Similar to illustration

Circuit-breaker, 3p, 630A 1000V

Part no. NZMH4-AE630-S1
Article no. 290370

Powering Business Worldwide

Delivery program

Product range			Circuit-breaker
Protective function			System and cable protection
Standard/Approval			IEC
Installation type			Fixed
Release system			Electronic release
Construction size			NZM4
Description			R.m.s. value measurement and “thermal memory” NZM...S1 terminal type: NZM...XKSA cover required
Number of poles			3 pole
Standard equipment			Screw connection
Rated current = rated uninterrupted current	$I_n = I_u$	A	630
Switching capacity			
1000 V 50/60 Hz	Ics	kA	20
Setting range			
Overload trip			
	I_r	A	315 - 630
Short-circuit releases 			
Non-delayed 	$I_i = I_n$ x ...		2 - 12

Technical data

Switch-disconnectors

Rated surge voltage invariability	U_{imp}		
Main contacts		V	8000
Auxiliary contacts		V	6000
Rated operational voltage	Ue	V AC	1000
Rated current = rated uninterrupted current	$I_n = I_u$	A	630
Rated uninterrupted current	I_u	A	
IEC/EN 61131-3	I_u	A	630
			The rated uninterrupted current stated is valid at 40° C.
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V	1000
Utilization category			A/B
Ambient temperature			
Ambient temperature, storage		°C	- 40 - + 70
Operation		°C	-25 - +70

Rated short-circuit making capacity

1000 V 50/60 Hz	Icm	kA	40

Rated short-circuit breaking capacity I_{cn}

Icu to IEC/EN 60947 test cycle O-t-CO	Icu	kA	
1000 V 50/60 Hz	Ics	kA	20
Ics to IEC/EN 60947 test cycle O-t-CO-t-CO	Ics	kA	
1000 V AC	Ics	kA	15

Rated short-time withstand current

t = 0.3 s	I_{cw}	kA	19.2
t = 1 s	I_{cw}	kA	19.2
Lifespan, mechanical	Operations		10000
Max. operating frequency		Ops/h	60
			Lifespan, mechanical: of which max. 50 % trip by shunt/undervoltage release

Lifespan, electrical

1000 V 50/60 Hz	Operations		500

Terminal capacity

Standard equipment			Screw connection
Round copper conductor			
Tunnel terminal			
Stranded		mm^2	
4-hole		mm^2	4 x (50 - 240)
Bolt terminal and rear-side connection			
Module plate			
Single hole	min.	mm^2	1 x (185 - 240)
Single hole	max.	mm^2	2 x (70 - 185)
Module plate			
Double hole	min.	mm^2	4 x 50
Double hole	max.	mm^2	4 x (35 - 185)
Connection width extension		mm^2	
Connection width extension		mm^2	2 x 240 6 x (70 - 240)
Al conductors, Cu cable			
Stranded		mm^2	
4-hole		mm^2	4 x (50 - 240)
Bolt terminal and rear-side connection			
Flat copper strip, with holes	min.	mm	(2 x) 10 x 50 x 1.0
Flat copper strip, with holes	max.	mm	(2 x) 10 x 50 x 1.0
Connection width extension		mm	(2 x) 10 x 80 x 1.0
Cu strip (number of segments x width x segment thickness)			
Flat conductor terminal			
	min.	mm	6 x 16 x 0.8
	max.	mm	(2 x) 10 x 32 x 1.0
Module plate			
Single hole		mm	(2 x) 10 x 50 x 1.0
Bolt terminal and rear-side connection			
Flat copper strip, with holes	min.	mm	(2 x) 10 x 50 x 1.0
Flat copper strip, with holes	max.	mm	(2 x) 10 x 50 x 1.0
Connection width extension		mm	(2 x) 10 x 80 x 1.0
Copper busbar (width x thickness)	mm		
Bolt terminal and rear-side connection			
Screw connection			M10
Direct on the switch			
	min.	mm	25 x 5
	max.	mm	2 x (50 x 10) 2 x (80 x 10)
Module plate			

Single hole	min.	mm	25 x 5
Single hole	max.	mm	2 x (50 x 10)
Module plate			
Double hole		mm	2 x (50 x 10)
Connection width extension		mm	
Connection width extension	min.	mm	60 x 10
Connection width extension	max.	mm	2 x (80 x 10)
Control cables			
		mm^2	1 x (0.75 - 2.5) 2 x (0.75 - 1.5)

Design verification as per IEC/EN 61439

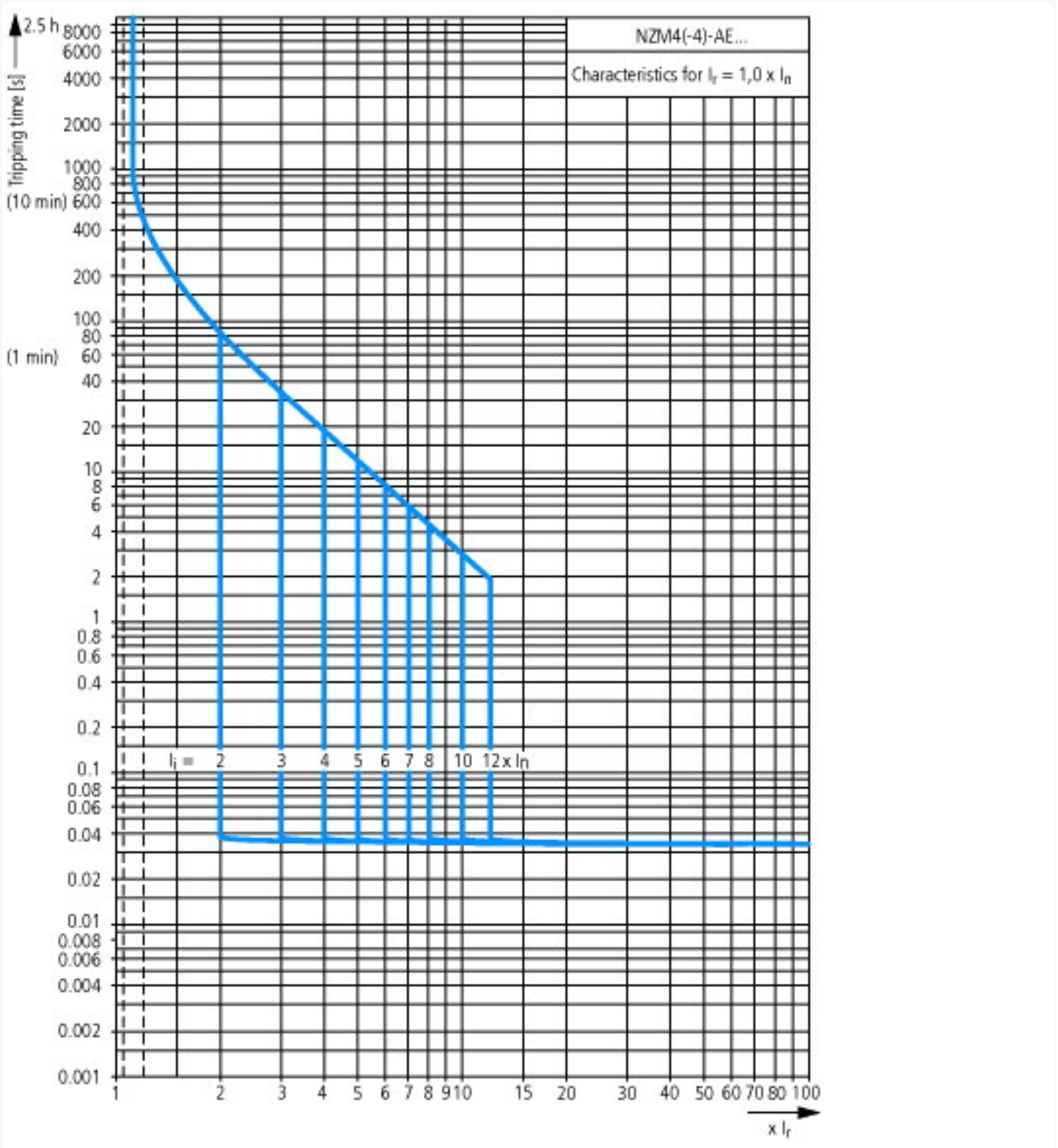
Technical data for design verification			
Rated operational current for specified heat dissipation	I_n	A	630
Equipment heat dissipation, current-dependent	P_{vid}	W	44.06
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
IEC/EN 61439 design verification			
10.2 Strength 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

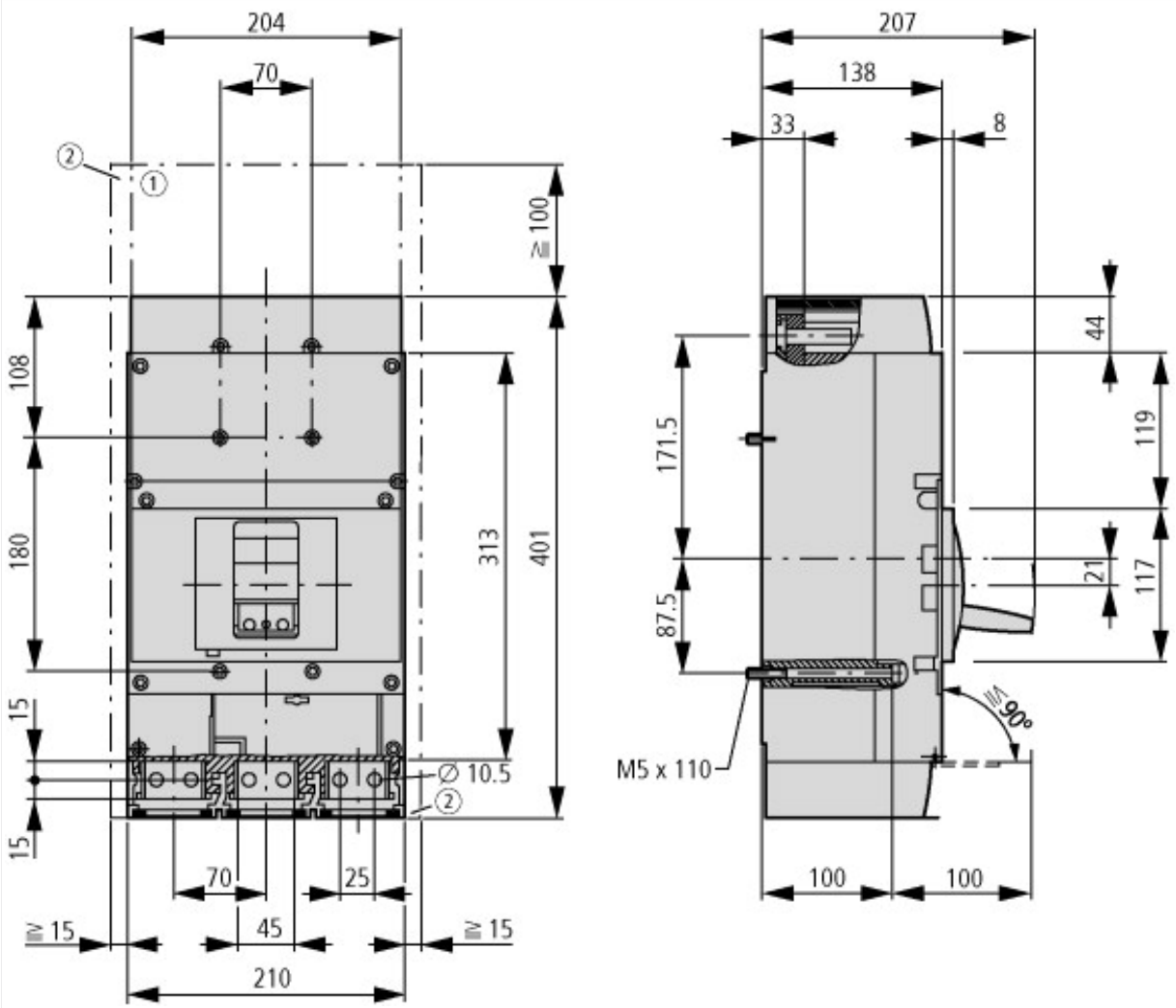
Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation prot. (EC000228)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss8.1-27-37-04-09 [AJZ716010])			
Rated permanent current Iu		A	630
Rated voltage		V	1000 - 1000
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz		kA	85
Overload release current setting		A	315 - 630
Adjustment range short-term delayed short-circuit release		A	0 - 0
Adjustment range undelayed short-circuit release		A	1260 - 7560
Integrated earth fault protection			No

Type of electrical connection of main circuit	Screw connection
Device construction	Built-in device fixed built-in technique
Suitable for DIN rail (top hat rail) mounting	No
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
Switched-off indicator available	No
With under voltage release	No
Number of poles	3
Position of connection for main current circuit	Front side
Type of control element	Rocker lever
Complete device with protection unit	Yes
Motor drive integrated	No
Motor drive optional	Yes
Degree of protection (IP)	IP20

Characteristics



Dimensions



① Blow out area, minimum clearance to adjacent parts
Ui ≤ 690 V: 100 mm
Ui ≤ 1500 V: 200 mm

② Minimum clearance to adjacent parts
Ui ≤ 1000 V: 15 mm
Ui ≤ 1500 V: 70 mm

Additional product information (links)

IL01210010Z (AWA1230-2022) Circuit-Breaker, basic unit	
IL01210010Z (AWA1230-2022) Circuit-Breaker, basic unit	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01210010Z2015_11.pdf
Weight	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.171
Temperature dependency, Derating	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.172
Effective power loss	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.174
Back-up und Selektivitäts Guide	http://www.eaton.eu/ecm/groups/public/@pub/@europe/@electrical/documents/content/pct_1198913_de.pdf
Setting-Specific Representation of Tripping Characteristics and Competent Assessment of their Interaction	http://www.moeller.net/binary/ver_techpapers/ver943en.pdf
Busbar Component Adapters for modern Industrial control panels	http://www.moeller.net/binary/ver_techpapers/ver960en.pdf
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