DATASHEET - LN4-800-I

Switch-disconnector, 3 p, 800A, frame size 4

Part no. **LN4-800-I**
112012

Powering Business Worldwide

General specifications

Product name	Eaton Moeller series Power Defense molded case switch-disconnector
Part no.	LN4-800-I
EAN	4015081115600
Product Length/Depth	401 millimetre
Product height	207 millimetre
Product width	210 millimetre
Product weight	17 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 525 V
Type	Switch-disconnector
Circuit breaker frame type	LN4
Number of poles	Three-pole
Amperage Rating	800 A
Features	Version as main switch Motor drive optional Version as emergency stop installation Version as maintenance-/service 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: 800 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	1600 A (690 V AC-1, making and breaking capacity) 1600 A (690 V AC-22/23A, making and breaking capacity) 1600 A (415 V AC-1, making and breaking capacity) 1600 A (415 V AC-22/23A, 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 N4-630…1600: 2 x 800 AgGgL 80 kA at 690 V
Rated conditional short-circuit current with downstream fuse	100 kA at 400/415 V N4-630…1600: 2 x 800 AgGgL 80 kA at 690 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	450 kW
Switching power at 400 V	0 kW
Short-circuit total breaktime	< 10 ms

Short-circuit protective device fuses - max	1600 A gL
Electrical connection type of main circuit	Bolt connection
Number of operations per hour - max	60
Handle type	Rocker lever
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	2000 operations at 415 V AC-3 3000 operations at 415 V AC-1 1000 operations at 690 V AC-3 3000 operations at 400 V AC-1 2000 operations at 690 V AC-1 2000 operations at 400 V AC-3

Technical Data - Mechanical

Mounting Method	Built-in device fixed built-in technique Intermediate mounting Ground mounting Fixed Distribution board installation
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: 800 A
Lifespan, mechanical	10000 operations

Technical Data - Mechanical - Terminals

Standard terminals	Screw terminal
Terminal capacity (control cable)	0.75 mm^2 - 2.5 mm^2 (1x) 0.75 mm^2 - 1.5 mm^2 (2x)
Terminal capacity (aluminum stranded conductor/cable)	50 mm^2 - 240 mm^2 (4x) at 4-hole tunnel terminal
Terminal capacity (copper busbar)	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 Min. 25 mm x 5 mm direct at switch rear-side connection Max. 80 mm x 10 mm (2x) direct at switch rear-side connection 50 mm x 10 mm (2x) at rear-side 2-hole module plate 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 Max. 50 mm x 10 mm (2x) at rear-side 1-hole module plate
Terminal capacity (copper solid conductor/cable)	35 mm^2 - 185 mm^2 (4x) at rear-side 2-hole module plate 50 mm^2 - 240 mm^2 (4x) at 4-hole tunnel terminal 300 mm^2 (4x) at rear-side width extension 95 mm^2 - 185 mm^2 (2x) at rear-side 2-hole module plate 120 mm^2 - 300 mm^2 (1x) at rear-side 1-hole module plate 95 mm^2 - 240 mm^2 (6x) at rear-side width extension 95 mm^2 - 300 mm^2 (2x) at rear-side 1-hole module plate
Terminal capacity (copper stranded conductor/cable)	120 mm^2 - 185 mm^2 (1x) direct at switch rear-side connection 50 mm^2 - 185 mm^2 (4x) direct at switch rear-side connection
Terminal capacity (copper strip)	10 segments of 80 mm x 1 mm (2x) at rear-side width extension Max. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) Min. 10 segments of 50 mm x 1 mm (2x) at rear-side connection (punched) 10 segments of 50 mm x 1 mm (2x) at 1-hole module plate Max. 10 segments of 32 mm x 1 mm (2x) at flat conductor terminal Min. 6 segments of 16 mm x 0.8 mm at flat conductor terminal

Design verification as per IEC/EN 61439 - technical data

Rated operational current for specified heat dissipation (In)	800 A
Equipment heat dissipation, current-dependent	71.04 W

Design verification as per IEC/EN 61439

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.
Additional information			
Functions			Disconnectors/main switches Interlockable Voltage release optional