

## Switch-disconnector 3p 1600A BG4

**Part no.**                   **N4-1600**  
**266028**  
**EL Number**               **4358923**  
**(Norway)**

<b>General specifications</b>		
Product name		Eaton Moeller series NZM switch-disconnector
Part no.		N4-1600
EAN		4015082660284
Product Length/Depth		401 millimetre
Product height		207 millimetre
Product width		210 millimetre
Product weight		19.2 kilogram
Compliances		RoHS conform
Certifications		IEC/EN 60947 IEC
Product Tradename		NZM
Product Type		Switch-disconnector
Product Sub Type		None
<b>Delivery program</b>		
Application		Use in unearthed supply systems at 525 V
Type		Switch-disconnector
Circuit breaker frame type		N4
Number of poles		Three-pole
Amperage Rating		1600 A
Features		Motor drive optional Version as main switch Version as maintenance-/service switch Version as emergency stop installation
Special features		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. Rated current = rated uninterrupted current: 1600 A
<b>Technical Data - Electrical</b>		
Voltage rating		690 V - 690 V
Rated operating voltage (Ue) at AC - max		690 V
Rated insulation voltage (Ui)		1000 V
Rated impulse withstand voltage (Uimp) at auxiliary contacts		6000 V
Rated impulse withstand voltage (Uimp) at main contacts		8000 V
Rated conditional short-circuit current (Iq)		0 kA
Rated operational current		1600 A (415 V AC-22/23A, making and breaking capacity) 1600 A (690 V AC-22/23A, making and breaking capacity)
Rated permanent current at AC-21, 400 V		0 A
Rated permanent current at AC-23, 400 V		0 A
Rated conditional short-circuit current with back-up fuse		100 kA at 400/415 V 80 kA at 690 V N4-630...1600: 2 x 800 AgGgL
Rated conditional short-circuit current with downstream fuse		80 kA at 690 V N4-630...1600: 2 x 800 AgGgL 100 kA at 400/415 V
Rated short-time withstand current (Icw)		25 kA
Rated short-time withstand current (t = 0.3 s)		25 kA
Rated short-time withstand current (t = 1 s)		25 kA
Rated operating frequency		50 Hz
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz		53 kA
Rated operating power at AC-3, 400 V		0 kW
Rated operating power at AC-23, 400 V		800 kW

Switching power at 400 V		0 kW
Short-circuit protective device fuses - max		1600 A gL
Electrical connection type of main circuit		Bolt connection
Isolation		300 V AC (between the auxiliary contacts) 500 V AC (between auxiliary contacts and main contacts)
Number of operations per hour - max		60
Handle type		Rocker lever
Overvoltage category		III
Pollution degree		3
Lifespan, electrical		2000 operations at 400 V AC-3 2000 operations at 415 V AC-3 2000 operations at 690 V AC-1 3000 operations at 415 V AC-1 3000 operations at 400 V AC-1 1000 operations at 690 V AC-3
Direction of incoming supply		As required
<b>Technical Data - Mechanical</b>		
Mounting Method		Ground mounting Fixed Built-in device fixed built-in technique Distribution board installation Intermediate mounting
Degree of protection		IP20 (basic protection type, in the area of the HMI devices) Other
Degree of protection (IP), front side		IP40 (with insulating surround) IP20 IP66 (with door coupling rotary handle)
Degree of protection (terminations)		IP00 (terminations, phase isolator and band terminal) IP10 (tunnel terminal)
Protection against direct contact		Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 263
Shock resistance		15 g (half-sinusoidal shock 11 ms)
Number of auxiliary contacts (change-over contacts)		0
Number of auxiliary contacts (normally closed contacts)		0
Number of auxiliary contacts (normally open contacts)		0
Number of switches		1
Handle color		Black
Switch positions		I, +, 0
Climatic proofing		Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
Special features		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. Rated current = rated uninterrupted current: 1600 A
Lifespan, mechanical		10000 operations
<b>Technical Data - Mechanical - Terminals</b>		
Standard terminals		Screw terminal
Optional terminals		Connection on rear. Strip terminal. Tunnel terminal
Terminal capacity (aluminum solid conductor/cable)		70 mm <sup>2</sup> - 240 mm <sup>2</sup> (6x) at rear-side width extension 240 mm <sup>2</sup> (2x) at rear-side width extension
Terminal capacity (aluminum stranded conductor/cable)		50 mm <sup>2</sup> - 240 mm <sup>2</sup> (4x) at 4-hole tunnel terminal
Terminal capacity (copper busbar)		Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate 50 mm x 10 mm (2x) at rear-side 2-hole module plate Min. 25 mm x 5 mm direct at switch rear-side connection Max. 50 mm x 10 mm (2x) direct at switch rear-side connection Max. 80 mm x 10 mm (2x) at rear-side width extension M10 at rear-side screw connection Min. 25 mm x 5 mm at rear-side 1-hole module plate Min. 60 mm x 10 mm at rear-side width extension
Terminal capacity (copper solid conductor/cable)		95 mm <sup>2</sup> - 240 mm <sup>2</sup> (6x) at rear-side width extension 50 mm <sup>2</sup> - 240 mm <sup>2</sup> (4x) at 4-hole tunnel terminal 300 mm <sup>2</sup> (4x) at rear-side width extension 70 mm <sup>2</sup> - 185 mm <sup>2</sup> (2x) at rear-side 1-hole module plate 35 mm <sup>2</sup> - 185 mm <sup>2</sup> (4x) at rear-side 2-hole module plate 185 mm <sup>2</sup> - 240 mm <sup>2</sup> (1x) at rear-side 1-hole module plate 50 mm <sup>2</sup> (4x) at rear-side 2-hole module plate
Terminal capacity (copper stranded conductor/cable)		120 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) direct at switch rear-side connection 50 mm <sup>2</sup> - 185 mm <sup>2</sup> (4x) direct at switch rear-side connection
Terminal capacity (copper strip)		Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal 10 segments of 80 mm x 1 mm (2x) at rear-side width extension

		10 segments of 50 mm x 1 mm (2x) at 1-hole module plate Min. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal
<b>Design verification as per IEC/EN 61439 - technical data</b>		
Rated operational current for specified heat dissipation (In)		1600 A
Equipment heat dissipation, current-dependent		284 W
Ambient operating temperature - min		-25 °C
Ambient operating temperature - max		70 °C
Ambient storage temperature - min		40 °C
Ambient storage temperature - max		70 °C
<b>Design verification as per IEC/EN 61439</b>		
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 Resist. of insul. mat. to abnormal heat/fire by internal elect. 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.
10.9.2 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.
<b>Additional information</b>		
Functions		Voltage release optional Disconnectors/main switches Interlockable

## Technical data ETIM 9.0

Low-voltage industrial components (EG000017) / Switch disconnecter (low voltage) (EC000216)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnecter (ecl@ss13-27-37-14-03 [AKF060018])			
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	25
Rated operation power at AC-23, 400 V		kW	800

Switching power at 400 V		kW	0
Conditioned rated short-circuit current I <sub>q</sub>		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			Bolt connection
With pre-assembled cabling			No
Degree of protection (IP), front side			IP20
Degree of protection (NEMA)			Other
Width		mm	210
Height		mm	207
Depth		mm	401
Width in number of modular spacings			