

## On-Off switch, P1, 32 A, service distribution board mounting, 3 pole, with black thumb grip and front plate



Part no. **P1-32/IVS**  
Catalog No. **093303**

EL-Nummer **1456112**  
(Norway)

## Delivery program

Product range	On-Off switch		
Part group reference	P1		
Information about equipment supplied	with black thumb grip and front plate		
Number of poles	Auxiliary contact or neutral conductor fitted by user.		
<b>Auxiliary contacts</b>			
	N/O	0	
	N/C	0	
Degree of Protection	Front IP30		
Design	service distribution board mounting		
<b>Motor rating AC-23A, 50 - 60 Hz</b>			
400 V	P	kW	15
Rated uninterrupted current	I <sub>u</sub>	A	32
Note on rated uninterrupted current I <sub>u</sub>	Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section.		

## Technical data

<b>General</b>			
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

<b>Mechanical variables</b>			
Number of poles	3 pole		
Auxiliary contacts			
	N/O	0	
	N/C	0	
<b>Electrical characteristics</b>			
Rated operational voltage	U <sub>e</sub>	V AC	690
Rated uninterrupted current	I <sub>u</sub>	A	32
Note on rated uninterrupted current I <sub>u</sub>	Rated uninterrupted current I <sub>u</sub> is specified for max. cross-section.		
Load rating with intermittent operation, class 12			
AB 25 % DF	x I <sub>e</sub>	2	
AB 40 % DF	x I <sub>e</sub>	1.6	
AB 60 % DF	x I <sub>e</sub>	1.3	
<b>Short-circuit rating</b>			

Fuse		A gG/gL	50
Rated short-time withstand current (1 s current)	$I_{cw}$	$A_{rms}$	640
Note on rated short-time withstand current $I_{cw}$			Current for a time of 1 second
Rated conditional short-circuit current	$I_q$	kA	80
<b>Switching capacity</b>			
cos $\phi$ rated making capacity as per IEC 60947-3		A	320
Rated breaking capacity cos $\phi$ to IEC 60947-3		A	
230 V		A	260
400/415 V		A	300
500 V		A	290
690 V		A	250
Safe isolation to EN 61140			
between the contacts		V AC	440
Current heat loss per contact at $I_e$		W	1.8
Lifespan, mechanical	Operations	$\times 10^6$	> 0.3
Maximum operating frequency		Operations/h	1200
AC			
AC-3			
Rating, motor load switch	P	kW	
220 V 230 V	P	kW	7.5
400 V 415 V	P	kW	13
500 V	P	kW	18.5
690 V	P	kW	15
Rated operational current motor load switch			
230 V	$I_e$	A	26.4
400V 415 V	$I_e$	A	26.4
500 V	$I_e$	A	23.4
690 V	$I_e$	A	14.7
AC-23A			
Motor rating AC-23A, 50 - 60 Hz	P	kW	
230 V	P	kW	7.5
400 V 415 V	P	kW	15
500 V	P	kW	18.5
690 V	P	kW	15
Rated operational current motor load switch			
230 V	$I_e$	A	32
400 V 415 V	$I_e$	A	32
500 V	$I_e$	A	30
690 V	$I_e$	A	19.8
DC			
DC-1, Load-break switches L/R = 1 ms			
Rated operational current	$I_e$	A	32
Voltage per contact pair in series		V	60
DC-23A, motor load switch L/R = 15 ms			
24 V			
Rated operational current	$I_e$	A	25
Contacts		Quantity	1
48 V			
Rated operational current	$I_e$	A	25
Contacts		Quantity	2
60 V			
Rated operational current	$I_e$	A	25
Contacts		Quantity	2
120 V			

Rated operational current	$I_e$	A	12
Contacts		Quantity	3
Control circuit reliability at 24 V DC, 10 mA	Fault probability	$H_F$	$< 10^{-5}$ , < 1 failure in 100,000 switching operations
<b>Terminal capacities</b>			
Solid or stranded		mm <sup>2</sup>	1 x (1,5 - 6) 2 x (1,5 - 6)
Flexible with ferrules to DIN 46228		mm <sup>2</sup>	1 x (1 - 4) 2 x (1 - 4)
Terminal screw			M4
Tightening torque for terminal screw		Nm	1.6

#### Technical safety parameters:

Notes		B10 <sub>d</sub> values as per EN ISO 13849-1, table C1
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#### Rating data for approved types

Contacts			
Rated operational voltage	$U_e$	V AC	600
Rated uninterrupted current max.			
Main conducting paths			
General use		A	30
Auxiliary contacts			
General Use	$I_U$	A	10
Pilot Duty			A 600 P 600
Switching capacity			
Maximum motor rating			
Single-phase			
120 V AC		HP	1
200 V AC		HP	2
240 V AC		HP	3
Three-phase			
200 V AC		HP	3
240 V AC		HP	7.5
480 V AC		HP	10
600 V AC		HP	15
Short Circuit Current Rating		SCCR	
Basic Rating		kA	5
max. Fuse		A	110
High fault rating		kA	10
max. Fuse		A	50, Class J
Terminal capacity			
Solid or flexible conductor with ferrule		AWG	14 - 8
Terminal screw			M4
Tightening torque		lb-in	14.1

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

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	32
Heat dissipation per pole, current-dependent	$P_{vid}$	W	1.8
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	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 8.0

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 Iu	A 32
Rated permanent current at AC-23, 400 V	A 32
Rated permanent current at AC-21, 400 V	A 32
Rated operation power at AC-3, 400 V	kW 13
Rated short-time withstand current Icw	kA 0.64
Rated operation power at AC-23, 400 V	kW 15
Switching power at 400 V	kW 15
Conditioned rated short-circuit current Iq	kA 80
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 floor mounting	No
Suitable for front mounting 4-hole	No
Suitable for front mounting centre	No
Suitable for distribution board installation	Yes

Suitable for intermediate mounting		No
Colour control element		Black
Type of control element		Short thumb-grip
Interlockable		No
Type of electrical connection of main circuit		Screw connection
Degree of protection (IP), front side		IP30
Degree of protection (NEMA)		Other