



Switch-disconnector 4p 1600A BG4

Part no. N4-4-1600
Article no. 266032

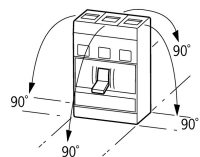
Similar to illustration

Delivery program

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			4 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

General

Standards			IEC/EN 60947
Protection against direct contact			Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 263
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	15 (half-sinusoidal shock 11 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			<p>Vertical and 90° in all directions</p>  <p>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</p>
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}		
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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	1600
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U _i	V	1000
Use in unearthed supply systems		V	\leq 525
Other technical data (sheet catalogue)			Weight Temperature dependency, Derating Effective power loss
Rated short-circuit making capacity			
690 V 50/60 H	I _c	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
Terminal capacity			
Standard equipment			Screw connection
Optional accessories			Tunnel terminal connection on rear Strip terminal
Copper conductors and cables			
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 (185 - 240)
Single hole	max.	mm ²	2 x (70 - 185)
Module plate			
Double hole	min.	mm ²	4 x 50

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, Al cable			
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 (185 - 240)
Single hole	max.	mm ²	2 x (70 - 185)
Module plate			
Double hole	min.	mm ²	4 x 50
Double hole	max.	mm ²	4 x (35 - 185)
Connection width extension		mm ²	
Connection width extension		mm ²	2 x 240 6 x (70 - 240)
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 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 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	25 x 5
	max.	mm	2 x (50 x 10)
Module plate			
Single hole	min.	mm	25 x 5
Single hole	max.	mm	2 x (50 x 10)
Module plate			
Double hole		mm	2 x (50 x 10)
Connection width extension		mm	
Connection width extension	min.	mm	60 x 10
Connection width extension	max.	mm	2 x (80 x 10)

Design verification as per 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
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.

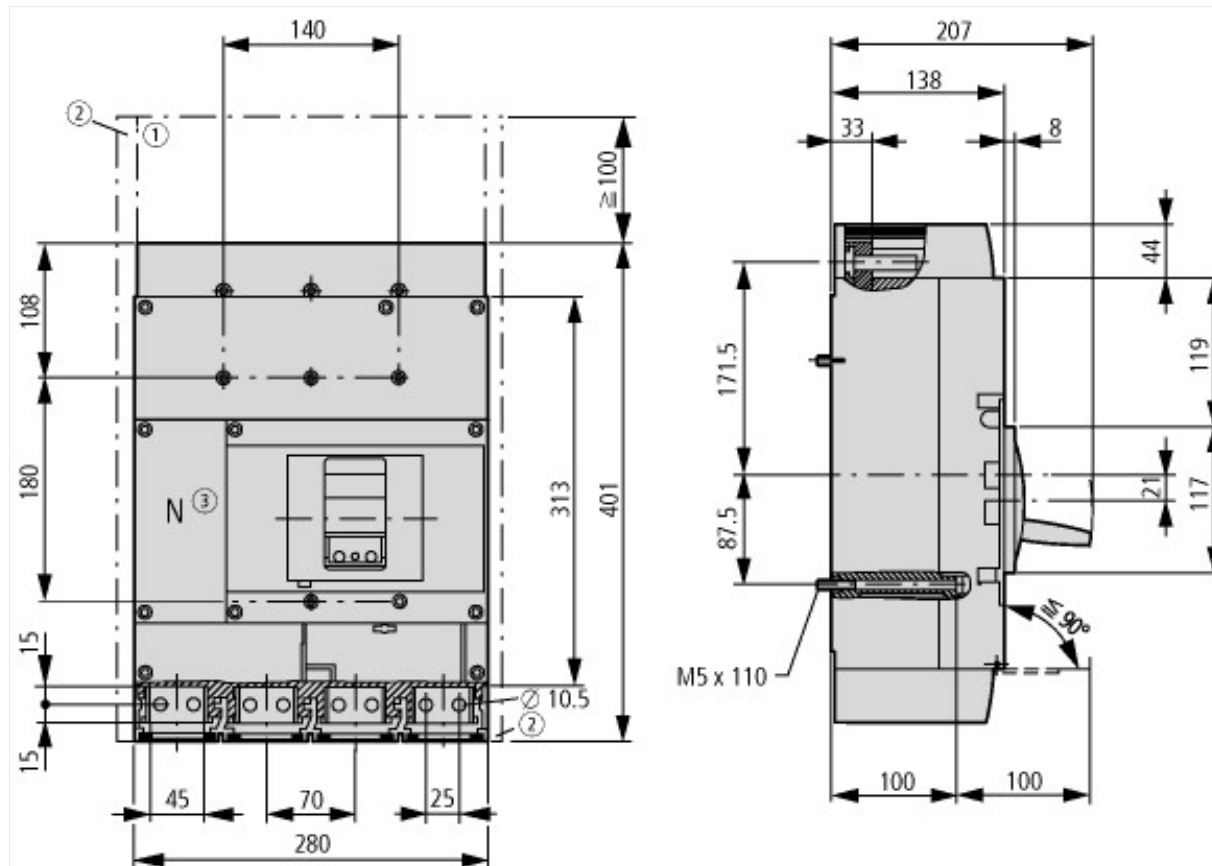
10.2.3.1 Verification of thermal stability of enclosures		Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat		Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and 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 6.0

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@ss8.1-27-37-14-03 [AKF060010])			
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
Max. rated operation voltage Ue AC		V	690
Rated operating voltage		V	690 - 690
Rated permanent current Iu		A	1600
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	25
Rated operation power at AC-23, 400 V		kW	800
Switching power at 400 V		kW	0
Conditioned rated short-circuit current Iq		kA	0
Number of poles			4
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 4-hole			No
Suitable for front mounting center			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		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 ≤ 1500 V: 70 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/IL01210010Z2015_11.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
CurveSelect characteristics program	http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/CharacteristicsProgram/index.htm
Eaton configurator	http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/ConfiguratorCircuitBreaker/index.htm