







Circuit-breaker, 4 p, 500A, 320A, in 4th pole

Part no. LZMN3-4-A500/320-I
Article no. 111976

Similar to illustration

Delivery programme

Product range				Circuit-breaker
Protective function				System and cable protection
Standard/Approval				IEC
Installation type				Fixed
Release system				Thermomagnetic release
Construction size				LZM3
Description				Set value in neutral conductor is synchronous with set value I_r of main pole.
Number of poles				4 pole
Standard equipment				Screw connection
Switching capacity				
400/415 V 50 Hz	I_{cu}	kA		50
Rated current = rated uninterrupted current				
Rated current = rated uninterrupted current	$I_n = I_u$	A		500
Neutral conductor	% of phase conductor	CSA		60
Neutral conductor protection				Reduced neutral conductor protection
Setting range				
Overload trip				
	I_r	A		400 - 500
Main pole				
	I_r	A		250 - 320
Short-circuit releases				
				
Non-delayed	$I_i = I_n \times \dots$			6 - 10
				

Technical data

General

Standards				IEC/EN 60947, VDE 0660
Protection against direct contact				Finger and back-of-hand proof to VDE 0106 part 100
Climatic proofing				Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Mechanical shock resistance (10 ms half-sinusoidal shock) according to IEC 60068-2-27		g		20 (half-sinusoidal shock 20 ms)
Safe isolation to EN 61140				
Between auxiliary contacts and main contacts		V AC		500
between the auxiliary contacts		V AC		300
Weight		kg		8.4
Mounting position				Vertical and 90° in all directions



With XFI earth-fault release:
 - NZM1, N1, NZM2, N2: vertical and 90° in all directions with plug-in unit
 - 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 protection		
Device		In the area of the HMI devices: IP20 (basic protection type)
Enclosures		with insulating surround: IP40 with door coupling rotary handle: IP66
Terminations		Tunnel terminal: IP10 Phase isolator and band terminal: IP00

Circuit-breakers

Rated current = rated uninterrupted current	$I_n = I_u$	A	500
Rated surge voltage invariability	U_{imp}		
Main contacts		V	8000
Auxiliary contacts		V	6000
Rated operational voltage	U_e	V AC	690
Overvoltage category/pollution degree			III/3
Rated insulation voltage	U_i	V	1000
Use in unearthed supply systems		V	690

Switching capacity

Rated short-circuit making capacity	I_{cm}		
240 V 50/60 Hz	I_{cm}	kA	187
400/415 V 50/60 Hz	I_{cm}	kA	105
440 V 50/60 Hz	I_{cm}	kA	74
525 V 50/60 Hz	I_{cm}	kA	53
690 V 50/60 H	I_c	kA	40
Rated short-circuit breaking capacity I_{cn}	I_{cn}		
I_{cu} to IEC/EN 60947 test cycle O-t-CO	I_{cu}	kA	
240 V 50/60 Hz	I_{cu}	kA	85
400/415 V 50 Hz	I_{cu}	kA	50
440 V 50/60 Hz	I_{cu}	kA	35
525 V 50/60 Hz	I_{cu}	kA	25
690 V 50/60 Hz	I_{cu}	kA	20
I_{cs} to IEC/EN 60947 test cycle O-t-CO-t-CO	I_{cs}	kA	
230 V 50/60 Hz	I_{cs}	kA	85
400/415 V 50/60 Hz	I_{cs}	kA	50
440 V 50/60 Hz	I_{cs}	kA	35
525 V 50/60 Hz	I_{cs}	kA	13
690 V 50/60 Hz	I_{cs}	kA	5
Rated short-time withstand current			Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.
$t = 0.3$ s	I_{cw}	kA	3.3
$t = 1$ s	I_{cw}	kA	3.3
Utilization category to IEC/EN 60947-2			A
Rated making and breaking capacity			
Rated operational current	I_e	A	
AC-1			
380 V 400 V	I_e	A	630
415 V	I_e	A	500

690 V	I _e	A	630
AC--3			
380 V 400 V	I _e	A	450
415 V	I _e	A	450
660 V 690 V	I _e	A	450
DC-1			
500 V DC	I _e	CSA	500
750 V DC	I _e	CSA	500
DC - 3			
500 V DC	I _e	CSA	500
750 V DC	I _e	CSA	500
Lifespan, mechanical	Operations		15000
Lifespan, electrical			
AC-1			
400 V 50/60 Hz	Operations		5000
415 V 50/60 Hz	Operations		5000
690 V 50/60 Hz	Operations		3000
AC-2, AC-3			
400 V 50/60 Hz	Operations		2000
415 V 50/60 Hz	Operations		2000
690 V 50/60 Hz	Operations		2000
DC-1			
500 V DC		Operation	5000
750 V DC		Operation	5000
DC - 3			
500 V DC	Operations		2000
750 V DC	Operations		2000
Max. operating frequency		Ops/h	60
Total downtime in a short-circuit		ms	< 10

Terminal capacity

Standard equipment			Screw connection
Round copper conductor			
Tunnel terminal			
Solid		mm ²	1 x (16 - 185)
Copper busbar (width x thickness)	mm		
Bolt terminal and rear-side connection			
Screw connection			M10

Design verification as per IEC/EN 61439

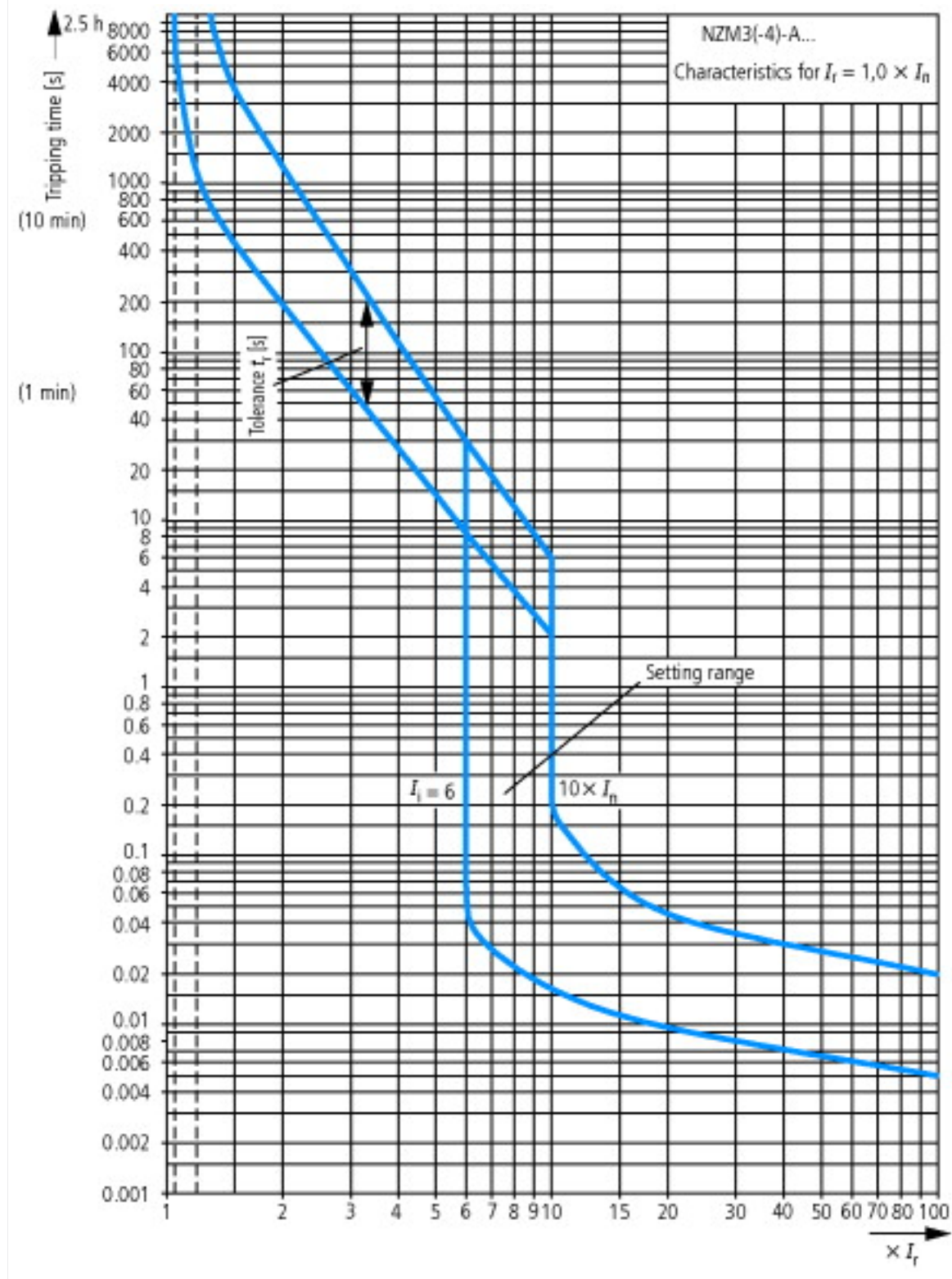
Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	A	500
Equipment heat dissipation, current-dependent	P _{vid}	W	130.5
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's 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.

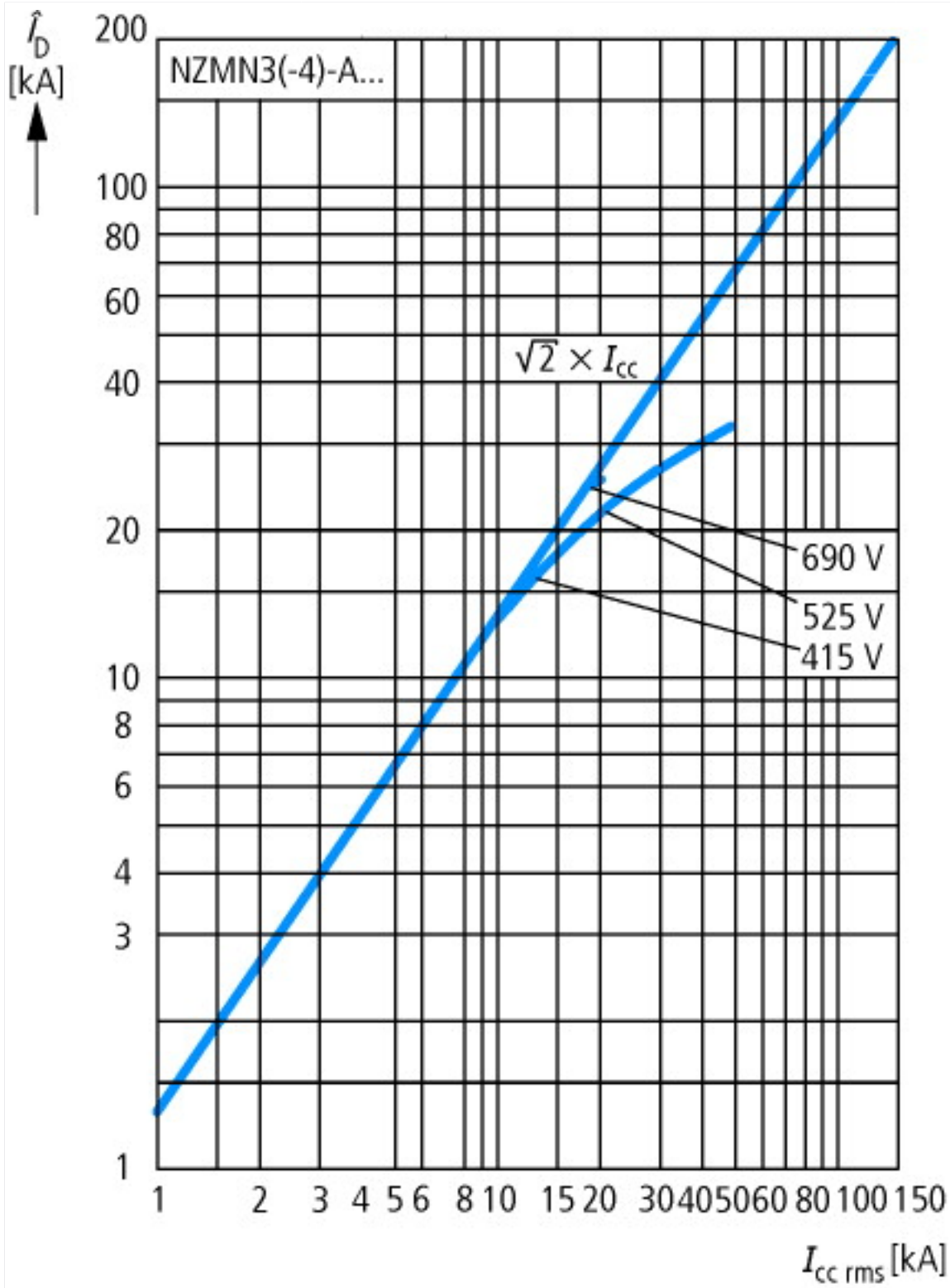
10.5 Protection against electric shock		Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components		Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections		Is the panel builder's 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.

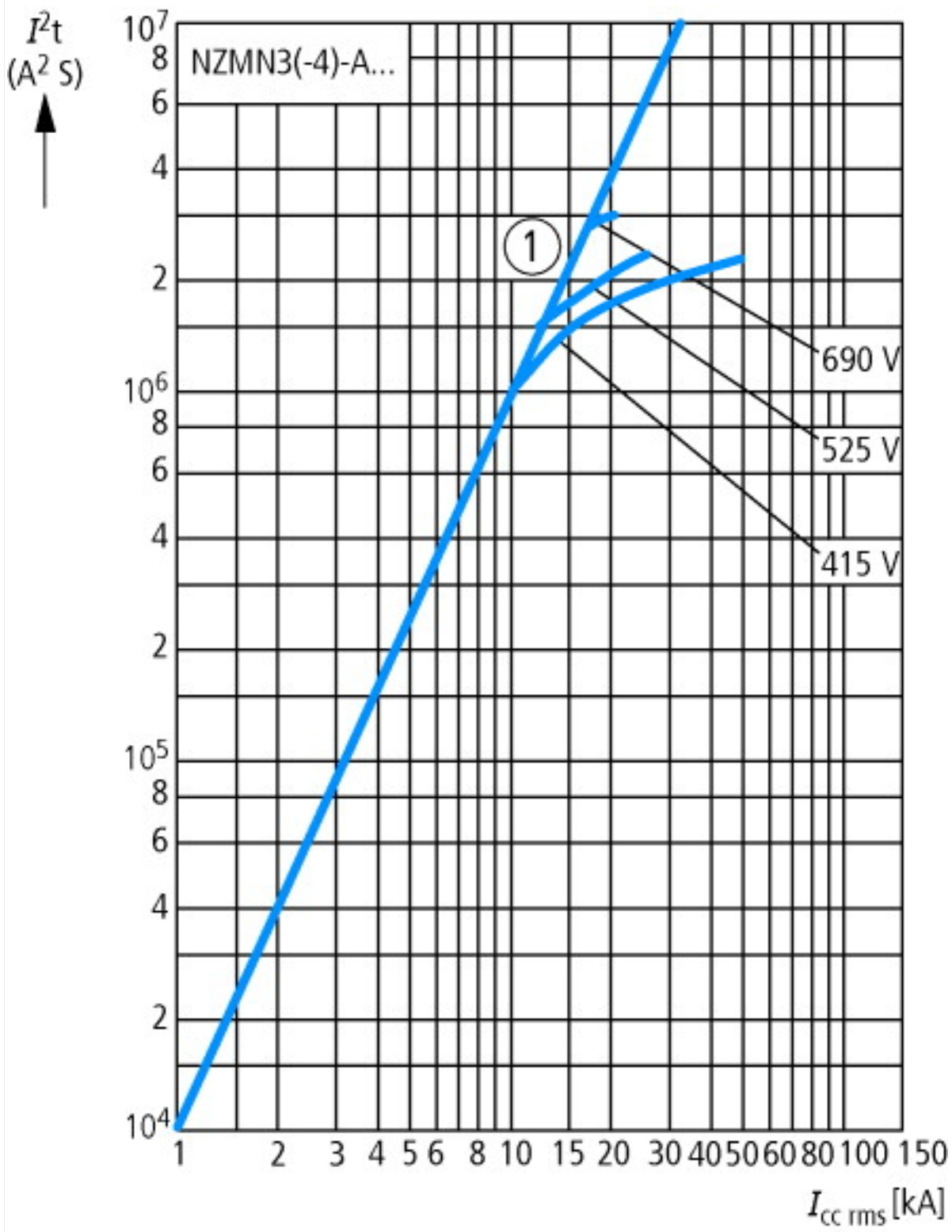
Technical data ETIM 6.0

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 (ec1@ss8.1-27-37-04-09 [AJZ716010])		
Rated permanent current I _u	A	500
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity I _{cu} at 400 V, 50 Hz	kA	50
Overload release current setting	A	400 - 500
Adjustment range short-term delayed short-circuit release	A	0 - 0
Adjustment range undelayed short-circuit release	A	3000 - 5000
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		4
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

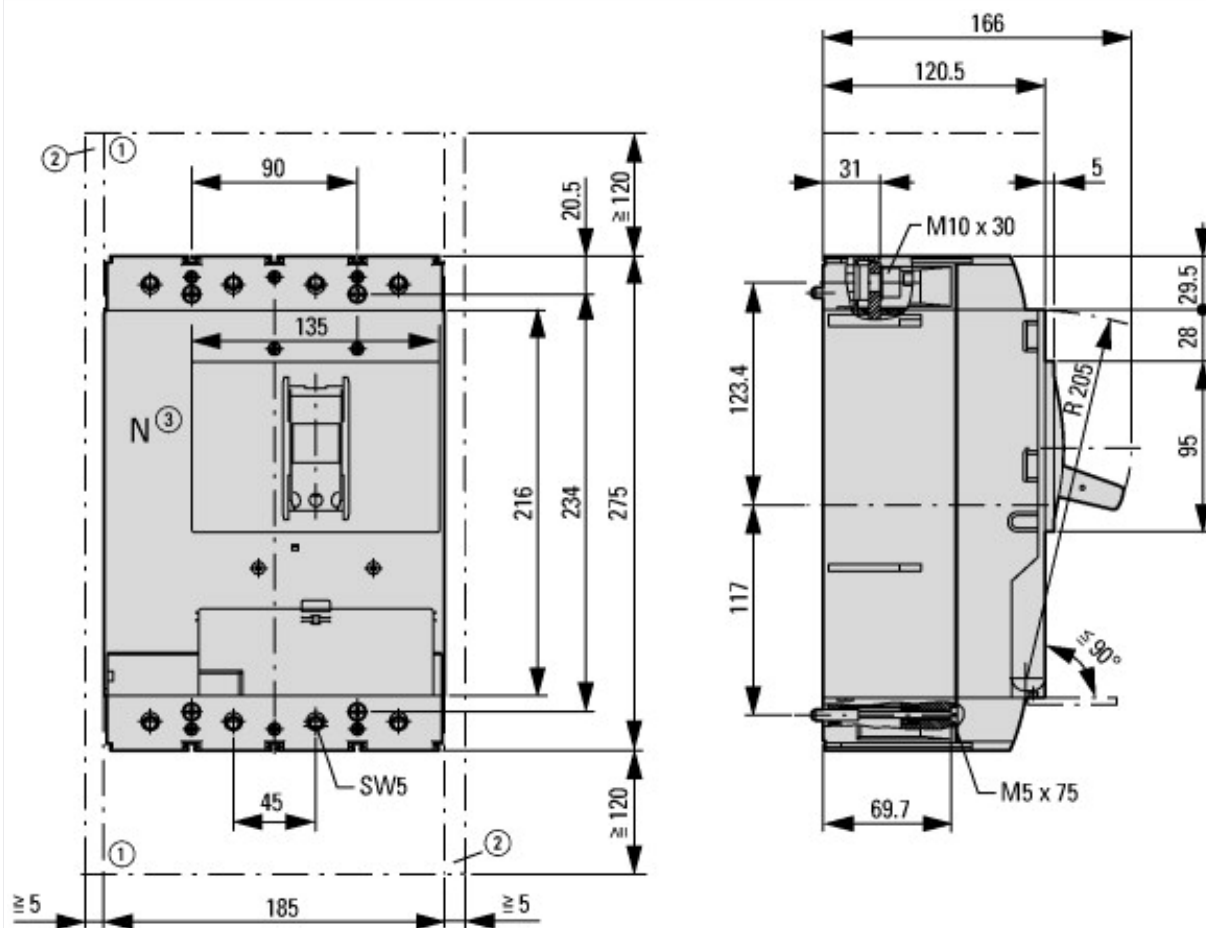
Characteristics







Dimensions



① Blow out area, minimum clearance to other parts

② Minimum clearance to adjacent parts



Additional product information (links)

IL01208013Z LZMC3 circuit-breaker, LN3 switch-disconnector

IL01208013Z LZMC3 circuit-breaker, LN3
switch-disconnector

ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01208013Z2012_02.pdf