Equipment heat dissipation, current-dependent

Operating ambient temperature min.
Operating ambient temperature max.

IEC/EN 61439 design verification

Circuit breaker 3-pole 20A, system/cable protection, withdrawable unit



Part no. NZMS1-A20-SVE Catalog No. NZMS1-A20-SVE

Similar to illustration

Destination according			
Switching capacity			
400/415 V 50 Hz	I _{cu}	kA	70
Rated current = rated uninterrupted current			
Rated current = rated uninterrupted current	$I_n = I_u$	Α	20
Setting range			
Overload trip			
中	I _r	A	15 - 20
Short-circuit releases			
Non-delayed	$I_i = I_n x \dots$		350 A fixed
Technical data General			
Ambient temperature		20	
Ambient temperature, storage		°C	- 40 - + 70
Operation Circuit-breakers		°C	-25 - +70
Rated current = rated uninterrupted current	$I_n = I_u$	Α	20
Switching capacity	ın – ıu	^	20
Rated short-circuit breaking capacity I _{cn}	I _{cn}		
Icu to IEC/EN 60947 test cycle O-t-CO	lcu	kA	
400/415 V 50/60 Hz	I _{cu}	kA	70
erminal capacity	cu		
Round copper conductor			
Box terminal			
Solid		mm ²	1 x (6 - 16) 2 x (4 - 16)
Stranded		mm ²	1 x (6 - 70) ³⁾ 2 x (4 - 25)
Bolt terminal and rear-side connection			
Direct on the switch			
Solid		mm ²	1 x (6 - 16) 2 x (4 - 16)
Stranded		mm ²	1 x (6 - 70) ³⁾ 2 x (4 - 25)
Design verification as per IEC/EN 61439			
- 2019. Tollinoution do poi ino/ nit 01703			

W

°C

°C

9.82

-25

70

 P_{vid}

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 mus observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear mus 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) / Power circuit-breaker for trafo/generator/installation protection (EC000228)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013])

Rated short-circuit breaking capacity Icu at 400 V, 50 Hz Overload release current setting Adjustment range short-term delayed short-circuit release Adjustment range undelayed short-circuit release ADJUSTMENT ADJUSTMENT ADJUSTMENT	protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013])		
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz Overload release current setting Adjustment range short-term delayed short-circuit release Adjustment range undelayed short-circuit release Adjustment range short-term delayed short-circuit release Adjustment range short-delayed short-cir	Rated permanent current lu	Α	20
Overload release current setting Adjustment range short-term delayed short-circuit release Adjustment range undelayed short-circuit release No No Frame clamp Prame clamp No	Rated voltage	V	690 - 690
Adjustment range short-term delayed short-circuit release Adjustment range undelayed short-circuit release A 350 - 350 No Type of electrical connection Type of electrical connection of main circuit Built-in device plug-in technique Built-in device plug-in technique Built-in device plug-in technique No DIN rail (top hat rail) mounting Built-in device plug-in technique No DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact Number of plusitiary contacts as normally closed contact Number of plusitiary contacts as normally closed contact Number of plusitiary contacts as normally closed contact Number of plusitiary contacts as norma	Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	70
Adjustment range undelayed short-circuit release A 350 - 350 Integrated earth fault protection No Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact With switched-off indicator With switched-off indicator Number of poles Position of connection for main current circuit Type of control element A 350 - 350 No Rame clamp Frame clamp No	Overload release current setting	Α	15 - 20
Integrated earth fault protection Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as normally open contact Vith switched-off indicator Vith under voltage release Number of poles Position of connection for main current circuit Type of control element No No No No No No No No Sala Sala Sala Sack side Rocker lever	Adjustment range short-term delayed short-circuit release	Α	0 - 0
Type of electrical connection of main circuit Device construction Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact With switched-off indicator With under voltage release Number of poles Position of connection for main current circuit Type of control element Frame clamp Built-in device plug-in technique No 0 0 0 0 0 0 0 0 0 0 0 0 0	Adjustment range undelayed short-circuit release	Α	350 - 350
Device construction Built-in device plug-in technique Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional No 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 Number of auxiliary contacts as change-over contact 0 With switched-off indicator No With under voltage release No No Number of poles 3 Position of connection for main current circuit Back side Type of control element Robert 1 Built-in device plug-in technique No No Robert lever	Integrated earth fault protection		No
Suitable for DIN rail (top hat rail) mounting DIN rail (top hat rail) mounting optional Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact No With switched-off indicator With under voltage release No No Number of poles Position of connection for main current circuit Type of control element No Rocker lever	Type of electrical connection of main circuit		Frame clamp
DIN rail (top hat rail) mounting optional No Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact No With switched-off indicator With under voltage release No No Number of poles Back side Type of control element No Rocker lever	Device construction		Built-in device plug-in technique
Number of auxiliary contacts as normally closed contact Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact Number of auxiliary contacts as change-over contact No With switched-off indicator With under voltage release No Number of poles Seption of connection for main current circuit Type of control element Number of auxiliary contacts as normally closed contact O Rocker lever	Suitable for DIN rail (top hat rail) mounting		No
Number of auxiliary contacts as normally open contact Number of auxiliary contacts as change-over contact With switched-off indicator With under voltage release No Number of poles Position of connection for main current circuit Type of control element O O Rocker lever	DIN rail (top hat rail) mounting optional		No
Number of auxiliary contacts as change-over contact With switched-off indicator With under voltage release No Number of poles Position of connection for main current circuit Type of control element O No Rocker lever	Number of auxiliary contacts as normally closed contact		0
With switched-off indicator With under voltage release No Number of poles Position of connection for main current circuit Type of control element No Rocker lever	Number of auxiliary contacts as normally open contact		0
With under voltage release No Number of poles 3 Position of connection for main current circuit Type of control element No Rocker lever	Number of auxiliary contacts as change-over contact		0
Number of poles 3 Position of connection for main current circuit Back side Type of control element Rocker lever	With switched-off indicator		No
Position of connection for main current circuit Type of control element Back side Rocker lever	With under voltage release		No
Type of control element Rocker lever	Number of poles		3
	Position of connection for main current circuit		Back side
	Type of control element		Rocker lever
Complete device with protection unit Yes	Complete device with protection unit		Yes
Motor drive integrated No	Motor drive integrated		No
Motor drive optional No	Motor drive optional		No
Degree of protection (IP) IP20	Degree of protection (IP)		IP20

Additional product information (links)

additional technical information for NZM power switch

 $ftp://ftp.moeller.net/DOCUMENTATION/PDF/nzm_technic_de_en.pdf$