DATASHEET - PN2-250

Switch-disconnector 3p, 250A

Part no. **PN2-250**
266007

Product name	Eaton Moeller series NZM switch-disconnector
Part no.	PN2-250
EAN	4015082660079
Product Length/Depth	142 millimetre
Product height	185 millimetre
Product width	105 millimetre
Product weight	1.891 kilogram
Compliances	RoHS conform
Certifications	IEC IEC/EN 60947
Product Tradename	NZM
Product Type	Switch-disconnector
Product Sub Type	None
Application	Use in unearthed supply systems at 690 V
Type	Switch-disconnector
Circuit breaker frame type	PN2
Number of poles	Three-pole
Amperage Rating	250 A
Features	Version as maintenance-/service switch Version as main switch Version as emergency stop installation
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: 250 A The rated short-time withstand current for PN2/N2 in conjunction with earth-fault release NZM2-4-XFI...Icw = 1.5 kA
Voltage rating	690 V - 690 V
Rated operating voltage (Ue) at AC - max	690 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)	0 kA
Rated operational current	250 A (415 V AC-22/23A, making and breaking capacity) 250 A (690 V AC-22/23A, making and breaking capacity)
Rated permanent current at AC-21, 400 V	0 A
Rated permanent current at AC-23, 400 V	0 A
Rated conditional short-circuit current with back-up fuse	100 kA at 400/415 V PN2(N2)-160…250: 250 AgGgL 80 kA at 690 V
Rated conditional short-circuit current with downstream fuse	PN2(N2)-160…250: 250 AgGgL 80 kA at 690 V 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	132 kW
Switching power at 400 V	0 kW

Short-circuit protective device fuses - max	250 A gL
Electrical connection type of main circuit	Screw connection
Isolation	500 V AC (between auxiliary contacts and main contacts) 300 V AC (between the auxiliary contacts)
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 5000 operations at 690 V AC-3 7500 operations at 690 V AC-1 7500 operations at 415 V AC-3 10000 operations at 400 V AC-1 7500 operations at 400 V AC-3
Direction of incoming supply	As required
Mounting Method	Distribution board installation Ground mounting Intermediate mounting Fixed Built-in device fixed built-in technique
Degree of protection	IP20 (basic protection type, in the area of the HMI devices)
Degree of protection (IP), front side	IP66 (with door coupling rotary handle) IP40 (with insulating surround) IP20
Degree of protection (terminations)	IP00 (terminations, phase isolator and band terminal) IP10 (tunnel terminal)
Protection against direct contact	Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110
Shock resistance	20 g (half-sinusoidal shock 20 ms)
Number of auxiliary contacts (change-over contacts)	0
Number of auxiliary contacts (normally closed contacts)	0
Number of auxiliary contacts (normally open contacts)	0
Number of switches	1
Handle color	Black
Switch positions	I, 0
Climatic proofing	Damp heat, cyclic, to IEC 60068-2-30 Damp heat, constant, to IEC 60068-2-78
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: 250 A The rated short-time withstand current for PN2/N2 in conjunction with earth-fault release NZM2-4-XFI...Icw = 1.5 kA
Lifespan, mechanical	20000 operations
Standard terminals	Screw terminal
Optional terminals	Box terminal. Connection on rear. Tunnel terminal
Terminal capacity (aluminum solid conductor/cable)	10 mm^2 - 16 mm^2 (1x) direct at switch rear-side connection 10 mm^2 - 16 mm^2 (2x) direct at switch rear-side connection 16 mm^2 (1x) at tunnel terminal
Terminal capacity (aluminum stranded conductor/cable)	25 mm^2 - 185 mm^2 (1x) at 1-hole tunnel terminal
Terminal capacity (copper busbar)	Max. 24 mm x 8 mm direct at switch rear-side connection M8 at rear-side screw connection Min. 16 mm x 5 mm direct at switch rear-side connection
Terminal capacity (copper solid conductor/cable)	6 mm^2 - 16 mm^2 (2x) direct at switch rear-side connection 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 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 (2x) at box terminal 25 mm^2 - 185 mm^2 (1x) at box terminal 25 mm^2 - 70 mm^2 (2x) direct at switch rear-side connection 25 mm^2 - 185 mm^2 (1x) at 1-hole tunnel terminal 25 mm^2 - 185 mm^2 (1x) direct at switch rear-side connection
Terminal capacity (copper strip)	Max. 8 segments of 15.5 mm x 0.8 mm (2x) at box terminal Max. 10 segments of 16 mm x 0.8 mm at box terminal Max. 10 segments of 24 mm x 0.8 mm at rear-side connection (punched) Min. 2 segements 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

Rated operational current for specified heat dissipation (In)		250 A
Equipment heat dissipation, current-dependent		48 W
Ambient operating temperature - min		-25 °C
Ambient operating temperature - max		70 °C
Ambient storage temperature - min		40 °C
Ambient storage temperature - max		70 °C
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 Interlockable

Technical data ETIM 8.0

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@ss10.0.1-27-37-14-03 [AKF060013])

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
Number of switches		1
Max. rated operation voltage Ue AC	V	690
Rated operating voltage	V	690 - 690
Rated permanent current Iu	A	250
Rated permanent current at AC-23, 400 V	A	0
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 Icw	kA	3.5
Rated operation power at AC-23, 400 V	kW	132
Switching power at 400 V	kW	0
Conditioned rated short-circuit current Iq	kA	0
Number of poles		3
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	No
Motor drive integrated	No
Voltage release optional	No
Device construction	Built-in device fixed built-in technique
Suitable for floor mounting	Yes
Suitable for front mounting 4-hole	No
Suitable for front mounting centre	No
Suitable for distribution board installation	Yes
Suitable for intermediate mounting	Yes
Colour control element	Black
Type of control element	Rocker lever
Interlockable	Yes
Type of electrical connection of main circuit	Screw connection
Degree of protection (IP), front side	IP20
Degree of protection (NEMA)	