259145 N1-125

259145 N1-125

Switch-disconnector 3p 125A BG1

EL-Nummer (Norway) 4358717

Switch-disconnectors N.. - Comply with the isolation properties even for earthed IT networks. Accessories, such as bridge kits, connection terminals and door coupling rotary handles enable individual installation in the most varied of distribution systems. Auxiliary switches, voltage releases and remote operators facilitate signaling and automation. Notes: main switch characteristics including positive drive according to IEC/EN 60204 und VDE 0113. Isolating characteristics according to IEC/EN 60947-3 and VDE 0660. busbar tag shroud according to VDE 0160 Part 100.

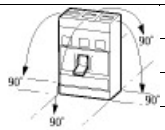
- Delivery program
- Technical data
- Design verification as per IEC/EN 61439
- Technical data ETIM 7.0
- Dimensions

Delivery program

Product range
Switch-disconnectors
Protective function
Disconnectors/main switches
Standard/Approval
IEC
Installation type
Fixed
Construction size
N1
Description
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.
Number of poles
3 pole
Standard equipment
Box terminal
Switch positions
I, +, 0
Rated current = rated uninterrupted current [$I_n = I_u$]
125 A
Short-circuit protection max. fuse gL-characteristic
125 A gL

Technical data

General
Standards
IEC/EN 60947
Protection against direct contact
Finger and back-of-hand proof to DIN EN 50274/VDE 0106 part 110
Climatic proofing
Damp heat, constant, to IEC 60068-2-78
Damp heat, cyclic, to IEC 60068-2-30
Ambient temperatureAmbient temperature, storage
- 40 - + 70 °C
Ambient temperatureOperation
-25 - +70 °C
Mechanical shock resistance (10 ms half-sinusoidal shock) according to IEC 60068-2-27
20 (half-sinusoidal shock 20 ms) g
Safe isolation to EN 61140Between auxiliary contacts and main contacts
500 V AC
Safe isolation to EN 61140between the auxiliary contacts
300 V AC
Mounting positionMounting position

Vertical and 90° in all directions	
	With residual-current release XFI:
	- NZM1, N1, NZM2, N2: vertical and 90° in all directions
	with plug-in adapter elements
	- NZM1, N1, NZM2, N2: vertical, 90° right/left
	with withdrawable unit:
	- NZM3, N3: vertical, 90 ° left
	- NZM4, N4: vertical
	with remote operator:
	- NZM2, N(S)2, NZM3, N(S)3, NZM4, N(S)4: vertical and 90° in all directions

Direction of incoming supply
as required
Degree of protectionDevice
In the area of the HMI devices: IP20 (basic protection type)
Degree of protectionEnclosures
With insulating surround: IP40
With door coupling rotary handle: IP66
Degree of protectionTerminations
Tunnel terminal: IP10
Phase isolator and band terminal: IP00
Switch-disconnectors
Rated surge voltage invariability [U_{imp}]Main contacts
6000 V
Rated surge voltage invariability [U_{imp}]Auxiliary contacts
6000 V
Rated operational voltage [Ue]
690 V AC
Rated operating frequency [f]
50/60 Hz
Rated current = rated uninterrupted current [$I_n = I_u$]
125 A
Overvoltage category/pollution degree
III/3
Rated insulation voltage [U_i]
690 V
Use in unearthed supply systems
□ 690 V
Other technical data (sheet catalogue)
Weight
Temperature dependency, Derating
Effective power loss
Rated short-circuit making capacity [I_{cm}]
690 V 50/60 H [Ic]
2.8 kA
Rated short-time withstand current
t = 0.3 s [I_{cw}]

2 kA
t = 1 s [I_{cw}]
2 kA
Rated conditional short-circuit current [kA]
With back-up fuse
gG/gL: 125 A gG/gL
400 … 415 V
100 kA
690 V
80 kA
With downstream fuse
gG/gL: 125 A gG/gL
400 … 415 V
100 kA
690 V
10 kA
Rated making and breaking capacity
Rated operational current [I_e] AC-22/23A 415 V [I_e]
125 A
Rated operational current [I_e] AC-22/23A 690 V [I_e]
125 A
Lifespan, mechanical [Operations]
20000
Max. operating frequency
120 Ops/h
Lifespan, electrical
AC-1 400 V 50/60 Hz [Operations]
10000
AC-1 415 V 50/60 Hz [Operations]
10000
AC-1 690 V 50/60 Hz [Operations]
7500
AC-23A 400 V 50/60 Hz [Operations]
1000
AC-23A 415 V 50/60 Hz [Operations]
1000
AC-23A 690 V 50/60 Hz [Operations]
1000

Terminal capacity

Standard equipment
Box terminal
Optional accessories
Screw connection
Tunnel terminal
connection on rear
Copper conductors and cables Box terminal Solid
1 x (10 - 16)
2 x (6 - 16) mm²
Copper conductors and cables Box terminal Stranded
1 x (10 - 70) 3)
2 x (6 - 25) mm²
Copper conductors and cables Box terminal
3) Up to 95 mm² can be connected depending on the cable manufacturer.

Copper conductors and cables Tunnel terminal Solid
1 x 16 mm²
Copper conductors and cables Tunnel terminal Stranded 1-hole
1 x (25 - 95) mm²
Copper conductors and cables Bolt terminal and rear-side connection Direct on the switch Solid
1 x (10 - 16)
2 x (6 - 16) mm²
Copper conductors and cables Bolt terminal and rear-side connection Direct on the switch Stranded
1 x (25 - 70) 3)
2 x 25 mm²
Copper conductors and cables Bolt terminal and rear-side connection Direct on the switch
3) Up to 95 mm² can be connected depending on the cable manufacturer.

Al conductors, Al cable Tunnel terminal Solid
1 x 16 mm²
Al conductors, Al cable Tunnel terminal Stranded 1-hole

1 x (25 - 95) mm²
Al conductors, Al cableBolt terminal and rear-side connectionDirect on the switchSolid
1 x (10 - 16)
2 x (10 - 16) mm²
Al conductors, Al cableBolt terminal and rear-side connectionDirect on the switchStranded
1 x (25 - 70) 3)
2 x 25 mm²
Cu strip (number of segments x width x segment thickness)Box terminal [min.]
2 x 9 x 0.8 mm
Cu strip (number of segments x width x segment thickness)Box terminal [max.]
9 x 9 x 0.8 mm
Copper busbar (width x thickness) [mm]Bolt terminal and rear-side connectionScrew connection
M6
Copper busbar (width x thickness) [mm]Bolt terminal and rear-side connectionDirect on the switch [min.]
12 x 5 mm
Copper busbar (width x thickness) [mm]Bolt terminal and rear-side connectionDirect on the switch [max.]
16 x 5 mm

Design verification as per IEC/EN 61439

Technical data for design verification
Rated operational current for specified heat dissipation [I_n]
125 A
Equipment heat dissipation, current-dependent [P_{vid}]
17.81 W
Operating ambient temperature min.
-25 °C
Operating ambient temperature max.
+70 °C
IEC/EN 61439 design verification
10.2 Strength of materials and parts10.2.2 Corrosion resistance
Meets the product standard's requirements.
10.2 Strength of materials and parts10.2.3.1 Verification of thermal stability of enclosures
Meets the product standard's requirements.
10.2 Strength of materials and parts10.2.3.2 Verification of resistance of insulating materials to normal heat
Meets the product standard's requirements.
10.2 Strength of materials and parts10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects
Meets the product standard's requirements.
10.2 Strength of materials and parts10.2.4 Resistance to ultra-violet (UV) radiation
Meets the product standard's requirements.
10.2 Strength of materials and parts10.2.5 Lifting
Does not apply, since the entire switchgear needs to be evaluated.
10.2 Strength of materials and parts10.2.6 Mechanical impact
Does not apply, since the entire switchgear needs to be evaluated.
10.2 Strength of materials and parts10.2.7 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 Insulation properties10.9.2 Power-frequency electric strength
Is the panel builder's responsibility.
10.9 Insulation properties10.9.3 Impulse withstand voltage
Is the panel builder's responsibility.
10.9 Insulation properties10.9.4 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

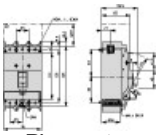
Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility
Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function
The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 7.0

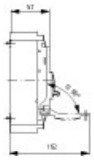
Low-voltage industrial components (EG000017) / Switch disconnector (EC000216)
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnector (ecl@ss10.0.1-27-37-14-03 [AKF060013])
Version as main switch
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
690 V
Rated operating voltage
690 - 690 V
Rated permanent current Iu
125 A
Rated permanent current at AC-23, 400 V
0 A
Rated permanent current at AC-21, 400 V
0 A
Rated operation power at AC-3, 400 V
0 kW
Rated short-time withstand current Icw
2 kA
Rated operation power at AC-23, 400 V
55 kW
Switching power at 400 V
0 kW
Conditioned rated short-circuit current Iq
0 kA
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
Yes
Motor drive integrated
No
Voltage release optional
Yes
Device construction
Built-in device fixed built-in technique
Suitable for ground 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
Frame clamp
Degree of protection (IP), front side
IP20
Degree of protection (NEMA)

Dimensions



□ Blow out area, minimum clearance to adjacent parts



CAD data

- Product-specific CAD data
  (Web)
- 3D Preview
  (Web)

DWG files

- DA-CD-nzm1_3p
  File
  (Web)

edz files

- DA-CE-ETN.N1-125
  File
  (Web)

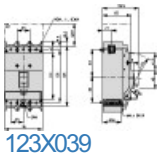
Step files

- DA-CS-nzm1_3p
  File
  (Web)

Additional product information

- Weight
  (Web)
- Temperature dependency, Derating
  (Web)
- Effective power loss
  (Web)
- CurveSelect characteristics program
  (Web)
- Eaton configurator
  (Web)
- additional technical information for NZM power switch
  (PDF)

Dimensions single product

- 
  123X039
  Line drawing
  Circuit-breaker NZM..1-...-(C)NA
  Blow out area, minimum clearance to adjacent parts
- 
  123X506
  Line drawing
  Circuit-breakers, switch-disconnectors

Product photo

- 
  1230PIC-752
  Photo

Instruction Leaflet

- IL01203004Z
  Asset
  (PDF, Language independent)

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