

Switch-disconnector, 3 p, 160A, frame size 1

Part no. **LN1-160-I**
111997

Product name	Eaton Moeller series Power Defense molded case switch-disconnector
Part no.	LN1-160-I
EAN	4015081115457
Product Length/Depth	88 millimetre
Product height	145 millimetre
Product width	90 millimetre
Product weight	0.926 kilogram
Compliances	RoHS conform
Certifications	IEC
Product Tradename	Power Defense
Product Type	Molded case switch-disconnector
Product Sub Type	None
Application	Use in unearthed supply systems at 690 V
Type	Switch-disconnector
Circuit breaker frame type	LN1
Number of poles	Three-pole
Amperage Rating	160 A
Features	Version as maintenance-/service switch Motor drive optional Version as emergency stop installation 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: 160 A
Voltage rating	690 V - 690 V
Rated operating voltage (Ue) at AC - max	400 V
Rated insulation voltage (Ui)	690 V
Rated impulse withstand voltage (Uimp) at auxiliary contacts	6000 V
Rated impulse withstand voltage (Uimp) at main contacts	6000 V
Rated conditional short-circuit current (Iq)	100 kA
Rated operational current	160 A (690 V AC-22/23A, making and breaking capacity) 160 A (415 V AC-1, making and breaking capacity) 160 A (690 V AC-1, making and breaking capacity) 160 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 PN1(N1)-63...125: 125 AgGgL; PN1(N1)-160: 160 AgGgL 80 kA at 690 V
Rated conditional short-circuit current with downstream fuse	100 kA at 400/415 V 10 kA at 690 V PN1(N1)-63...125: 125 AgGgL; PN1(N1)-160: 160 AgGgL
Rated short-time withstand current (Icw)	2 kA
Rated short-time withstand current (t = 0.3 s)	2 kA
Rated short-time withstand current (t = 1 s)	2 kA
Rated operating frequency	50 Hz
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz	2.8 kA
Rated operating power at AC-3, 400 V	0 kW
Rated operating power at AC-23, 400 V	90 kW
Switching power at 400 V	0 kW
Short-circuit total breaktime	< 10 ms
Short-circuit protective device fuses - max	160 A gL

Electrical connection type of main circuit		Frame clamp
Number of operations per hour - max		120
Handle type		Rocker lever
Overvoltage category		III
Pollution degree		3
Lifespan, electrical		10000 operations at 415 V AC-1 7500 operations at 400 V AC-3 7500 operations at 690 V AC-1 10000 operations at 400 V AC-1 5000 operations at 690 V AC-3 7500 operations at 415 V AC-3
Mounting Method		Ground mounting Built-in device fixed built-in technique Fixed Distribution board installation Intermediate 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: 160 A
Lifespan, mechanical		20000 operations
Standard terminals		Box terminal
Terminal capacity (control cable)		0.75 mm ² - 1.5 mm ² (2x) 0.75 mm ² - 2.5 mm ² (1x)
Terminal capacity (aluminum solid conductor/cable)		16 mm ² (1x) at tunnel terminal
Terminal capacity (aluminum stranded conductor/cable)		25 mm ² - 95 mm ² (1x) at tunnel terminal
Terminal capacity (copper busbar)		Max. 16 mm x 5 mm direct at switch rear-side connection Min. 12 mm x 5 mm direct at switch rear-side connection M6 at rear-side screw connection
Terminal capacity (copper solid conductor/cable)		10 mm ² - 16 mm ² (1x) at box terminal 16 mm ² (1x) at tunnel terminal 6 mm ² - 16 mm ² (2x) at box terminal 6 mm ² - 16 mm ² (2x) direct at switch rear-side connection 10 mm ² - 16 mm ² (1x) direct at switch rear-side connection
Terminal capacity (copper stranded conductor/cable)		25 mm ² - 70 mm ² (1x) direct at switch rear-side connection 25 mm ² - 70 mm ² (1x) at box terminal 25 mm ² (2x) at box terminal 25 mm ² (2x) direct at switch rear-side connection 25 mm ² - 95 mm ² (1x) at tunnel terminal
Terminal capacity (copper strip)		Max. 9 segments of 9 mm x 0.8 mm at box terminal Min. 2 segments of 9 mm x 0.8 mm at box terminal
Rated operational current for specified heat dissipation (I _n)		160 A
Equipment heat dissipation, current-dependent		29.18 W
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.
Functions			Disconnectors/main switches Voltage release optional Interlockable