DATASHEET - LN2-160-I

Switch-disconnector, 3 p, 160A, frame size 2

Part no. **LN2-160-I**
112002

Product name	Eaton Moeller series Power Defense molded case circuit-breaker
Part no.	LN2-160-I
EAN	4015081115501
Product Length/Depth	142 millimetre
Product height	185 millimetre
Product width	105 millimetre
Product weight	2.15 kilogram
Compliances	RoHS conform
Certifications	IEC
Product Tradename	Power Defense
Product Type	Molded case circuit breaker
Product Sub Type	None
Application	Use in unearthed supply systems at 690 V
Type	Switch-disconnector
Circuit breaker frame type	LN2
Number of poles	Three-pole
Amperage Rating	160 A
Features	Version as emergency stop installation Motor drive optional 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: 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	8000 V
Rated conditional short-circuit current (Iq)	100 kA
Rated operational current	250 A (415 V AC-22/23A, making and breaking capacity) 250 A (690 V AC-1, making and breaking capacity) 250 A (690 V AC-22/23A, making and breaking capacity) 250 A (415 V AC-1, making and breaking capacity)
Rated permanent current at AC-21, 400 V	0 A
Rated conditional short-circuit current with back-up fuse	80 kA at 690 V 100 kA at 400/415 V PN2(N2)-160…250: 250 AgGgL
Rated conditional short-circuit current with downstream fuse	80 kA at 690 V PN2(N2)-160…250: 250 AgGgL 100 kA at 400/415 V
Rated short-time withstand current (Icw)	3.5 kA
Rated short-time withstand current (t = 0.3 s)	3.5 kA
Rated short-time withstand current (t = 1 s)	3.5 kA
Rated operating frequency	50 Hz
Rated short-circuit making capacity Icm at 690 V, 50/60 Hz	5.5 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	250 A gL

Electrical connection type of main circuit	Screw connection
Number of operations per hour - max	120
Handle type	Rocker lever
Overvoltage category	III
Pollution degree	3
Lifespan, electrical	5000 operations at 690 V AC-3 10000 operations at 415 V AC-1 7500 operations at 690 V AC-1 10000 operations at 400 V AC-1 7500 operations at 400 V AC-3 7500 operations at 415 V AC-3
Mounting Method	Ground mounting Built-in device fixed built-in technique Intermediate mounting Distribution board installation Fixed
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	Screw 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 - 185 mm^2 (1x) at tunnel terminal
Terminal capacity (copper busbar)	M8 at rear-side screw connection Min. 16 mm x 5 mm direct at switch rear-side connection Max. 20 mm x 5 mm direct at switch rear-side connection
Terminal capacity (copper solid conductor/cable)	4 mm^2 - 16 mm^2 (1x) direct at switch rear-side connection 4 mm^2 - 16 mm^2 (2x) direct at switch rear-side connection 16 mm^2 - 185 mm^2 (1x) at tunnel terminal 4 mm^2 - 16 mm^2 (1x) at box terminal 4 mm^2 - 16 mm^2 (2x) at box terminal
Terminal capacity (copper stranded conductor/cable)	25 mm^2 - 185 mm^2 (1x) direct at switch rear-side connection 25 mm^2 - 185 mm^2 (1x) at tunnel terminal 25 mm^2 - 185 mm^2 (1x) at box terminal 25 mm^2 - 70 mm^2 (2x) at box terminal 25 mm^2 - 70 mm^2 (2x) direct at switch rear-side connection
Terminal capacity (copper strip)	Max. 10 segments of 16 mm x 0.8 mm at rear-side connection (punched) Min. 2 segments of 9 mm x 0.8 mm at box terminal Min. 2 segements of 16 mm x 0.8 mm at rear-side connection (punched) Max. 10 segments of 16 mm x 0.8 mm at box terminal
Rated operational current for specified heat dissipation (In)	160 A
Equipment heat dissipation, current-dependent	19.66 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			Interlockable Disconnectors/main switches Voltage release optional