current		l <sub>o</sub>	A	
Contacts         Quantity         Image: Contact of the probability	Rated operational current		Α	1
DC-23A, motor load switch L/R = 15 ms		C		
Rated operational current			Zuumary	
Rated operational current Is also and a control contacts  As V  Rated operational current Is also and a control current Is als				
Contacts		l <sub>e</sub>	A	10
Rated operational current   Ie	·	Ü		
Rated operational current Contacts  60 V  Rated operational current le A 10  Contacts  Contacts  120 V  Rated operational current le Contacts  Contacts  Contacts  Le A 5  Cuantity 3  240 V  Rated operational current le Contacts  Contact			,	
Contacts  60 V  Rated operational current Contacts  120 V  Rated operational current  Ie A 5  Contacts  Quantity  Rated operational current Ie A 5  Contacts  Quantity  Rated operational current Ie A 5  Contacts  Quantity  Rated operational current Ie A 5  Contacts  Quantity  Fated operational current Ie A 5  Contacts  Quantity  5  Contacts  Contacts  DC-13, Control switches L/R = 50 ms Rated operational current Ie A 10  Voltage per contact pair in series V 32  Control circuit reliability at 24 V DC, 10 mA  Fault probability  Frominal capacities  Solid or stranded  mm² 1×(1-2.5) 2×(1-2.5) 2×(1-2.5) 2×(1-2.5) 2×(0.75-2.5) 2×(0.75-2.5) 2×(0.75-2.5) 2×(0.75-2.5) 3.5  Terminal screw  M3.5		اه	Α	10
Rated operational current  Rated operational current  Contacts  120 V  Rated operational current  Part of the state o		Ü		
Rated operational current				
Contacts  Rated operational current  Contacts  Contacts  Rated operational current  Contacts  Contacts  DC-13, Control switches L/R = 50 ms Rated operational current  Voltage per contact pair in series  Voltage per contact pair in series  Voltage per contact pair in series  Control circuit reliability at 24 V DC, 10 mA  Fault probability  Fault probability  mm²  1 x (1 - 2,5) 2 x (1 - 2,5) 2 x (0.75 - 2.5) 2 x (0.75 - 2.5) 2 x (0.75 - 2.5)  Terminal screw  M3.5		l <sub>o</sub>	A	10
Rated operational current  Contacts Quantity Rated operational current  Rated operational current  Rated operational current  Rated operational current  Contacts  DC-13, Control switches L/R = 50 ms  Rated operational current  Voltage per contact pair in series  Voltage per contact pair in series  Voltage per contact pair in series  Control circuit reliability at 24 V DC, 10 mA  Fault probability  Fault probability  Terminal capacities  Solid or stranded  Mm2 1 x (1 - 2,5) 2 x (1 - 2,5) 2 x (1 - 2,5) 2 x (0.75 - 2.5) 2 x (0.75		Ü		
Rated operational current  Contacts Quantity  Rated operational current  Ie Quantity  Total capacities  Solid or stranded  Rated operational current  Ie A  S  Quantity  A  S  Quantity  S  A  S  Quantity  S  A  S  Quantity  S  A  DC-13, Control switches L/R = 50 ms  Rated operational current  Ie A  Ie A  I0  32  Control circuit reliability at 24 V DC, 10 mA  Fault probability  Fault - 2,5) 2 x (1 - 2,5) 2 x (1 - 2,5) 2 x (0.75 - 2.5) 2 x (0.75 - 2.5) 2 x (0.75 - 2.5)  Reminal screw  M3.5				
Contacts Quantity 240 V  Rated operational current Ie A 5  Contacts Contacts DC-13, Control switches L/R = 50 ms Rated operational current Ie A 10  Voltage per contact pair in series V 32  Control circuit reliability at 24 V DC, 10 mA Fault probability Ferminal capacities  Solid or stranded  mm² 1x (1 - 2,5) 2x (1 - 2,5) 2x (1 - 2,5) 2x (0.75 - 2.5) 2x (0.75 - 2.5)  Terminal screw  M3.5		l <sub>e</sub>	A	5
240 V Rated operational current  Rated operational current  Contacts  DC-13, Control switches L/R = 50 ms  Rated operational current  Rated operational current  Voltage per contact pair in series  Control circuit reliability at 24 V DC, 10 mA  Fault probability  Fault probability  Fault synday  Terminal capacities  Solid or stranded  Fault synday  Terminal capacities  Flexible with ferrules to DIN 46228  Terminal screw  Ma.5		v		
Rated operational current  Contacts  DC-13, Control switches L/R = 50 ms  Rated operational current  Voltage per contact pair in series  Control circuit reliability at 24 V DC, 10 mA  Fault probability  Feminal capacities  Solid or stranded  Flexible with ferrules to DIN 46228  Terminal screw  I e  A  10  21  21  32  21  41  51  41  41  51  41  51  41  51  41  51  41  51  41  51  5				
Contacts  DC-13, Control switches L/R = 50 ms  Rated operational current  Voltage per contact pair in series  Voltage per contact pair in series  Voltage per contact pair in series  Fault probability  Terminal capacities  Solid or stranded  mm² 1x (1 - 2,5) 2x (1 - 2,5)		l <sub>e</sub>	A	5
DC-13, Control switches L/R = 50 ms  Rated operational current  Voltage per contact pair in series  Control circuit reliability at 24 V DC, 10 mA  Fault probability  Terminal capacities  Solid or stranded  Flault probability  mm²  1 × (1 - 2,5) 2 × (1 - 2,5) 2 × (1 - 2,5) 2 × (0.75 - 2.5) 2 × (0.75 - 2.5)  Terminal screw  M3.5		·		
Rated operational current  Voltage per contact pair in series  Voltage per contact pair in series  Control circuit reliability at 24 V DC, 10 mA  Fault probability  Fault probability  Fault probability  Terminal capacities  Solid or stranded  mm² 1 x (1 - 2,5) 2 x (1 - 2,5) 2 x (1 - 2,5) 2 x (0.75 - 2.5) 2 x (0.75 - 2.5)  Terminal screw  M3.5				
Voltage per contact pair in series  Control circuit reliability at 24 V DC, 10 mA  Fault probability  HF < 10 -5, < 1 fault in 100000 operations  Terminal capacities  Solid or stranded  mm² 1 x (1 - 2,5) 2 x (1 - 2,5) 2 x (1 - 2,5) 1 x (0.75 - 2.5) 2 x (0.75 - 2.5) 2 x (0.75 - 2.5)  Terminal screw  M3.5		l <sub>e</sub>	A	10
Control circuit reliability at 24 V DC, 10 mA  Fault probability  Here < 10 -5, < 1 fault in 100000 operations  Terminal capacities  Solid or stranded  mm² 1 x (1 - 2,5) 2 x (1 - 2,5) 2 x (1 - 2,5) 2 x (0.75 - 2.5) 2 x (0.75 - 2.5)  Terminal screw  M3.5		Ü		
Terminal capacities   Solid or stranded   mm²   1 x (1 - 2,5)   2 x (1 - 2,5)     2 x (0.75 - 2.5)     2 x (0.75 - 2.5)		Fault		
Solid or stranded       mm²       1 x (1 - 2,5) 2 x (1 - 2,5)         Flexible with ferrules to DIN 46228       mm²       1 x (0.75 - 2.5) 2 x (0.75 - 2.5)         Terminal screw       M3.5				< 10 ,< 1 Tault III TUUUUU Operations
2 x (1 - 2,5)				4 (4 07)
Flexible with ferrules to DIN 46228 $mm^2 = \frac{1 \times (0.75 - 2.5)}{2 \times (0.75 - 2.5)}$ Terminal screw $M3.5$	Solid or stranded		mm <sup>2</sup>	1 x (1 - 2,5) 2 x (1 - 2,5)
2 x (0.75 - 2.5)  Terminal screw M3.5	Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x (0.75 - 2.5)
				2 x (0.75 - 2.5)
Tightening torque for terminal screw Nm 1	Tightening torque for terminal screw		Nm	1

#### **Technical safety parameters:**

Technical safety parameters:			
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	16
Auxiliary contacts			
General Use	I <sub>U</sub>	Α	10
Pilot Duty			A 600 P 600
Switching capacity			
Maximum motor rating			
Single-phase			
120 V AC		HP	0.5
200 V AC		HP	1
240 V AC		HP	1.5
Three-phase			
200 V AC		HP	3
240 V AC		HP	3
480 V AC		HP	7.5
600 V AC		HP	7.5
Short Circuit Current Rating		SCCR	
Basic Rating		kA	5
max. Fuse		Α	50
High fault rating		kA	10
max. Fuse		Α	20, Class J
Terminal capacity			
Solid or flexible conductor with ferrule		AWG	18 - 14
Terminal screw			M3.5
Tightening torque		lb-in	8.8

## Design verification as per IEC/EN 61439

besign vermeation as per illo/ liv or 103			
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	$P_{vs}$	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			Meets the product standard's requirements.
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**

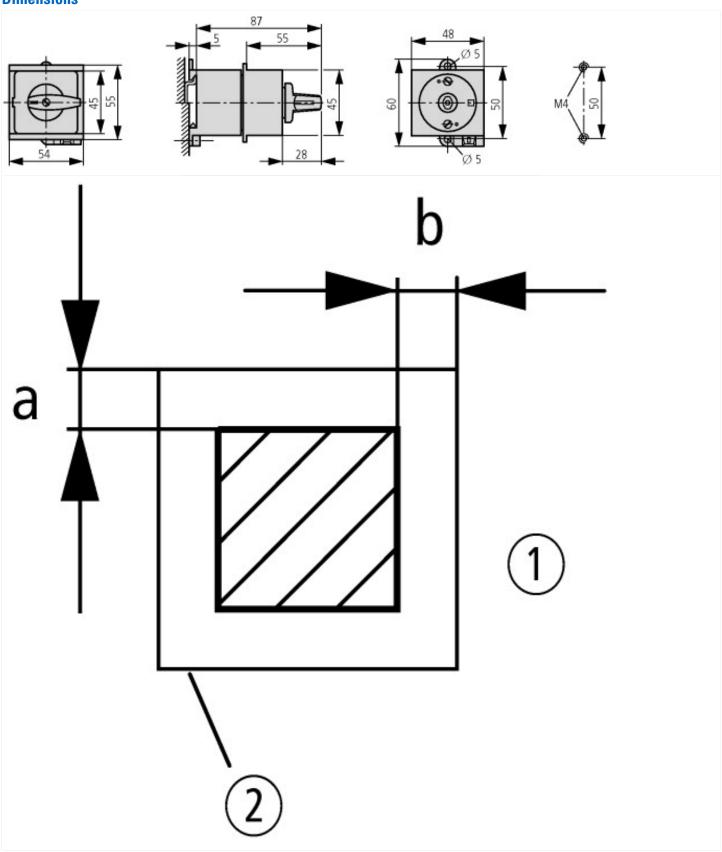
Low-voltage industrial components (EG000017) / Switch disconnector (EC000216)

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])

Degree of protection (NEMA)		Other
Degree of protection (IP), front side		IP30
Type of electrical connection of main circuit		Screw connection
Interlockable		No
Type of control element		Toggle
Colour control element		Black
Suitable for intermediate mounting		No
Suitable for distribution board installation		Yes
Suitable for front mounting centre		No
Suitable for front mounting 4-hole		No
Suitable for ground mounting		Yes
Device construction		Built-in device fixed built-in technique
Voltage release optional		No
Motor drive integrated		No
Motor drive optional		No
Number of auxiliary contacts as change-over contact		0
Number of auxiliary contacts as normally open contact		1
Number of auxiliary contacts as normally closed contact		0
Number of poles		3
Conditioned rated short-circuit current Iq	kA	6
Switching power at 400 V	kW	5.5
Rated operation power at AC-23, 400 V	kW	5.5
Rated short-time withstand current lcw	kA	0.32
Rated operation power at AC-3, 400 V	kW	5.5
Rated permanent current at AC-21, 400 V	A	20
Rated permanent current at AC-23, 400 V	A	13.3
Rated permanent current lu	A	20
Rated operating voltage	V	690 - 690
Max. rated operation voltage Ue AC	V	690
Number of switches		1
Version as reversing switch		No
Version as emergency stop installation		No
Version as safety switch		No
Version as maintenance-/service switch		No
Version as main switch		No

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
Suitable for	Branch circuits, suitable as motor disconnect
Degree of Protection	IEC: IP30; UL/CSA Type: –

# **Dimensions**



① Mounting clearances a and b: 4 mm ② exposed conductive part (metal)

## Assets (links)

**Declaration of CE Conformity** 

00003075

**Instruction Leaflets** 

IL03801006Z2018\_04