

## Switch-disconnector, 3 p, 630A, frame size 3

**Part no.** LN3-630-I  
112009

General specifications		
Product name		Eaton Moeller series Power Defense molded case switch-disconnector
Part no.		LN3-630-I
EAN		4015081115570
Product Length/Depth		166 millimetre
Product height		275 millimetre
Product width		140 millimetre
Product weight		5.7 kilogram
Compliances		RoHS conform
Certifications		IEC
Product Tradename		Power Defense
Product Type		Molded case switch-disconnector
Product Sub Type		None
Delivery program		
Application		Use in unearthed supply systems at 690 V
Type		Switch-disconnector
Circuit breaker frame type		LN3
Number of poles		Three-pole
Amperage Rating		630 A
Features		Motor drive optional Version as emergency stop installation Version as maintenance-/service switch Version as main switch
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: 630 A
Technical Data - Electrical		
Voltage rating		690 V - 690 V
Rated operating voltage (Ue) at AC - max		400 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)		100 kA
Rated operational current		630 A (415 V AC-22A, making and breaking capacity) 500 A (415 V AC-23A, making and breaking capacity) 630 A (690 V AC-22A, making and breaking capacity) 500 A (690 V AC-23A, making and breaking capacity)
Rated permanent current at AC-21, 400 V		0 A
Rated conditional short-circuit current with back-up fuse		100 kA at 400/415 V 80 kA at 690 V PN3(N3)-400...630: 630 AgGgL
Rated conditional short-circuit current with downstream fuse		100 kA at 400/415 V PN3(N3)-400...630: 630 AgGgL 80 kA at 690 V
Rated short-time withstand current (Icw)		12 kA
Rated short-time withstand current (t = 0.3 s)		12 kA
Rated short-time withstand current (t = 1 s)		12 kA
Rated operating frequency		50 Hz
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz		25 kA
Rated operating power at AC-3, 400 V		0 kW
Rated operating power at AC-23, 400 V		315 kW
Switching power at 400 V		0 kW
Short-circuit total breaktime		< 10 ms

Short-circuit protective device fuses - max		630 A gL
Electrical connection type of main circuit		Screw connection
Number of operations per hour - max		60
Handle type		Rocker lever
Overvoltage category		III
Pollution degree		3
Lifespan, electrical		3000 operations at 400 V AC-3 5000 operations at 415 V AC-1 2000 operations at 690 V AC-3 5000 operations at 400 V AC-1 3000 operations at 690 V AC-1 3000 operations at 415 V AC-3
<b>Technical Data - Mechanical</b>		
Mounting Method		Built-in device fixed built-in technique Distribution board installation Intermediate mounting Fixed Ground mounting
Degree of protection (IP), front side		IP20
Number of auxiliary contacts (change-over contacts)		0
Number of auxiliary contacts (normally closed contacts)		0
Number of auxiliary contacts (normally open contacts)		0
Handle color		Gray
Switch positions		I, +, 0
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: 630 A
Lifespan, mechanical		15000 operations
<b>Technical Data - Mechanical - Terminals</b>		
Standard terminals		Screw terminal
Terminal capacity (control cable)		0.75 mm <sup>2</sup> - 1.5 mm <sup>2</sup> (2x) 0.75 mm <sup>2</sup> - 2.5 mm <sup>2</sup> (1x)
Terminal capacity (aluminum solid conductor/cable)		16 mm <sup>2</sup> (1x) at tunnel terminal
Terminal capacity (aluminum stranded conductor/cable)		25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at tunnel terminal
Terminal capacity (copper busbar)		Min. 20 mm x 5 mm direct at switch rear-side connection M10 at rear-side screw connection Max. 30 mm x 10 mm + 30 mm x 5 mm direct at switch rear-side connection Max. 10 mm x 50 mm (2x) at rear-side width extension
Terminal capacity (copper solid conductor/cable)		300 mm <sup>2</sup> (2x) at rear-side width extension 16 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at tunnel terminal 16 mm <sup>2</sup> (2x) at box terminal 16 mm <sup>2</sup> (1x) direct at switch rear-side connection 16 mm <sup>2</sup> (2x) direct at switch rear-side connection
Terminal capacity (copper stranded conductor/cable)		50 mm <sup>2</sup> - 240 mm <sup>2</sup> (1x) at 2-hole tunnel terminal 50 mm <sup>2</sup> - 240 mm <sup>2</sup> (2x) at 2-hole tunnel terminal 25 mm <sup>2</sup> - 185 mm <sup>2</sup> (1x) at tunnel terminal 35 mm <sup>2</sup> - 240 mm <sup>2</sup> (1x) at box terminal 25 mm <sup>2</sup> - 120 mm <sup>2</sup> (2x) at box terminal 25 mm <sup>2</sup> - 240 mm <sup>2</sup> (1x) direct at switch rear-side connection 25 mm <sup>2</sup> - 240 mm <sup>2</sup> (2x) direct at switch rear-side connection
Terminal capacity (copper strip)		Min. 6 segments of 16 mm x 0.8 mm at box terminal Max. 10 segments of 32 mm x 1 mm + 5 segments of 32 mm x 1 mm at rear-side connection (punched) Min. 6 segments of 16 mm x 0.8 mm at rear-side connection (punched) 10 segments of 50 mm x 1 mm (2x) at rear-side width extension Max. 10 segments of 24 mm x 1 mm + 5 segments of 24 mm x 1 mm Max. 8 segments of 24 mm x 1 mm (2x) at box terminal
<b>Design verification as per IEC/EN 61439 - technical data</b>		
Rated operational current for specified heat dissipation (I <sub>n</sub> )		630 A
Equipment heat dissipation, current-dependent		107.163 W
<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			Disconnectors/main switches Voltage release optional Interlockable