

Switch-disconnector 3p 400A BG3



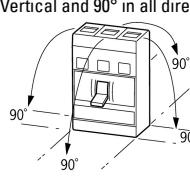
Powering Business Worldwide™

Part no.	N3-400
Catalog No.	266019
EL-Nummer (Norway)	4358918

Delivery program

Product range		Switch-disconnectors	
Protective function		Disconnectors/main switches	
Standard/Approval		IEC	
Installation type		Fixed	
Construction size		N3	
Description		Main switch characteristics including positive drive to IEC/EN 60204 and VDE 0113. Isolating characteristics to IEC/EN 60947-3 and VDE 0660. Busbar tag shroud to VDE 0160 Part 100.	
Number of poles		3 pole	
Standard equipment		Screw connection	
Switch positions		I, +, 0	
Rated current = rated uninterrupted current	I _n = I _u	A	400
Short-circuit protection max. fuse gL-characteristic		A gL	630

Technical data

General		
Standards		IEC/EN 60947
Protection against direct contact		Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110
Climatic proofing		Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Ambient temperature		
Ambient temperature, storage	°C	- 40 - + 70
Operation	°C	- 25 - + 70
Mechanical shock resistance (10 ms half-sinusoidal shock) according to IEC 60068-2-27	g	20 (half-sinusoidal shock 20 ms)
Safe isolation to EN 61140		
Between auxiliary contacts and main contacts	V AC	500
between the auxiliary contacts	V AC	300
Mounting position		
Mounting position		Vertical and 90° in all directions  With residual-current release XFI: - NZM1, N1, NZM2, N2: vertical and 90° in all directions with plug-in adapter elements - NZM1, N1, NZM2, N2: vertical, 90° right/left with withdrawable unit: - NZM3, N3: vertical, 90° left - NZM4, N4: vertical with remote operator: - NZM2, N(S)2, NZM3, N(S)3, NZM4, N(S)4: vertical and 90° in all directions
Direction of incoming supply		as required
Degree of protection		
Device		In the area of the HMI devices: IP20 (basic protection type)
Enclosures		With insulating surround: IP40 With door coupling rotary handle: IP66
Terminations		Tunnel terminal: IP10 Phase isolator and band terminal: IP00

Switch-disconnectors

Rated surge voltage invariability	U _{imp}	
Main contacts	V	8000
Auxiliary contacts	V	6000

Rated operational voltage	U _e	V AC	690
Rated operating frequency	f	Hz	50/60
Rated current = rated uninterrupted current	I _n = I _u	A	400
Overshoot category/pollution degree			III/3
Rated insulation voltage	U _i	V	1000
Use in unearthed supply systems		V	≤ 690
Other technical data (sheet catalogue)			Weight Temperature dependency, Derating Effective power loss

Rated short-circuit making capacity

690 V 50/60 Hz	I _c	kA	25
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Rated short-time withstand current

t = 0.3 s	I _{cw}	kA	12
t = 1 s	I _{cw}	kA	12

Rated conditional short-circuit current

With back-up fuse	A gG/gL	PN3(N3)-400...630: 630
400 ... 415 V	kA	100
690 V	kA	80
With downstream fuse	A gG/gL	PN3(N3)-400...630: 630
400 ... 415 V	kA	100
690 V	kA	80

Rated making and breaking capacity

Rated operational current	I _e	A	
AC-22/23A			
415 V	I _e	A	400
690 V	I _e	A	400
Lifespan, mechanical	Operations		15000
Max. operating frequency		Ops/h	60

Lifespan, electrical

AC-1			
400 V 50/60 Hz	Operations		5000
415 V 50/60 Hz	Operations		5000
690 V 50/60 Hz	Operations		3000
AC-3			
400 V 50/60 Hz	Operations		3000
415 V 50/60 Hz	Operations		3000
690 V 50/60 Hz	Operations		2000

Terminal capacity

Standard equipment			Screw connection
Optional accessories			Box terminal Tunnel terminal connection on rear
Copper conductors and cables			
Box terminal			
Solid	mm ²	2 x 16	
Stranded	mm ²	1 x (35 - 240) 2 x (25 - 120)	
Tunnel terminal			
Stranded			
1-hole	mm ²	1 x (25 - 185)	
Double hole	mm ²	1 x (50 - 240) 2 x (50 - 240)	
Bolt terminal and rear-side connection			
Direct on the switch			
Solid	mm ²	1 x 16 2 x 16	
Stranded	mm ²	1 x (25 - 120) 2 x (25 - 120)	
Connection width extension	mm ²		

Connection width extension		mm ²	2 x 300
Al conductors, Al cable			
Tunnel terminal			
Solid		mm ²	1 x 16
Stranded			
1-hole		mm ²	1 x (25 - 185) ²⁾
			²⁾ Je nach Kabelhersteller bis zu 240 mm ² anschließbar.
Double hole		mm ²	1 x (50 - 240) 2 x (50 - 240)
Bolt terminal and rear-side connection			
Direct on the switch			
Solid		mm ²	1 x 16 2 x (10 - 16)
Stranded		mm ²	1 x (25 - 120) 2 x (25 - 120)
Cu strip (number of segments x width x segment thickness)			
Box terminal		min.	6 x 16 x 0.8
		max.	10 x 24 x 1.0 + 5 x 24 x 1.0 (2 x) 8 x 24 x 1.0
Bolt terminal and rear-side connection			
Flat copper strip, with holes		min.	6 x 16 x 0.8
Flat copper strip, with holes		max.	10 x 32 x 1.0 + 5 x 32 x 1.0
Connection width extension		mm	(2 x) 10 x 50 x 1.0
Copper busbar (width x thickness)		mm	
Bolt terminal and rear-side connection			
Screw connection			M10
Direct on the switch		min.	20 x 5
Connection width extension		mm	
Connection width extension		max.	2 x (10 x 50)

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I _h	A	400
Equipment heat dissipation, current-dependent	P _{vid}	W	43.2
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
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		Yes
Version as maintenance-/service switch		Yes
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 Iu	A	
Rated permanent current at AC-23, 400 V	A	0
Rated permanent current at AC-21, 400 V	A	0
Rated operation power at AC-3, 400 V	kW	0
Rated short-time withstand current Icw	kA	12
Rated operation power at AC-23, 400 V	kW	200
Switching power at 400 V	kW	0
Conditioned rated short-circuit current Iq	kA	0
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		Yes
Motor drive integrated		No
Voltage release optional		Yes
Device construction		Built-in device fixed built-in technique
Suitable for floor mounting		Yes
Suitable for front mounting 4-hole		No
Suitable for front mounting centre		No
Suitable for distribution board installation		Yes
Suitable for intermediate mounting		Yes
Colour control element		Black
Type of control element		Rocker lever
Interlockable		Yes
Type of electrical connection of main circuit		Screw connection
Degree of protection (IP), front side		IP20
Degree of protection (NEMA)		