

## Switch-disconnector, 4 p, 400A, frame size 3

Part no. **LN3-4-400-I**  
 Catalog No. **112010**



Powering Business Worldwide™

Similar to illustration

## Delivery program

Product range			Switch-disconnectors
Protective function			Disconnectors/main switches
Standard/Approval			IEC
Installation type			Fixed
Construction size			LN3
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	400
Short-circuit protection max. fuse gL-characteristic		A gL	630

## 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	400
Overvoltage category/pollution degree			III/3
Rated insulation voltage	$U_i$	V	1000
Use in unearthed supply systems		V	$\leq 690$

## Rated short-circuit making capacity

690 V 50/60 H	$I_c$	kA	25
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## Rated short-time withstand current

$t = 0.3 \text{ s}$	$I_{cw}$	kA	12
$t = 1 \text{ s}$	$I_{cw}$	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	
415 V	$I_e$	A	630
690 V	$I_e$	A	630
415 V	$I_e$	A	630
690 V	$I_e$	A	630
Lifespan, mechanical	Operations		15000
Max. operating frequency		Ops/h	60

## Lifespan, electrical

400 V 50/60 Hz	Operations	5000
415 V 50/60 Hz	Operations	5000
690 V 50/60 Hz	Operations	3000
400 V 50/60 Hz	Operations	3000
415 V 50/60 Hz	Operations	3000
690 V 50/60 Hz	Operations	2000
Total break time at short-circuit	ms	< 10

## Terminal capacity

Standard equipment			Screw connection
Round copper conductor			
Box terminal			
Solid	mm <sup>2</sup>	2 x 16	
Stranded	mm <sup>2</sup>	1 x (35 - 240) 2 x (25 - 120)	
Tunnel terminal			
Solid	mm <sup>2</sup>	1 x (16 - 185)	
Stranded	mm <sup>2</sup>	1 x (25 - 185)	
Stranded	mm <sup>2</sup>	1 x (50 - 240) 2 x (50 - 240)	
Double hole	mm <sup>2</sup>		
Bolt terminal and rear-side connection			
Direct on the switch			
Solid	mm <sup>2</sup>	1 x 16 2 x 16	
Stranded	mm <sup>2</sup>	1 x (25 - 240) 2 x (25 - 240)	
Connection width extension	mm <sup>2</sup>		
Connection width extension	mm <sup>2</sup>	2 x 300	
Al conductors, Cu cable			
Tunnel terminal			
Solid	mm <sup>2</sup>	1 x 16	
Stranded	mm <sup>2</sup>		
Stranded	mm <sup>2</sup>	1 x (25 - 185)	
Double hole	mm <sup>2</sup>	1 x (50 - 240) 2 x (50 - 240)	
Bolt terminal and rear-side connection			
Flat copper strip, with holes	min.	mm	6 x 16 x 0.8
Flat copper strip, with holes	max.	mm	10 x 32 x 1.0 + 5 x 32 x 1.0
Connection width extension		mm	(2 x) 10 x 50 x 1.0
Cu strip (number of segments x width x segment thickness)			
Box terminal			
	min.	mm	6 x 16 x 0.8
	max.	mm	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.	mm	6 x 16 x 0.8
Flat copper strip, with holes	max.	mm	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.	mm	20 x 5
	max.	mm	30 x 10 + 30 x 5
Connection width extension		mm	

Connection width extension	max.	mm	2 x (10 x 50)
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	400
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	43.2
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 [AKF06010])			
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	400	
Rated operating voltage	V	690 - 690	
Rated permanent current I <sub>u</sub>	A	400	
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 I <sub>cw</sub>	kA	12	
Rated operation power at AC-23, 400 V	kW	200	
Switching power at 400 V	kW	0	
Conditioned rated short-circuit current I <sub>q</sub>	kA	100	
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	Grey
Type of control element	Rocker lever
Interlockable	Yes
Type of electrical connection of main circuit	Screw connection
Degree of protection (IP), front side	IP20