

Switch-disconnector 3p 1600A BG4

Part no. N4-1600
Article no. 266028

Powering Business Worldwide

Similar to illustration

Delivery programme

Product range			Switch-disconnectors
Protective function			Disconnectors/main switches
Standard/Approval			IEC
Installation type			Fixed
Construction size			N4
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	1600
Short-circuit protection max. fuse gL-characteristic		A gL	1600

Technical data

Switch-disconnectors

Rated surge voltage invariability	U_{imp}		
Main contacts		V	8000
Auxiliary contacts		V	6000
Rated operational voltage	Ue	V AC	690
Rated current = rated uninterrupted current	$I_n = I_u$	A	1600
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V	1000
Use in unearthed supply systems		V	525
			Rated operating voltage: 40-60 Hz
Other technical data (sheet catalogue)			Weight Temperature dependency, Derating Effective power loss

Rated short-circuit making capacity

690 V 50/60 H	Ic	kA	53

Rated short-time withstand current

t = 0.3 s	I_{cw}	kA	25
t = 1 s	I_{cw}	kA	25

Rated conditional short-circuit current

With back-up fuse		A gG/gL	N4-630…1600: 2 x 800
400 … 415 V		kA	100
690 V		kA	80
With downstream fuse		A gG/gL	N4-630…1600: 2 x 800
400 … 415 V		kA	100
690 V		kA	80

Rated making and breaking capacity

Rated operational current	I_e	A	
415 V	I_e	A	1600
690 V	I_e	A	1600
415 V	I_e	A	1600

690 V	I_e	A	1600
Lifespan, mechanical	Operations		10000
Max. operating frequency		Ops/h	60

Lifespan, electrical

400 V 50/60 Hz	Operations		3000
415 V 50/60 Hz	Operations		3000
690 V 50/60 Hz	Operations		2000
400 V 50/60 Hz	Operations		2000
415 V 50/60 Hz	Operations		2000
690 V 50/60 Hz	Operations		1000
			For current heat loss per pole the specification refers to the maximum rated operational current of the frame size.
Current heat losses per pole at I_u are based on the maximum rated operational current of the frame size.		W	97
			For current heat loss per pole the specification refers to the maximum rated operational current of the frame size.
Total downtime in a short-circuit		ms	< 10

Terminal capacity

Standard equipment			Screw connection
Overview			Basic equipment Box terminal ● - - - Screw connection - ● ● ● Accessories Box terminal - ● ● - Screw connection ● - - ● Tunnel terminal ● ● ● ● Connection on rear ● ● ● ● Flat conductor terminal - - - ●
Round copper conductor			
Tunnel terminal			
Stranded		mm^2	
4-hole		mm^2	4 x (50 - 240)
Bolt terminal and rear-side connection			
Direct on the switch			
Stranded		mm^2	1 x (120 … 185) 4 x (50 … 185)
Module plate			
Single hole	min.	mm^2	1 x (120 - 300)
Single hole	max.	mm^2	2 x (95 - 300)
Module plate			
Double hole	min.	mm^2	2 x (95 - 185)
Double hole	max.	mm^2	4 x (35 - 185)
Connection width extension		mm^2	
Connection width extension		mm^2	4 x 300 6 x (95 - 240)
Al conductors, Cu cable			
Stranded		mm^2	
4-hole		mm^2	4 x (50 - 240)
Bolt terminal and rear-side connection			
Flat copper strip, with holes	min.	mm	(2 x) 10 x 50 x 1.0
Flat copper strip, with holes	max.	mm	(2 x) 10 x 50 x 1.0
Connection width extension		mm^2	(2 x) 10 x 80 x 1.0

Cu strip (number of segments x width x segment thickness)			
Flat conductor terminal			
	min.	mm	6 x 16 x 0.8
	max.	mm	(2 x) 10 x 32 x 1.0
Module plate			
Single hole		mm^2	(2 x) 10 x 50 x 1.0
Bolt terminal and rear-side connection			
Flat copper strip, with holes	min.	mm	(2 x) 10 x 50 x 1.0
Flat copper strip, with holes	max.	mm	(2 x) 10 x 50 x 1.0
Connection width extension		mm^2	(2 x) 10 x 80 x 1.0
Copper busbar (width x thickness)	mm		
Bolt terminal and rear-side connection			
Screw connection			M10
Direct on the switch			
	min.	mm^2	25 x 5
	max.	mm^2	2 x (50 x 10) 2 x (80 x 10)
Module plate			
Single hole	min.	mm^2	25 x 5
Single hole	max.	mm^2	2 x (50 x 10)
Module plate			
Double hole		mm^2	2 x (50 x 10)
Connection width extension		mm^2	
Connection width extension	min.	mm^2	60 x 10
Connection width extension	max.	mm^2	2 x (80 x 10)
Control cables			
		mm^2	1 x (0.75 - 2.5) 2 x (0.75 - 1.5)

Data for design verification according to IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	1600
Equipment heat dissipation, current-dependent	P_{vid}	W	284.16
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.

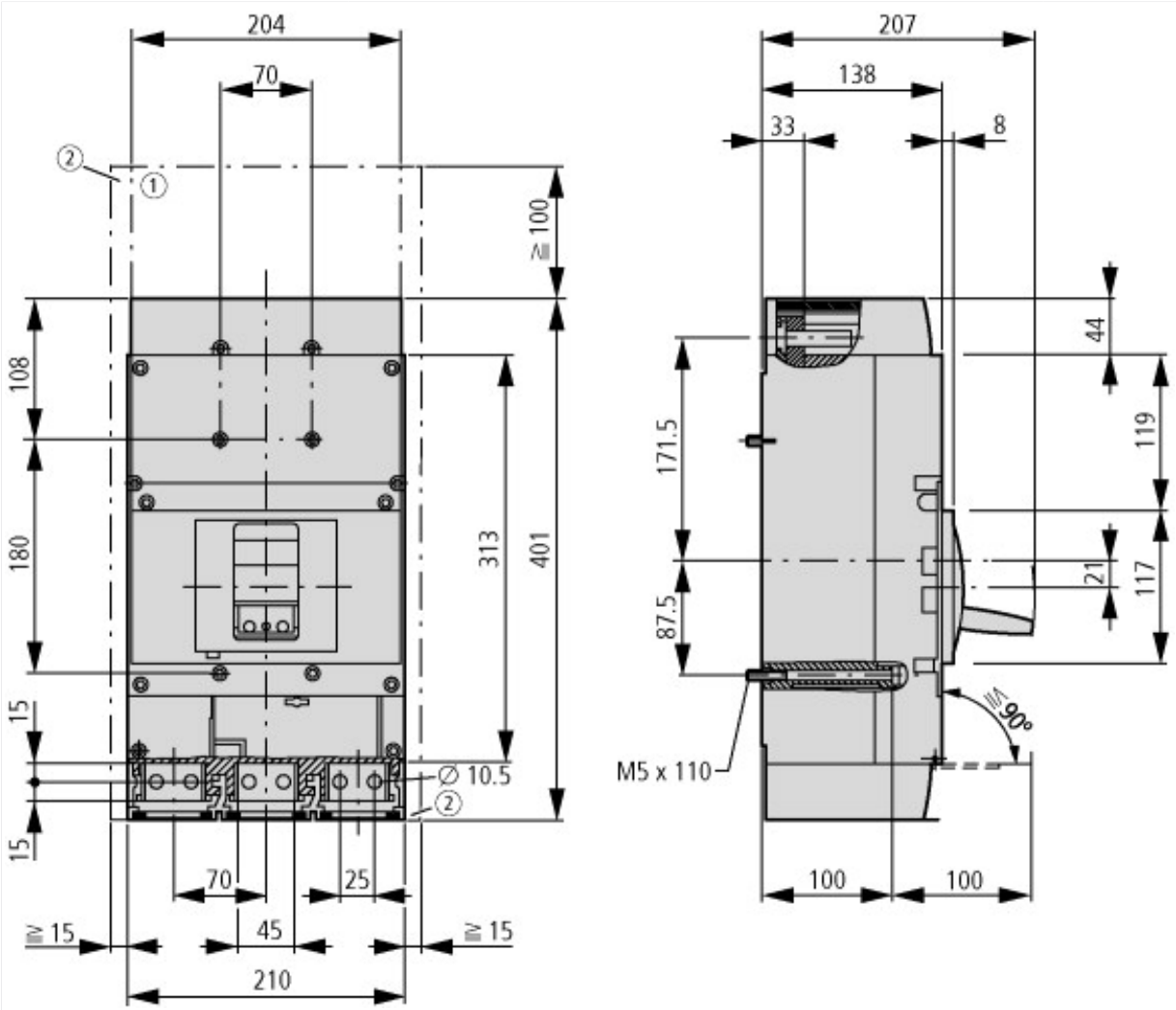
Technical data ETIM 5.0

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@ss8-27-37-14-03 [AKF060009])

Version as switch disconnector compact			Yes
Version as main switch			Yes
Version as maintenance-/service switch			Yes
Version as safety switch			No
Version as emergency stop installation			Yes
Max. rated operation voltage Ue AC		V	690
Rated permanent current Iu		A	1600
Rated operation power AC-3, 400 V		kW	800
Rated operation power at AC-23, 400 V		kW	800
Conditioned rated short-circuit current Iq		kA	100
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 ground mounting			Yes
Suitable for front mounting			No
Suitable for front mounting center			No
Suitable for distribution board installation			Yes
Suitable for intermediate mounting			Yes
Type of control element			Rocker lever
Interlockable			Yes
Connection type main current circuit			Bolt connection
Degree of protection (IP), front side			IP20

Dimensions



① Blow out area, minimum clearance to adjacent parts
Ui ≤ 690 V: 100 mm
Ui ≤ 1500 V: 200 mm

② Minimum clearance to adjacent parts
Ui ≤ 1000 V: 15 mm
Ui ≤ 1500 V: 70 mm

Additional product information (links)

IL01210010Z (AWA1230-2022) Circuit-Breaker, basic unit

IL01210010Z (AWA1230-2022) Circuit-Breaker, basic unit	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01210010Z2014_07.pdf
Weight	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.171
Temperature dependency, Derating	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.172
Effective power loss	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.174

© 12/2014 by Eaton Industries GmbH