



Switch-disconnector, 3 p, 1000A, frame size 4

Part no. LN4-1000-I  
 Catalog No. 112013

### Delivery program

Product range			Switch-disconnectors
Protective function			Disconnectors/main switches
Standard/Approval			IEC
Installation type			Fixed
Construction size			LN4
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	1000
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	$U_e$	V AC	690
Rated operating frequency	f	Hz	50/60
Rated current = rated uninterrupted current	$I_n = I_u$	A	1000
Overvoltage category/pollution degree			III/3
Rated insulation voltage	$U_i$	V	1000
Use in unearthed supply systems		V	≤ 525

#### Rated short-circuit making capacity

690 V 50/60 H	$I_c$	kA	53
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#### 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
Total break time at short-circuit		ms	< 10

## Terminal capacity

Standard equipment			Screw connection
Round copper conductor			
Tunnel terminal			
Stranded			
4-hole		mm <sup>2</sup>	4 x (50 - 240)
Bolt terminal and rear-side connection			
Direct on the switch			
Stranded		mm <sup>2</sup>	1 x (120 - 185) 4 x (50 - 185)
Module plate			
Single hole	min.	mm <sup>2</sup>	1 x (120 - 300)
Single hole	max.	mm <sup>2</sup>	2 x (95 - 300)
Module plate			
Double hole	min.	mm <sup>2</sup>	2 x (95 - 185)
Double hole	max.	mm <sup>2</sup>	4 x (35 - 185)
Connection width extension		mm <sup>2</sup>	
Connection width extension		mm <sup>2</sup>	4 x 300 6 x (95 - 240)
Al conductors, Cu cable			
Tunnel terminal			
Stranded			
4-hole		mm <sup>2</sup>	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 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 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) 2 x (80 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)
Control cables			
		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 1.5)

## Design verification as per IEC/EN 61439

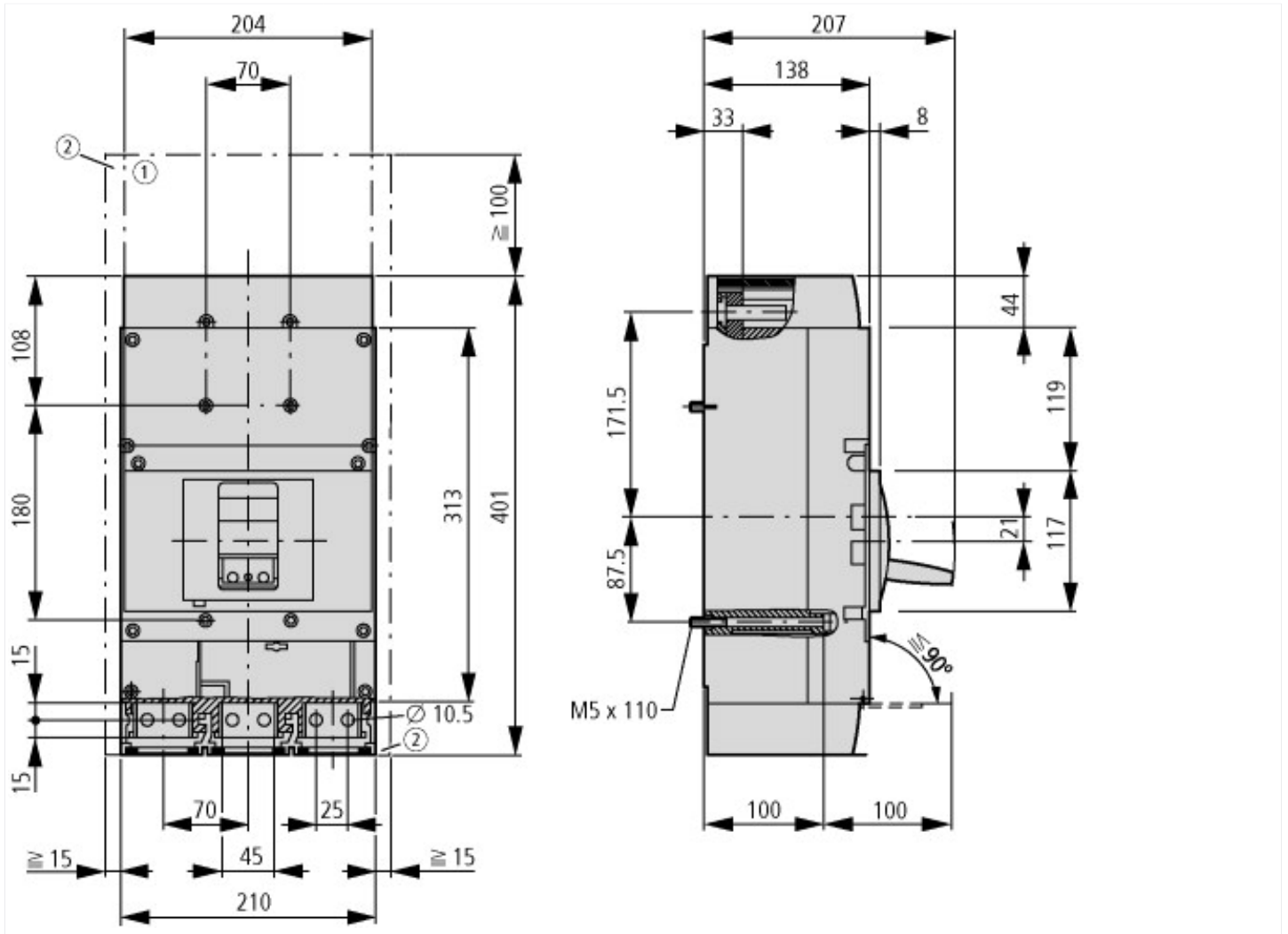
Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	A	1000
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	111
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets 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 7.0

Low-voltage industrial components (EG000017) / Switch disconnecter (EC000216)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnecter (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			
Max. rated operation voltage U <sub>e</sub> AC		V	400
Rated operating voltage		V	690 - 690
Rated permanent current I <sub>u</sub>		A	1000
Rated permanent current at AC-23, 400 V		A	
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	560
Switching power at 400 V	kW	0
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 4-hole		No
Suitable for front mounting centre		No
Suitable for distribution board installation		Yes
Suitable for intermediate mounting		Yes
Colour control element		Grey
Type of control element		Rocker lever
Interlockable		Yes
Type of electrical connection of main circuit		Bolt connection
Degree of protection (IP), front side		IP20
Degree of protection (NEMA)		

## Dimensions



- ① Blow out area, minimum clearance to other 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)

### IL01210018Z circuit-breaker LZM4, switch-disconnector LN4

IL01210018Z circuit-breaker LZM4, switch-disconnector LN4

[ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL01210018Z2017\\_05.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01210018Z2017_05.pdf)