






## Circuit-breaker, 3 p, 630A

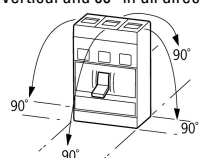
Part no. **LZMC3-AE630-I**  
 Article no. **111957**

Similar to illustration

## Delivery programme

Product range				Circuit-breaker
Protective function				System and cable protection
Standard/Approval				IEC
Installation type				Fixed
Release system				Electronic release
Construction size				LZM3
Description				R.m.s. value measurement and "thermal memory"
Number of poles				3 pole
Standard equipment				Screw connection
<b>Switching capacity</b>				
400/415 V 50/60 Hz	$I_{cu}$	kA		50
<b>Rated current = rated uninterrupted current</b>				
Rated current = rated uninterrupted current	$I_n = I_u$	A		630
<b>Setting range</b>				
Overload trip				
	$I_r$	A		315 - 630
Short-circuit releases				
				
Non-delayed	$I_i = I_n \times \dots$			2 - 8
				


## 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
Weight		kg		6.34
Mounting position				Vertical and 90° in all directions
				 <p>With XFI earth-fault release:</p> <ul style="list-style-type: none"> <li>- NZM1, N1, NZM2, N2: vertical and 90° in all directions with plug-in unit</li> <li>- NZM1, N1, NZM2, N2: vertical, 90° right/left with withdrawable unit:</li> <li>- NZM3, N3: vertical, 90° left</li> <li>- NZM4, N4: vertical with remote operator:</li> </ul>

- 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: IP40with 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	630
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 50/60 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	
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
Overview				Basic equipment
				Box terminal
				Screw connection
				accessory consideration
				Box terminals
				Screw connection
				Tunnel terminal connection
				on rear
				Strip terminal
Round copper conductor				
Box terminal				
Solid		$\text{mm}^2$	2 x 16	
Stranded		$\text{mm}^2$	1 x (35 - 240) 2 x (25 - 120)	
Tunnel terminal				
Solid		$\text{mm}^2$	1 x (16 - 185)	
Stranded		$\text{mm}^2$		
Stranded		$\text{mm}^2$	1 x (25 - 185)	
Double hole fitting		$\text{mm}^2$	1 x (50 - 240) 2 x (50 - 240)	
Bolt terminal and rear-side connection				
Direct on the switch				
Solid		$\text{mm}^2$	1 x 16 2 x 16	

Stranded		mm <sup>2</sup>	1 x (25 - 240) 2 x (25 - 240)
Connection width extension		mm <sup>2</sup>	
Connection width extension		mm <sup>2</sup>	2 x 300
Al conductors, Cu cable			
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 <sup>2</sup>	1 x (50 - 240) 2 x (50 - 240)
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 <sup>2</sup>	(2 x) 10 x 50 x 1.0
Cu strip (number of segments x width x segment thickness)			
Box terminal			
	min.	mm <sup>2</sup>	6 x 16 x 0.8
	max.	mm <sup>2</sup>	10 x 24 x 1.0 + 5 x 24 x 1.0 (2 x) 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 <sup>2</sup>	(2 x) 10 x 50 x 1.0
Copper busbar (width x thickness)			
Bolt terminal and rear-side connection			
Screw connection			M10
Direct on the switch			
	min.	mm <sup>2</sup>	20 x 5
	max.	mm <sup>2</sup>	30 x 10 + 30 x 5
Connection width extension		mm <sup>2</sup>	
Connection width extension	max.	mm <sup>2</sup>	2 x (10 x 50)
Control cables			
		mm <sup>2</sup>	1 x (0.75 - 2.5) 2 x (0.75 - 1.5)

## Design verification as per IEC/EN 61439

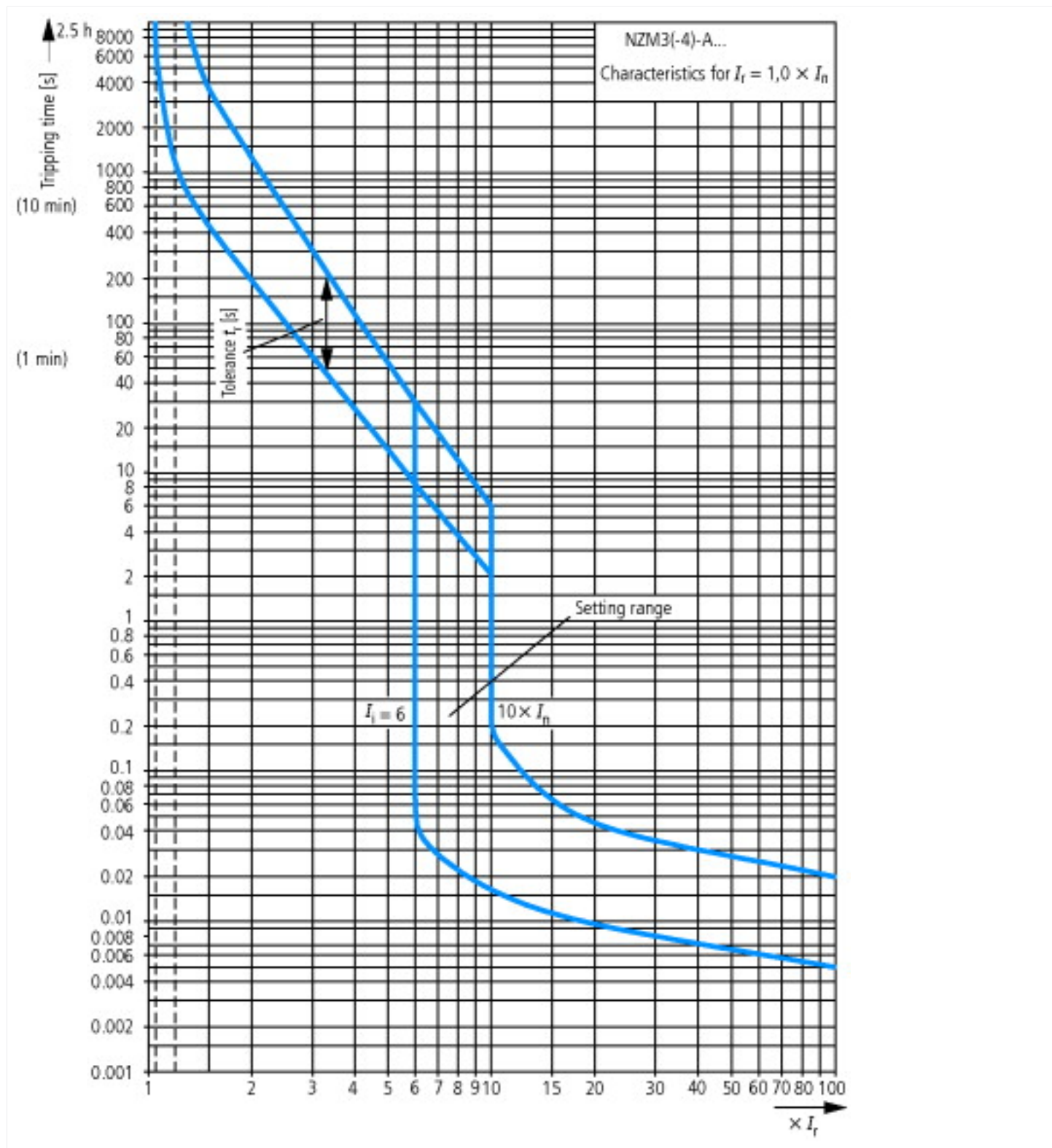
Technical data for design verification			
Rated operational current for specified heat dissipation	I <sub>n</sub>	A	630
Equipment heat dissipation, current-dependent	P <sub>vid</sub>	W	119.07
IEC/EN 61439 design verification			
10.2 Strength of materials and parts			
10.2.2 Corrosion resistance			Meets 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.

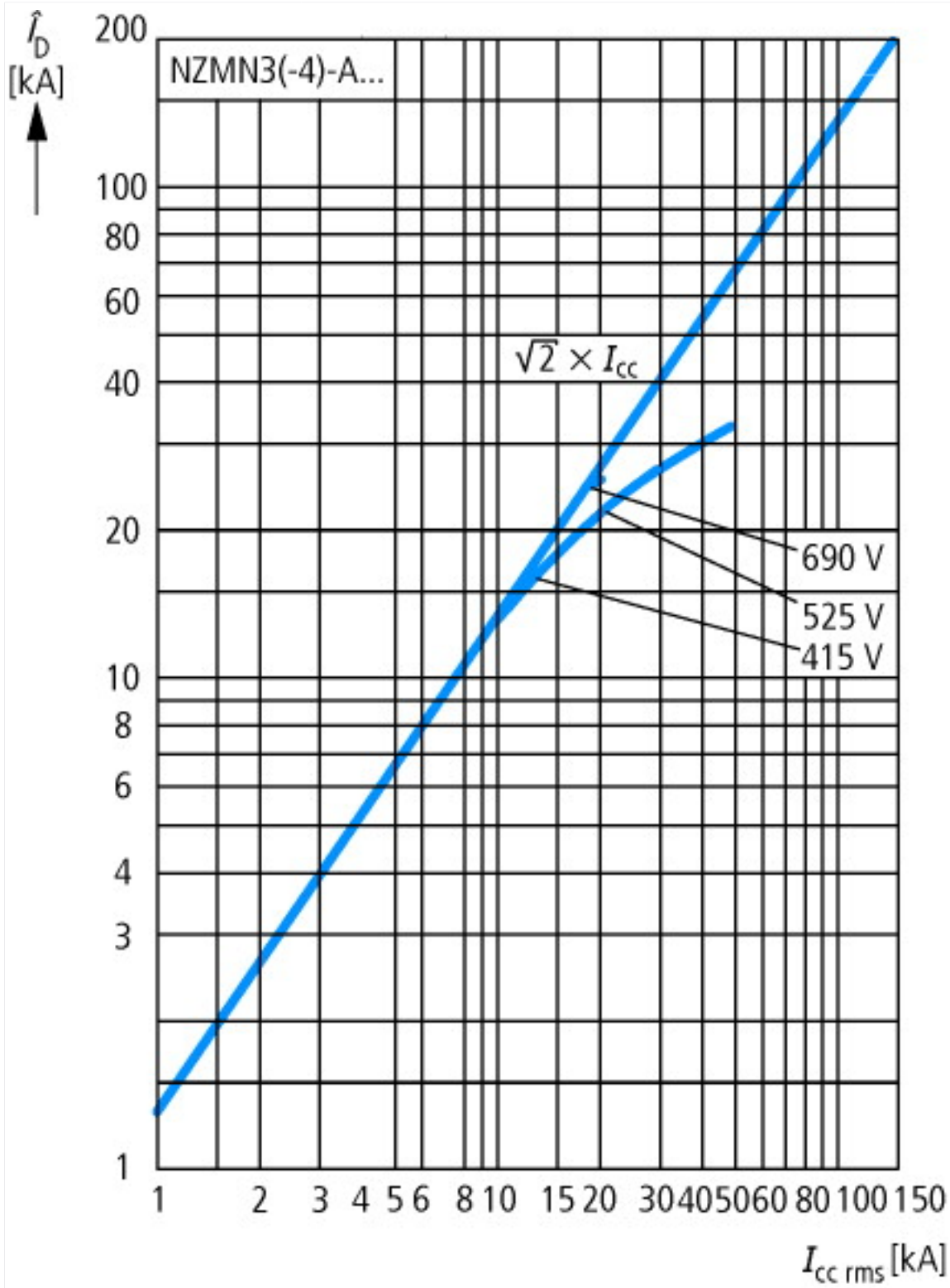
10.6 Incorporation of switching devices and components		Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections		Is the panel builder's responsibility.
10.8 Connections for external conductors		Is the panel builder's responsibility.
10.9 Insulation 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.

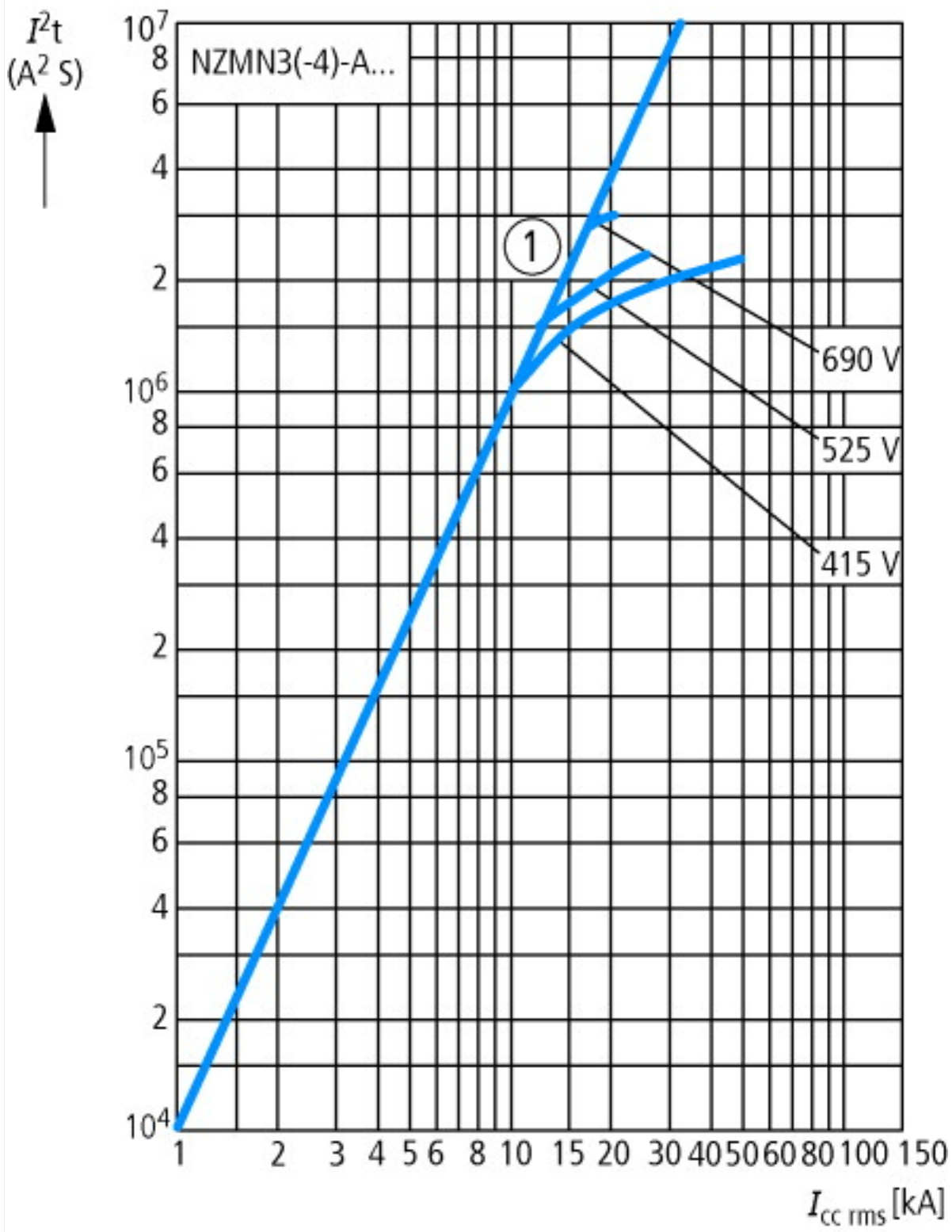
## Technical data ETIM 5.0

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@ss8-27-37-04-09 [AJZ716009])		
Rated permanent current I <sub>u</sub>	A	630
Rated short-circuit breaking capacity I <sub>cu</sub> at 400 V, 50 Hz	kA	36
Setting range overload protector	A	315 - 630
Adjustment range short-term delayed short-circuit release	A	0 - 0
Adjustment range undelayed short-circuit release	A	1260 - 5040
Integrated earth fault protection		No
Connection type main current circuit		Screw connection
Device construction		Built-in device fixed built-in technique
Suitable for DIN rail (top hat rail) mounting		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 connection
Type of control element		Rocker lever
Motor drive optional		Yes
Motor drive integrated		No
Degree of protection (IP)		IP20

# Characteristics

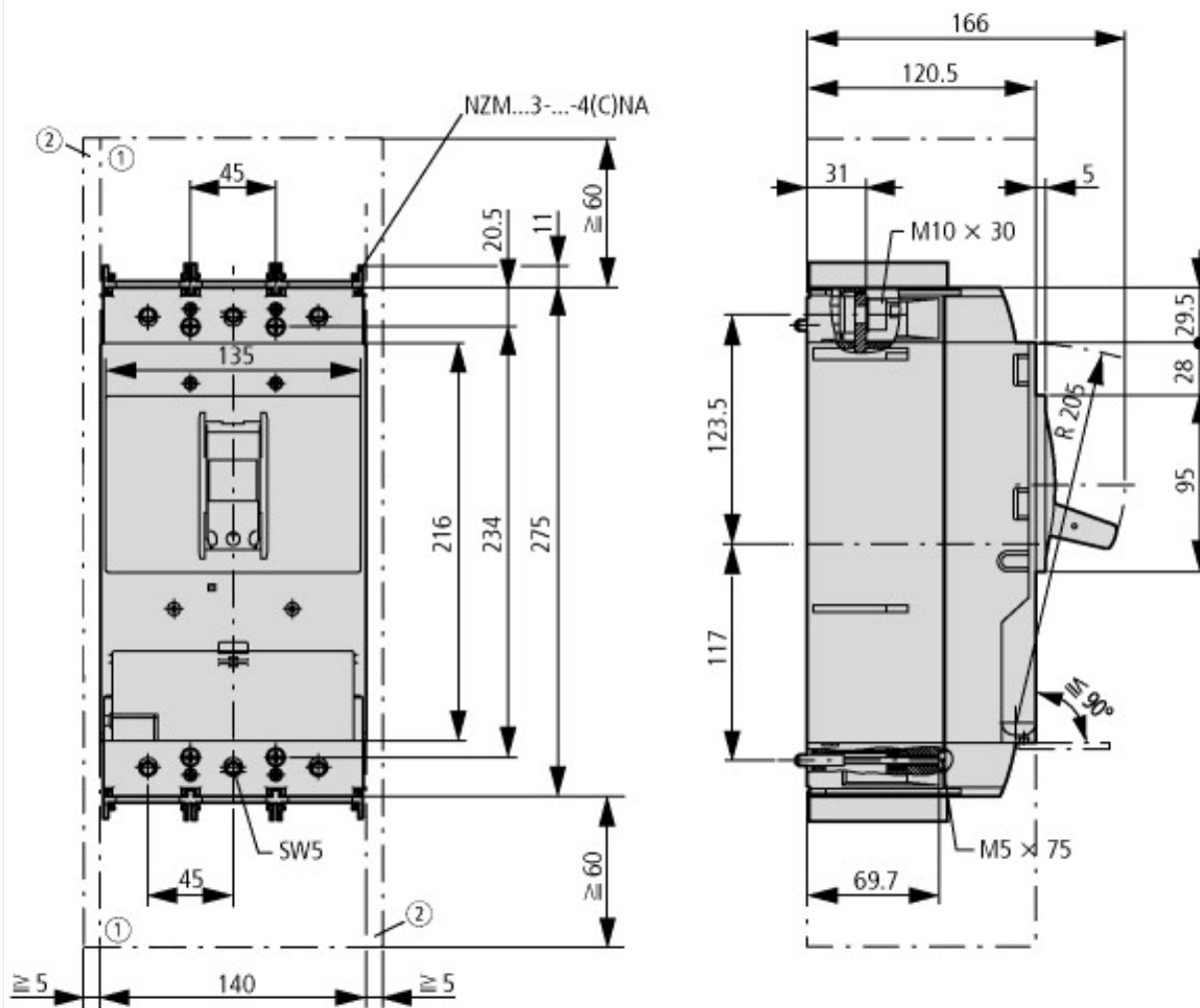








## Dimensions



- 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)