







## Circuit-breaker, 4 p, 500A, 230A, in 4th pole

Part no. **LZMC3-4-A500/320-I**  
 Article no. **111962**

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
<b>Switching capacity</b>			
400/415 V 50/60 Hz	$I_{cu}$	kA	36
<b>Rated current = rated uninterrupted current</b>			
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
<b>Setting range</b>			
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

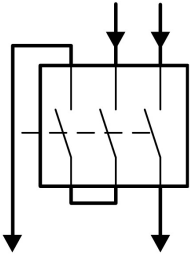
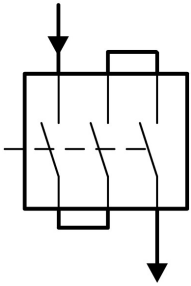

<b>General</b>			
Standards			IEC/EN 60947, VDE 0660
Protection against direct contact			Finger and back-of-hand proof to VDE 0106 part 100
Climatic proofing			Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
Mechanical shock resistance (10 ms half-sinusoidal shock) according 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
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
Rated operational voltage	$U_e$	V DC	750
<p>The specifications apply to three-pole system-protective circuit breakers with an NZMN(H)1(2)(3)-A... thermomagnetic release rated for currents of up to 500 A.</p> <p>The following applies when using the rated operating voltage for switching on 3 contacts:</p> <p>DC correction factor for instantaneous release response value: NZM1: 1.25, NZM2: 1.35, NZM3: 1.45</p> <p>Set current for <math>I_f</math> for DC = Set current <math>I_f</math> for AC / DC correction factor</p>			
		<b>Switching of one pole via two series contacts</b>	<b>Switching of one pole via three series contacts</b>
			
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	121
400/415 V 50/60 Hz	$I_{cm}$	kA	76
440 V 50/60 Hz	$I_{cm}$	kA	63
525 V 50/60 Hz	$I_{cm}$	kA	24
690 V 50/60 Hz	$I_c$	kA	14
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	55
400/415 V 50/60 Hz	$I_{cu}$	kA	36
440 V 50/60 Hz	$I_{cu}$	kA	30
525 V 50/60 Hz	$I_{cu}$	kA	12

690 V 50/60 Hz	$I_{CU}$	kA	8
Ics to IEC/EN 60947 test cycle O-t-CO-t-CO	$I_{CS}$	kA	
230 V 50/60 Hz	$I_{CS}$	kA	55
400/415 V 50/60 Hz	$I_{CS}$	kA	36
440 V 50/60 Hz	$I_{CS}$	kA	22.5
525 V 50/60 Hz	$I_{CS}$	kA	9
690 V 50/60 Hz	$I_{CS}$	kA	4
			Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.
Rated short-time withstand current			
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	500
415 V	$I_e$	A	500
690 V	$I_e$	A	500
AC--3			
380 V 400 V	$I_e$	A	450
415 V	$I_e$	A	450
660 V 690 V	$I_e$	A	450
Lifespan, mechanical	Operations		15000
Lifespan, electrical			
AC-1			
400 V 50/60 Hz	Operations		5000
690 V 50/60 Hz	Operations		3000
AC-2, AC-3			
400 V 50/60 Hz	Operations		2000
690 V 50/60 Hz	Operations		2000
Max. operating frequency		Ops/h	60
Current heat losses per pole at $I_u$ are based on the maximum rated operational current of the frame size.		W	40
			For current heat loss per pole the specification refers to the maximum rated operational current of the frame size.
Total downtime in a short-circuit		ms	< 10

### Terminal capacity

Standard equipment			Screw connection
Round copper conductor			
Tunnel terminal			
Solid		mm <sup>2</sup>	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

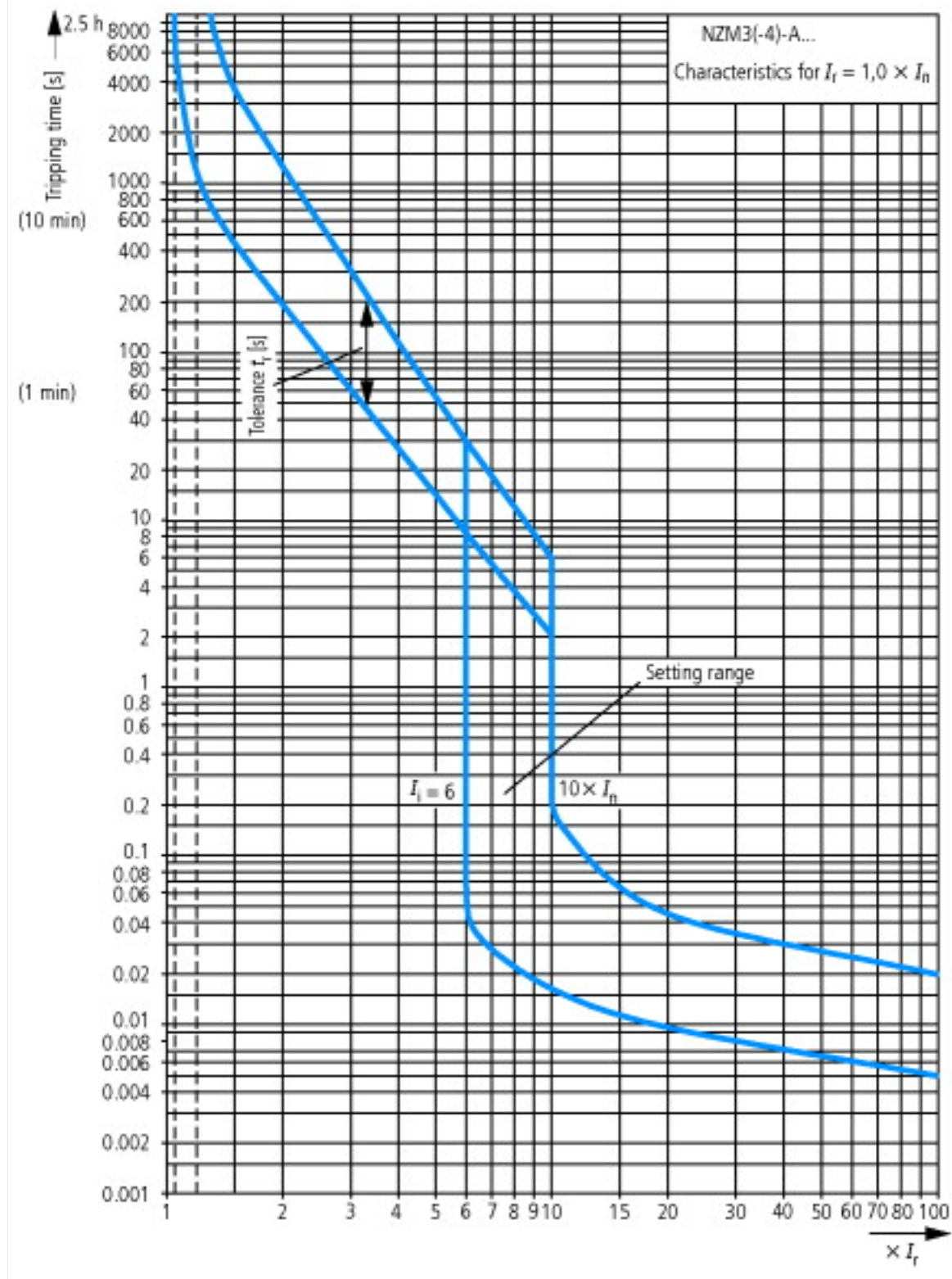
Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	500
Equipment heat dissipation, current-dependent	$P_{vid}$	W	130.5
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets the product standard's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

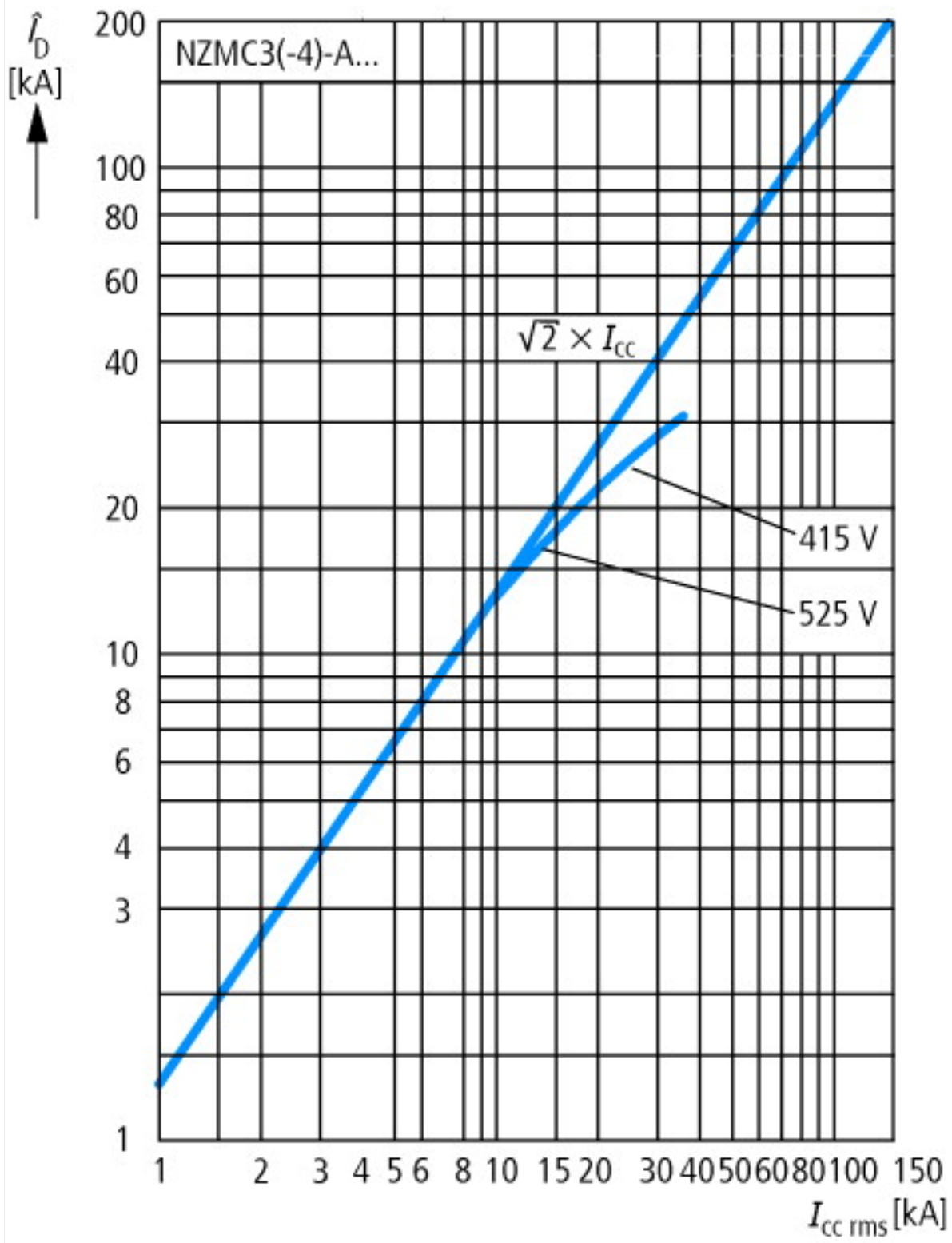
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects		Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation		Meets the product standard's requirements.
10.2.5 Lifting		Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact		Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Incriptions		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.

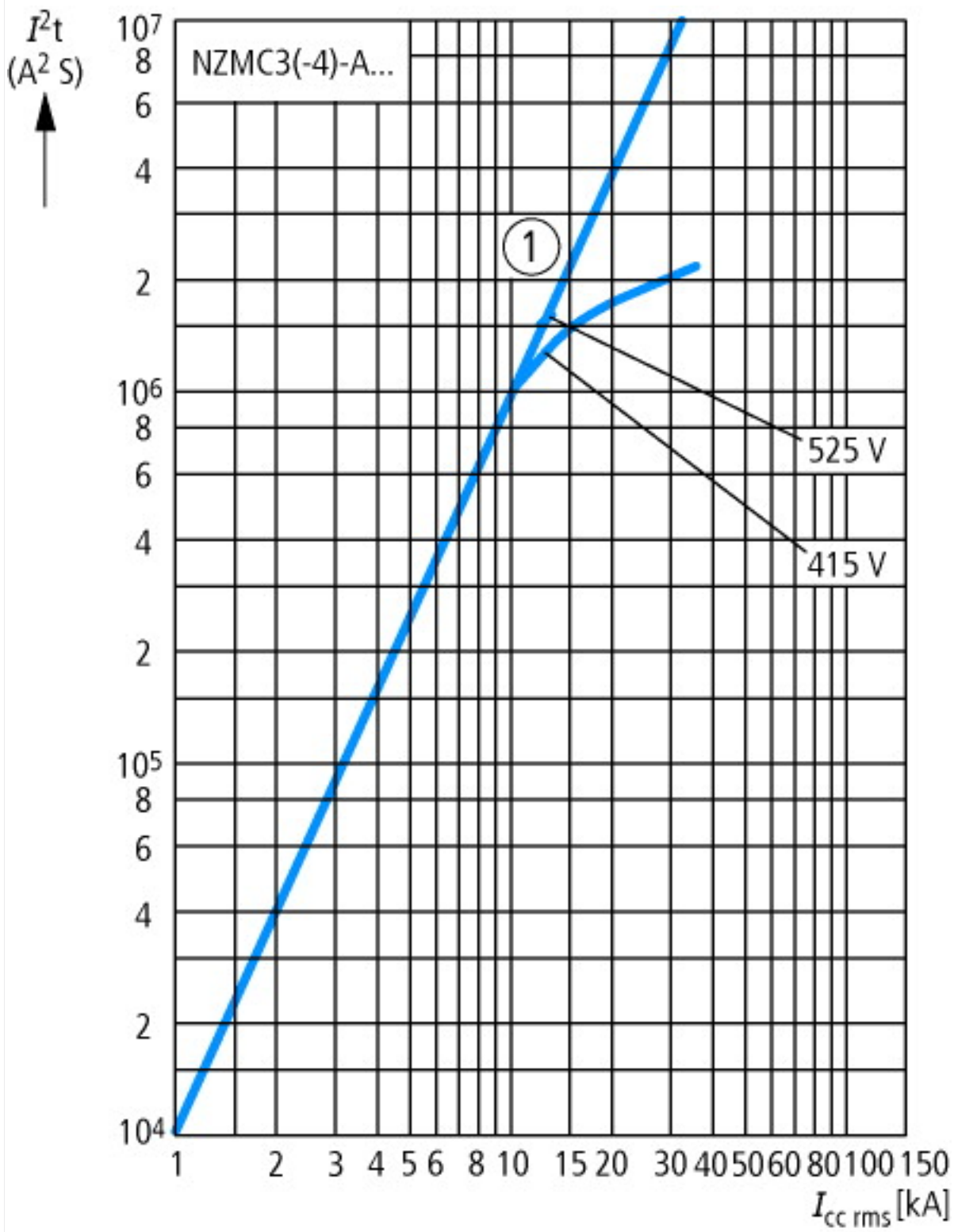
## Technical data ETIM 6.0

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 I <sub>u</sub>	A	500
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity I <sub>cu</sub> at 400 V, 50 Hz	kA	36
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

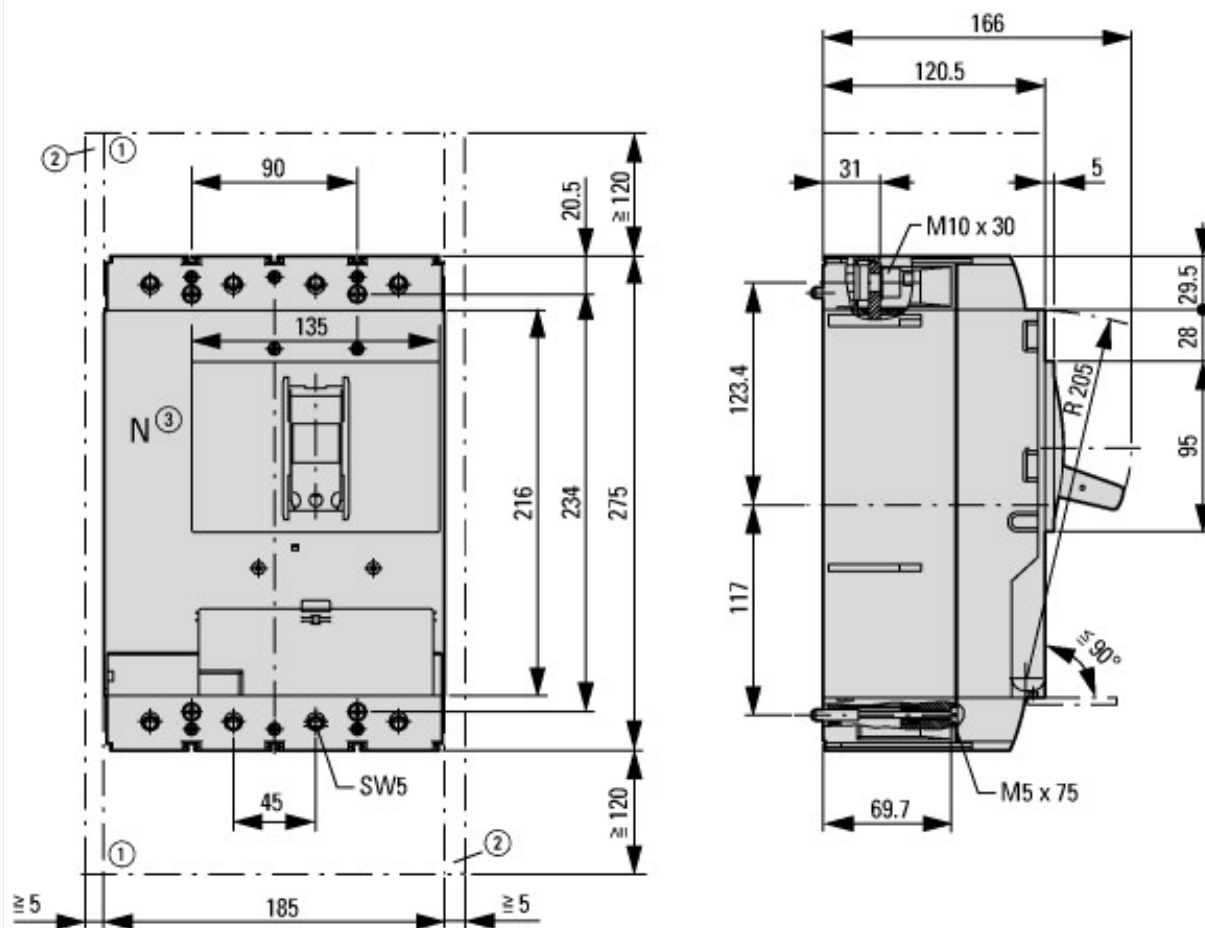
## Characteristics







## 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](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01208013Z2012_02.pdf)