

### Switch-disconnector 4p 320A 1000VDC

Part no. Article no. N3-4-320-S1-DC 127734



Similar to illustration

#### **Delivery program** Product range Switch-disconnectors Protective function Disconnectors/main switches Photovoltaic applications Product range DC switch-disconnectors Application field Utility buildings Open areas Part no. N...DC IEC Standard/Approval 1000 Rated operational voltage Installation type Fixed Construction size N3 Description IEC/EN 60947-3 CCC China Compulsory Certificate Main switch characteristics including positive drive to IEC/EN 60204 and VDE 0113. Isolating characteristics to IEC/EN 60947-3 and VDE 0660. N switch-disconnectors can, in addition, be combined with NZM...-XU, NZM...-XA shunt releases and auxiliary contacts as well as with NZM...-XR... remote operator. For DC switching, all 4 contacts must be connected in series. Refer to the information on jumper kit accessories. Supplied as standard: Screw connection; box terminal optional. When working with ungrounded systems (e.g., IT), the installation must ensure that a double ground fault will be impossible. Switch can not be combined with plug-in/withdrawable units and/or connection on rear. N4-4-...-S15-DC feeder unit and outgoer from the bottom only. **Connection options** 0 0 0 0 0 0 0 0 0 $\cap$ 0 -2-Ω, Number of poles 4-pole basic device, usable in a 1-pole or 2-pole configuration depending on the type of connection Standard equipment Screw connection Switch positions l, +, 0 Rated current = rated uninterrupted current $I_n = I_u$ А 320 Short-circuit protective device max. fuse gR-characteristic A gR 2 x 250

Remote operation with shunt releases / remote operator

Remotely control / trip

echnical data			
witch-disconnectors			
Rated operational voltage, max.	Ue	V DC	1000
Rated uninterrupted current with terminal jumpers			
at 40°			320
at 65°			320
			Values for rated uninterrupted current at 65 °C include jumpers.
Jtilization category			DC-22A
Rated operational current	Ι <sub>e</sub>	А	
DC 22-A	le	A	320
Vervoltage category/pollution degree			111/3
lated insulation voltage	Ui	V	1250
Ambient temperature			
Ambient temperature, storage		°C	- 40 - + 70
Operation		°C	-25 - +70
ated short-time withstand current			
= 0.1 s		kA	6.6
= 1 s	I <sub>cw</sub>	kA	6.6
ated conditional short-circuit current			
000 V		kA	15
Vith back-up fuse		A gR	2 × 250
ifespan, mechanical			
Nax. operating frequency		Ops/h	60
ifespan, mechanical	Operations		15000
			Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release
erminal capacity			
Standard equipment			Screw connection
Round copper conductor			
Box terminal			
Solid		mm <sup>2</sup>	2 x 16
Stranded		mm <sup>2</sup>	1 x (35 - 240) 2 x (25 - 120)
Tunnel terminal			
Stranded		mm <sup>2</sup>	
Stranded		mm <sup>2</sup>	1 x (25 - 185)
Double hole fitting		mm <sup>2</sup>	1 × (50 - 240) 2 × (50 - 240)
Bolt terminals			
Direct on the switch			
Solid		mm <sup>2</sup>	1 x 16 2 x 16
Stranded		mm <sup>2</sup>	2 x 10 1 x (25 - 240) 2 x (25 - 240)
Al conductors, Cu cable			2 ~ 120 - 2401
Solid		mm <sup>2</sup>	1 x 16
Stranded		mm <sup>2</sup>	
Stranded		mm <sup>2</sup>	1 x (25 - 185)
Double hole fitting		mm	1 x (50 - 240)
Bolt terminal and rear-side connection			2 x (50 - 240)
Flat copper strip, with holes	min.	mm	6 x 16 x 0.8
Flat copper strip, with holes	max.	mm	10 x 10 x 0.0 10 x 32 x 1.0 + 5 x 32 x 1.0
Connection width extension	max.		(2x) 10 x 50 x 1,0
		mm	

DC

Rated operating frequency

Box terminal			
	min.	mm	6 x 16 x 0,8
	max.	mm	10 x 24 x 1,0 + 5 x 24 x 1,0 (2x) 8 x 24 x 1,0
Bolt terminal and rear-side connection			
Flat copper strip, with holes	min.	mm	6 x 16 x 0.8
Flat copper strip, with holes	max.	mm	10 x 32 x 1.0 + 5 x 32 x 1.0
Connection width extension		mm	(2x) 10 x 50 x 1,0
Copper busbar (width x thickness)	mm		
Bolt terminal and rear-side connection			
Screw connection			M10
Direct on the switch			
	min.	mm	20 x 5
	max.	mm	30 x 10 + 30 x 5
Connection width extension		mm	
Connection width extension	max.	mm	2 x (10 x 50)

# Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	l <sub>n</sub>	А	320
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	62
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
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 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric 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 Insulation properties			
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.

## **Technical data ETIM 6.0**

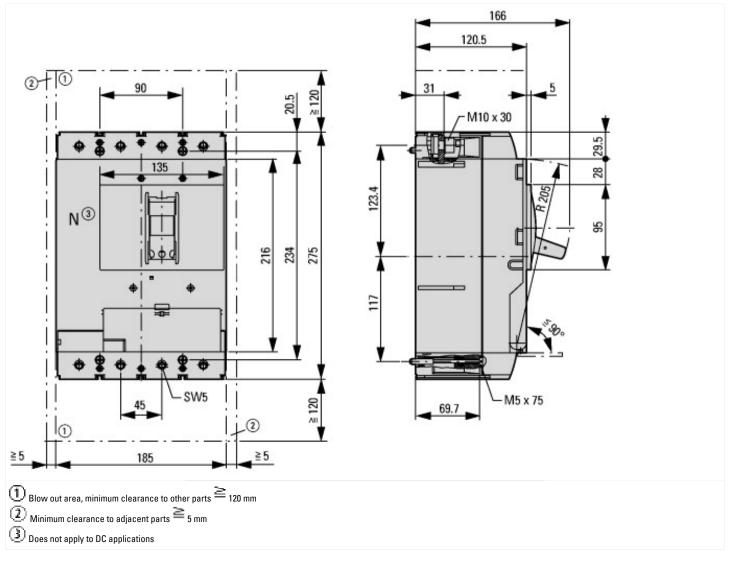
Low-voltage industrial components (EG000017) / Switch disconnector (EC000216)

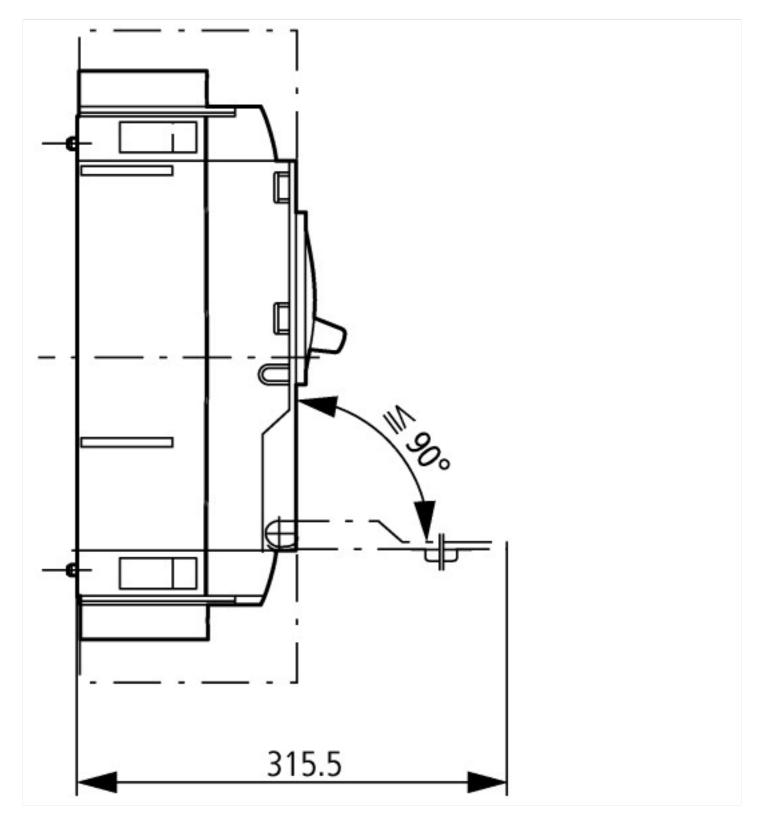
Electric engineering, automation, process control engineering / Low-voltage switch technology / Off-load switch, circuit breaker, control switch / Switch disconnector (ecl@ss8.1-27-37-14-03 [AKF060010])

Version as main switch

Yes

Version as safety switch     Percent			
Varsion as energoncy stop instillation     Image: Section voltage Us AC     No       Max. rated operation voltage Us AC     V     0       Rated operation voltage Us AC     V     000-000000000000000000000000000000000	Version as maintenance-/service switch		Yes
Version as even maximum contrage Ue AC     Ne       Max. rated operation voltage Ue AC     V     0       Reled operation voltage Ue AC     V     100-1000       Reled operation voltage Ue AC     A     20       Reled operation voltage Ue AC     A     20       Reled operation voltage Ue AC     A     20       Reled operation power at AC-21,400 V     A     6       Reled operation power at AC-23,400 V     C     A       Reled operation power at AC-23,400 V     C     A       Switching power at 400 V     C     A       Number of auxiliary contacts as normally closed contact     M     0       Number of auxiliary contacts as normally closed contact     M     0       Number of auxiliary contacts as normally closed contact     M     0       Number of auxiliary contacts as normally closed contact     M     0       Number of auxiliary contacts as normally closed contact     M     0       Number of auxiliary contacts as normally closed contact     M     N       Number of auxiliary contacts as normally closed contact     M     N       Number of auxiliary contacts as normally closed con	Version as safety switch		No
Ar. rated operating voltage U A C     Image: Construction on the probability of the probabi	Version as emergency stop installation		Yes
Rate operation yoltage     V     1000 1000       Rated operation yoltage     V     000 1000       Rated operation power at AC-23, 400 V     A     9       Rated operation power at AC-33, 400 V     KM     0       Rated operation power at AC-23, 400 V     KM     0       Rated operation power at AC-23, 400 V     KM     0       Switching operat at 400 V     KM     0       Conditioner at each solut-circuit current lq     KM     0       Number of poles     KM     0       Number of auxiliary contacts as normally closed contact     KM     0       Number of auxiliary contacts as change-over contact     KM     0       Number of auxiliary contacts as change-over contact     KM     0       Number of auxiliary contacts as change-over contact     KM     No       Number of auxiliary contacts as change-over contact     KM     No       Number of auxiliary contacts as normally common contact     KM     No       Number of auxiliary contacts as change-over contact     KM     No       Sutable for from rounting conter     KM     No       Sutable for from rounting conter	Version as reversing switch		No
Reter     Reter     Reter       Reter     30       Rated permanent current tu     K     0       Rated operation power at AC-3, 400 V     K     6       Rated short-time withstand current lcw     K     6       Rated short-time withstand current lcw     K     6       Rated short-time withstand current lcw     K     0       Switching power at 400 V     K     0       Conditioned rated short-time withstand current lq     K     0       Number of auxiliary contacts as normally closed contact     K     0       Number of auxiliary contacts as change-over contact     K     0       Number of auxiliary contacts as change-over contact     K     0       Number of auxiliary contacts as change-over contact     K     K       Number of auxiliary contacts as change-over contact     K     K       Number of auxiliary contacts as change-over contact     K     K       Notice drive prisonal     K     K     K       Notice drive prisonal     K     K     K       Suitable for from nounting center     K     K     K	Max. rated operation voltage Ue AC	V	0
Answer of a construction of a single of a construction	Rated operating voltage	V	1000 - 1000
Anter operation power at AC-3, 400 V     Image: Add short-time withstand current low     Image: Add short-	Rated permanent current lu	А	320
Rated short-time withstand current low     Image: Rated short-tim withstand current low     Image: Ra	Rated permanent current at AC-21, 400 V	А	0
Rated operation power at AC-23, 400 V   IMW   0     Switching power at 400 V   IMW   0     Conditioned rated short-circuit current lq   IMM   0     Number of poles   IMM   0     Number of auxiliary contacts as normally closed contact   IMM   0     Number of auxiliary contacts as normally closed contact   IMM   0     Number of auxiliary contacts as change-over contact   IMM   0     Number of auxiliary contacts as change-over contact   IMM   0     Number of auxiliary contacts as change-over contact   IMM   0     Number of auxiliary contacts as change-over contact   IMM   Ves     Number of auxiliary contacts as change-over contact   IMM   Ves     Number of auxiliary contacts as change-over contact   IMM   Ves     Number of auxiliary contacts as change-over contact   IMM   Ves     Number of auxiliary contacts as change-over contact   IMM   Ves     Number of auxiliary contacts as change-over contact   IMM   Ves     Suitable for fort mounting enter   IMM   Ves   No     Suitable for intermediate mounting   Ves   IMM   IMM     Ty	Rated operation power at AC-3, 400 V	kW	0
Kitching power at 400 V     KIM     Conditioned rated short-circuit current Iq     Conditioned rated short-circuit current	Rated short-time withstand current lcw	kA	6.6
Conditioned rated short-circuit current lq   Image: A for the construction of auxiliary contacts as normally closed contact   Image: A for the construction of auxiliary contacts as normally open contact   Image: A for the construction of auxiliary contacts as normally open contact   Image: A for the construction of auxiliary contacts as normally open contact   Image: A for the construction of auxiliary contacts as normally open contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over contact   Image: A for the construction of auxiliary contacts as change-over construction of auxiliary contacts as change-over construction of auxiliary contacts as change-over contacts   Image: A for the construction of auxiliary c	Rated operation power at AC-23, 400 V	kW	0
Number of poles4Number of auxiliary contacts as normally cosed contact66Number of auxiliary contacts as normally open contact66Motor drive optional666Not drive optional666Not drive integrated666Notage release optional666Suitable for ground mouting666Suitable for front moutting enter666Suitable for instruction666Suitable for instruction open instruktion666Suitable for instruktion board installation666Suitable for instruktion formation6666Suitable for instruktion formation6666Suitable for instruktion formation666 </td <td>Switching power at 400 V</td> <td>kW</td> <td>0</td>	Switching power at 400 V	kW	0
Number of auxiliary contacts as normally closed contact     O       Number of auxiliary contacts as normally open contact     0       Number of auxiliary contacts as normally open contact     0       Number of auxiliary contacts as normally open contact     0       Number of auxiliary contacts as normally open contact     0       Number of auxiliary contacts as normally open contact     0       Number of auxiliary contacts as normally open contact     0       Number of auxiliary contacts as normally open contact     0       Number of auxiliary contacts as normally open contact     0       Number of auxiliary contacts as normally open contact     Variant contact       Number of auxiliary contacts as normally open contact     Variant contact       Number of auxiliary contacts as normally open contact     Yas       Number of auxiliary contacts as normally open contact     Yas       Number of auxiliary contacts as normally open contact     Yas       Number of auxiliary contacts as normally open contact     Yas       Number of auxiliary contacts as normally open contact     Yas       Number of auxiliary contacts as normally open contact     Yas       Number of auxiliary contacts as normally open contact     Yas       Number of auxilia	Conditioned rated short-circuit current Iq	kA	0
Number of auxiliary contacts as normally open contactImage of auxiliary contacts as change-over contactsImage of auxiliary co	Number of poles		4
Number of auxiliary contacts as change-over contact     Image: Control optional     Image: Control optional <td>Number of auxiliary contacts as normally closed contact</td> <td></td> <td>0</td>	Number of auxiliary contacts as normally closed 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 4-hole     Yes       Suitable for front mounting center     No       Suitable for front mounting center     No       Suitable for intermediate mounting     Yes       Suitable for intermediate mounting     Yes       Colour control element     Yes       Type of control element     Socie lever       Interlockable     Rocker lever       Type of electrical connection of main circuit     Socie consection	Number of auxiliary contacts as normally open contact		0
Motor drive integratedNoWotor drive integratedNoVotage release optionalYesDevice constructionBuilt-in device fixed built-in techniqueSuitable for ground mountingYesSuitable for front mounting 4-holeNoSuitable for front mounting centerNoSuitable for fixer mounting centerNoSuitable for intermediate mountingYesSuitable for intermediate mountingYesSuitable for intermediate mountingYesColour control elementSectorType of control elementSectorInterlockableYesType of electrical connection of main circuitSectorSuitable for intermediate mountingSectorSuitable for intermediate mountingSec	Number of auxiliary contacts as change-over contact		0
Voltage release optional     Yes       Device construction     Built- in device fixed built-in technique       Suitable for ground mounting     Yes       Suitable for front mounting 4-hole     Yes       Suitable for front mounting center     No       Suitable for distribution board installation     Yes       Suitable for intermediate mounting     Yes	Motor drive optional		Yes
Device construction   Built-in device fixed built-in technique     Suitable for ground mounting   Ves     Suitable for front mounting 4-hole   No     Suitable for front mounting center   No     Suitable for distribution board installation   Ves     Suitable for intermediate mounting   Ves     Colour control element   Ves     Type of control element   Sector     Interlockable   Ves     Interlockable   Ves     Suitable for fination   Ves     Suitable for intermediate mounting	Motor drive integrated		No
Suitable for ground mounting   Image: Suitable for front mounting 4-hole   Yes     Suitable for front mounting center   No     Suitable for distribution board installation   Yes     Suitable for intermediate mounting   Image: Suitable for intermediate mounting     Colour control element   Yes     Type of control element   Suitable for intermediate mounting     Interlockable   Yes     Type of element   Yes     Interlockable   Yes     Type of element   Yes     Type of element   Yes     Suitable for intermediate mounting   Yes     Interlockable   Yes     Type of element   Yes     Subscience   Yes     Type of element   Yes     Subscience   Yes     Type of element   Yes     Type of element   Yes     Type of element   Yes     Subscience   Yes     Type of element   Yes     Subscience   Yes     Subscience   Yes     Subscience   Yes     Subscience   Yes     Yes   Yes<	Voltage release optional		Yes
Suitable for front mounting 4-holeNoSuitable for front mounting centerMoSuitable for distribution board installationMoSuitable for intermediate mountingMoColour control elementMoType of control elementMoInterlockableMoType of electrical connection of main circuitMo <td< td=""><td>Device construction</td><td></td><td>Built-in device fixed built-in technique</td></td<>	Device construction		Built-in device fixed built-in technique
Suitable for front mounting center   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 element in circuit   Source control element	Suitable for ground mounting		Yes
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   Soutable	Suitable for front mounting 4-hole		No
Suitable for intermediate mounting Page 6   Suitable for intermediate mounting Yes   Colour control element Black   Type of control element Rocker lever   Interlockable Yes   Type of electrical connection of main circuit Image 6	Suitable for front mounting center		No
Colour control element Black   Type of control element Rocker lever   Interlockable Yes   Type of electrical connection of main circuit Social Connection	Suitable for distribution board installation		Yes
Type of control element Rocker lever   Interlockable Yes   Type of electrical connection of main circuit Screw connection	Suitable for intermediate mounting		Yes
Interlockable Yes   Type of electrical connection of main circuit Screw connection	Colour control element		Black
Type of electrical connection of main circuit Screw connection	Type of control element		Rocker lever
······	Interlockable		Yes
Degree of protection (IP), front side	Type of electrical connection of main circuit		Screw connection
	Degree of protection (IP), front side		IP20





# Additional product information (links)

CurveSelect characteristics program	http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/CharacteristicsProgram/ index.htm
Eaton configurator	http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/ConfiguratorCircuitBreaker/ index.htm
Additional technical data: Photovoltaics catalog (starting on page 35)	http://www.moeller.net/binary/pdf_kat/br01601001z_en.pdf