



Circuit-breaker, 3p, 200A

Part no.

NZMC2-A200

Catalog No.

271422

Similar to illustration

Delivery program

Product range			Circuit-breaker
Protective function			System and cable protection
Standard/Approval			IEC
Installation type			Fixed
Release system			Thermomagnetic release
Construction size			NZM2
Number of poles			3 pole
Standard equipment			Screw connection

Switching capacity

400/415 V 50 Hz	I_{cu}	kA	36
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Rated current = rated uninterrupted current

Rated current = rated uninterrupted current	$I_n = I_u$	A	200
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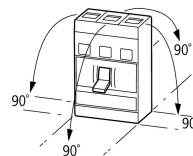
Setting range

Overload trip			
	I_r	A	160 - 200
Short-circuit releases			
Non-delayed	$I_i = I_n \times \dots$		6 - 10
Short-circuit releases	I_{rm}	A	1200 - 2000

Technical data

General

Standards			IEC/EN 60947
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
Ambient temperature			
Ambient temperature, storage		°C	- 40 - + 70
Operation		°C	-25 - +70
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	2.345
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° right/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 operating controls area: IP20 (basic degree of protection)

Enclosures

With insulating surround: IP40
With door coupling rotary handle: IP66

Terminations

Tunnel terminal: IP10
Phase isolator and strip terminal: IP00

Other technical data (sheet catalogue)

Temperature dependency, Derating

Circuit-breakers

Rated current = rated uninterrupted current

$I_n = I_u$

A

200

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

690

Use in unearthed supply systems

V

≤ 690

Switching capacity

Rated short-circuit making capacity

I_{cm}

kA

121

240 V

I_{cm}

kA

76

400/415 V

I_{cm}

kA

63

440 V 50/60 Hz

I_{cm}

kA

24

525 V 50/60 Hz

I_{cm}

kA

14

690 V 50/60 H

I_c

kA

14

Rated short-circuit breaking capacity I_{cn}

I_{cn}

kA

55

I_{cu} to IEC/EN 60947 test cycle O-t-CO

I_{cu}

kA

36

240 V 50/60 Hz

I_{cu}

kA

30

400/415 V 50/60 Hz

I_{cu}

kA

12

440 V 50/60 Hz

I_{cu}

kA

8

525 V 50/60 Hz

I_{cu}

kA

4

690 V 50/60 Hz

I_{cs}

kA

22.5

I_{cs} to IEC/EN 60947 test cycle O-t-CO-t-CO

I_{cs}

kA

6

240 V 50/60 Hz

I_{cs}

kA

4

400/415 V 50/60 Hz

I_{cs}

kA

20000

440 V 50/60 Hz

I_{cs}

kA

10000

525 V 50/60 Hz

I_{cs}

kA

7500

690 V 50/60 Hz

I_{cs}

kA

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

$t = 1 \text{ s}$

I_{cw}

kA

85

Utilization category to IEC/EN 60947-2

A

Lifespan, mechanical(of which max. 50 % trip by shunt/undervoltage release)

Operations

20000

Lifespan, electrical

AC-1

Operations

10000

400 V 50/60 Hz

Operations

7500

415 V 50/60 Hz

Operations

7500

690 V 50/60 Hz	Operations	5000	
Max. operating frequency	Ops/h	120	
Total break time at short-circuit	ms	< 10	
Terminal capacity			
Standard equipment		Screw connection	
Optional accessories		Box terminal Tunnel terminal connection on rear	
Round copper conductor			
Box terminal			
Solid	mm ²	1 x (10 - 16) 2 x (6 - 16)	
Stranded	mm ²	1 x (25 - 185) 2 x (25 - 70)	
Tunnel terminal			
Solid	mm ²	1 x 16	
Stranded			
1-hole	mm ²	1 x (25 - 185)	
Bolt terminal and rear-side connection			
Direct on the switch			
Solid	mm ²	1 x (10 - 16) 2 x (6 - 16)	
Stranded	mm ²	1 x (25 - 185) 2 x (25 - 70)	
Al circular conductor			
Tunnel terminal			
Solid	mm ²	1 x 16	
Stranded			
Stranded	mm ²	1 x (25 - 185)	
Cu strip (number of segments x width x segment thickness)			
Box terminal			
	min.	mm	2 x 9 x 0.8
	max.	mm	10 x 16 x 0.8 (2x) 8 x 15.5 x 0,8
Bolt terminal and rear-side connection			
Flat copper strip, with holes	min.	mm	2 x 16 x 0.8
Flat copper strip, with holes	max.	mm	10 x 24 x 0.8
Copper busbar (width x thickness)	mm		
Bolt terminal and rear-side connection			
Screw connection			M8
Direct on the switch			
	min.	mm	16 x 5
	max.	mm	24 x 8
Control cables			
		mm ²	1 x (0.75 - 2.5) 2 x (0.75 - 1.5)

Design verification as per IEC/EN 61439

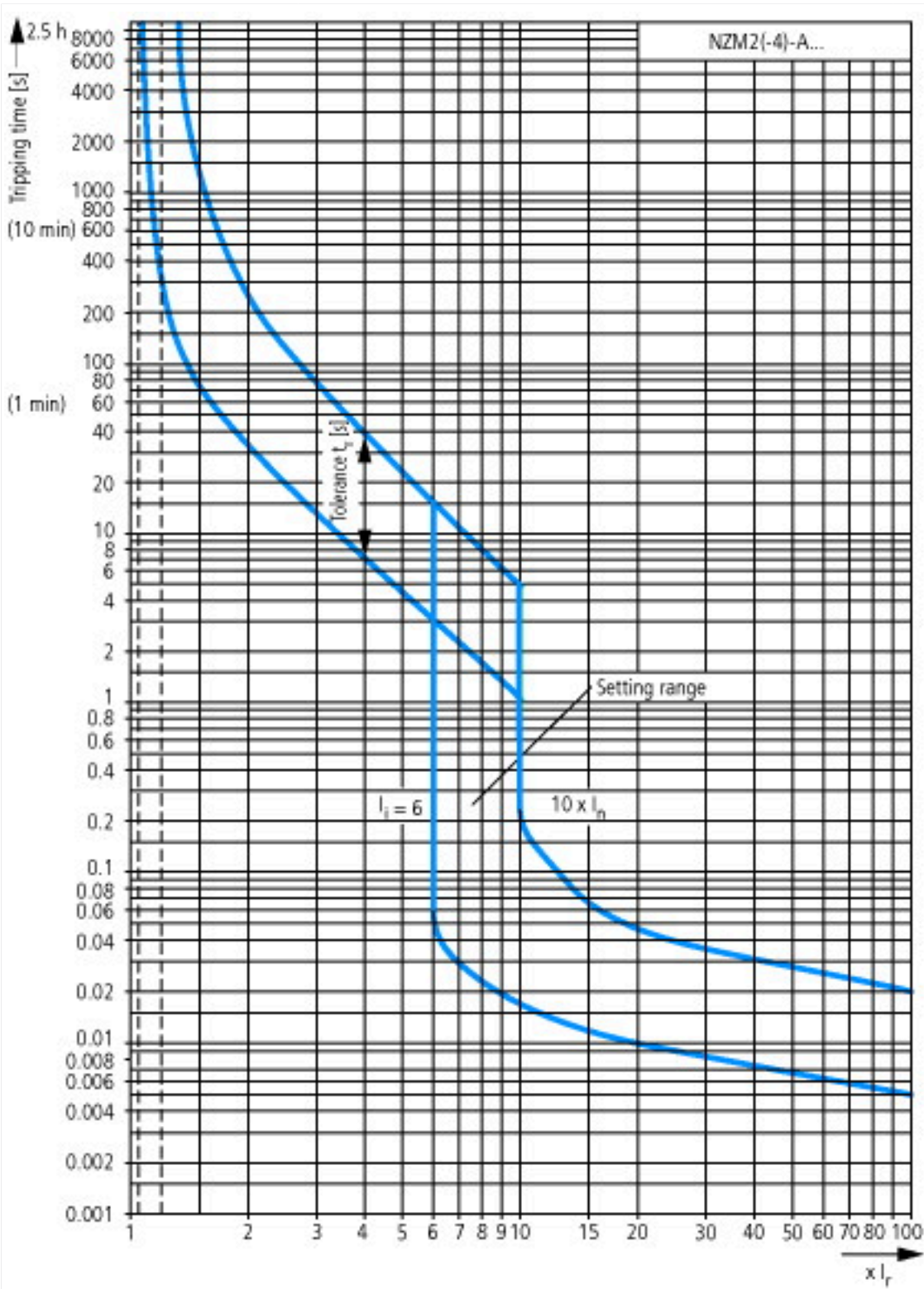
Technical data for design verification			
Rated operational current for specified heat dissipation	I _n	A	200
Equipment heat dissipation, current-dependent	P _{vid}	W	48
Operating ambient temperature min.		°C	-25
Operating ambient temperature max.		°C	70
IEC/EN 61439 design verification			
10.2 Strength 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.

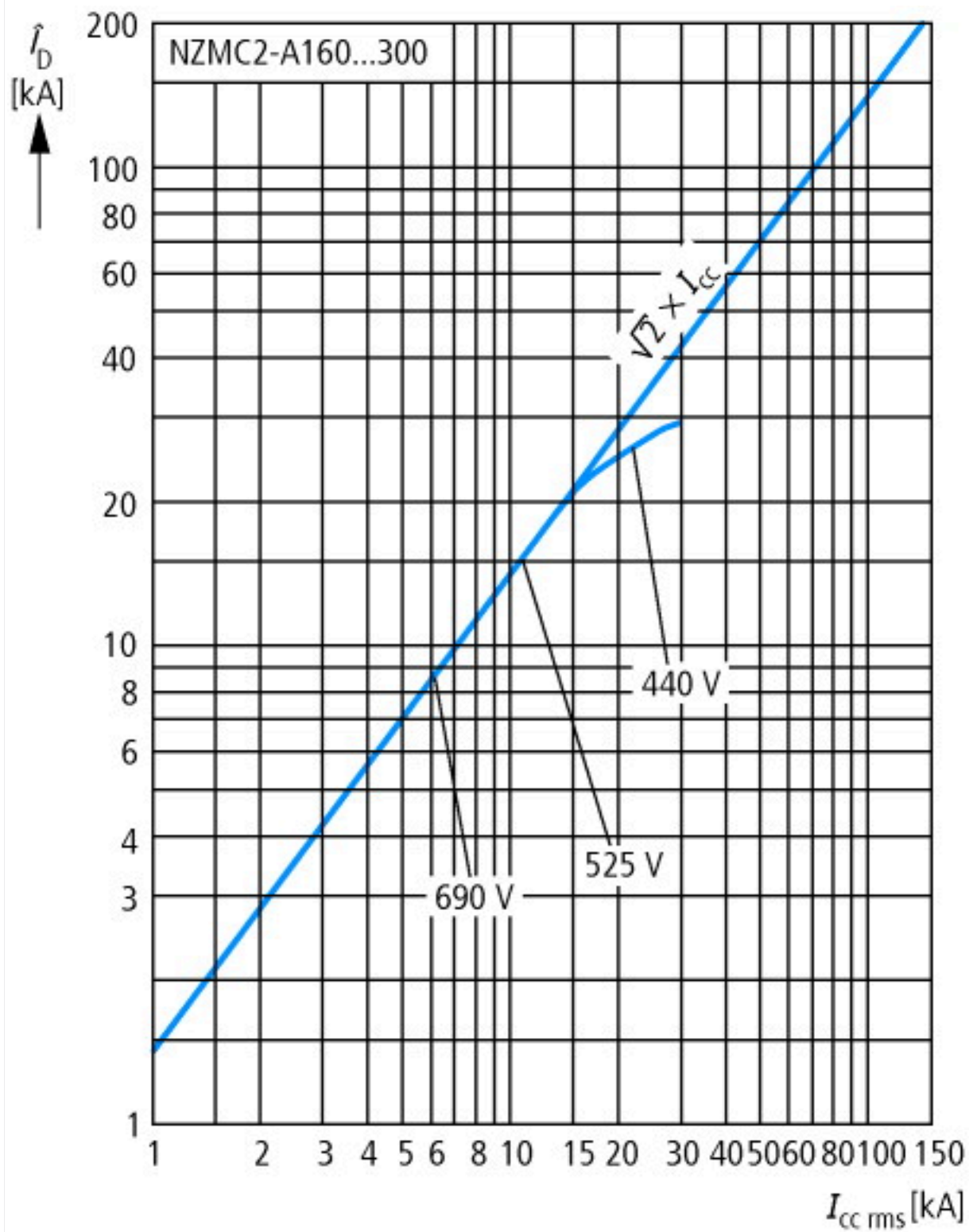
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects			Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation			Meets the product standard's requirements.
10.2.5 Lifting			Does not apply, since the 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 7.0

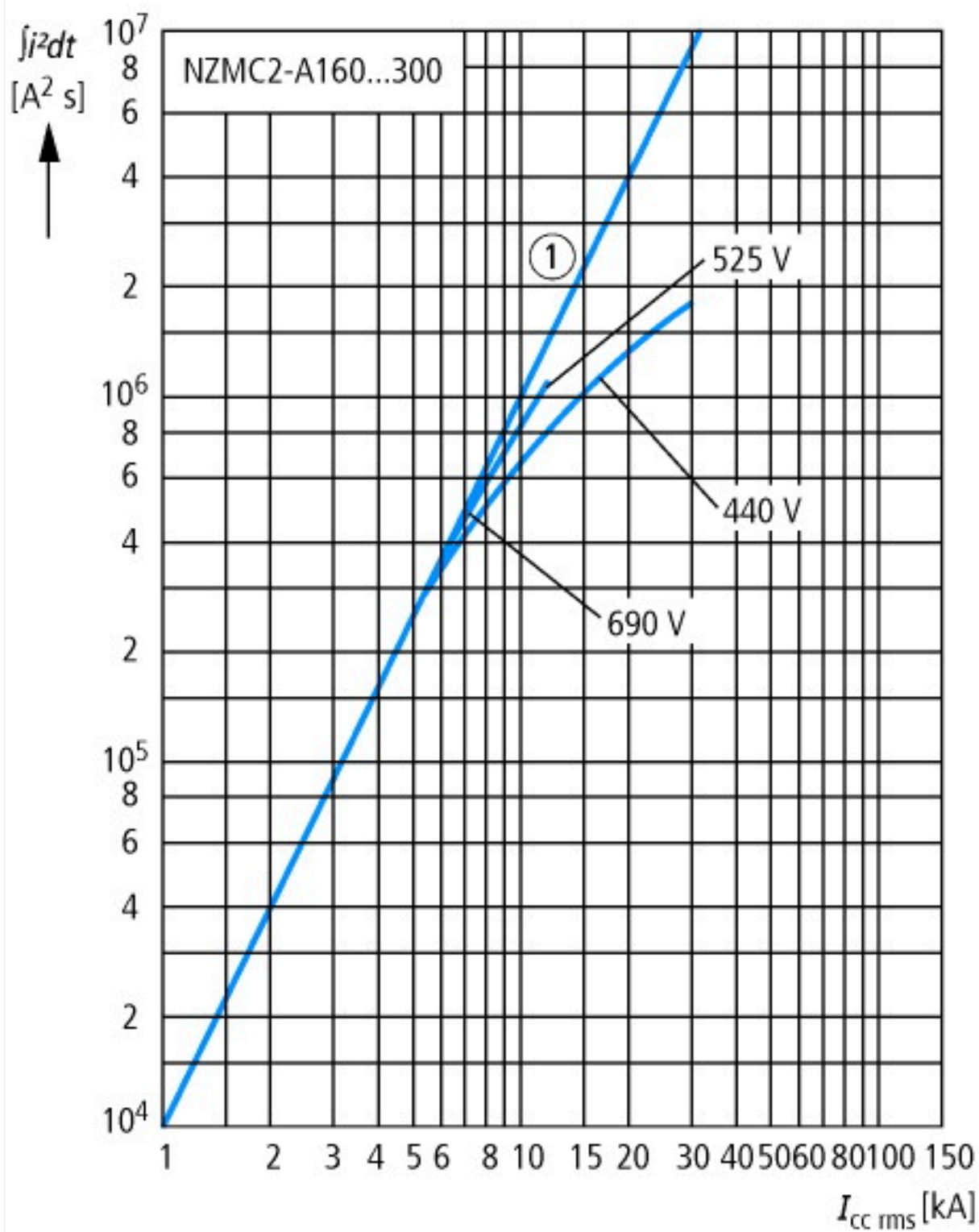
Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ec1@ss10.0.1-27-37-04-09 [AJZ716013])			
Rated permanent current I _u	A		200
Rated voltage	V		690 - 690
Rated short-circuit breaking capacity I _{cu} at 400 V, 50 Hz	kA		36
Overload release current setting	A		160 - 200
Adjustment range short-term delayed short-circuit release	A		0 - 0
Adjustment range undelayed short-circuit release	A		1200 - 2000
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			Yes
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
With switched-off indicator			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



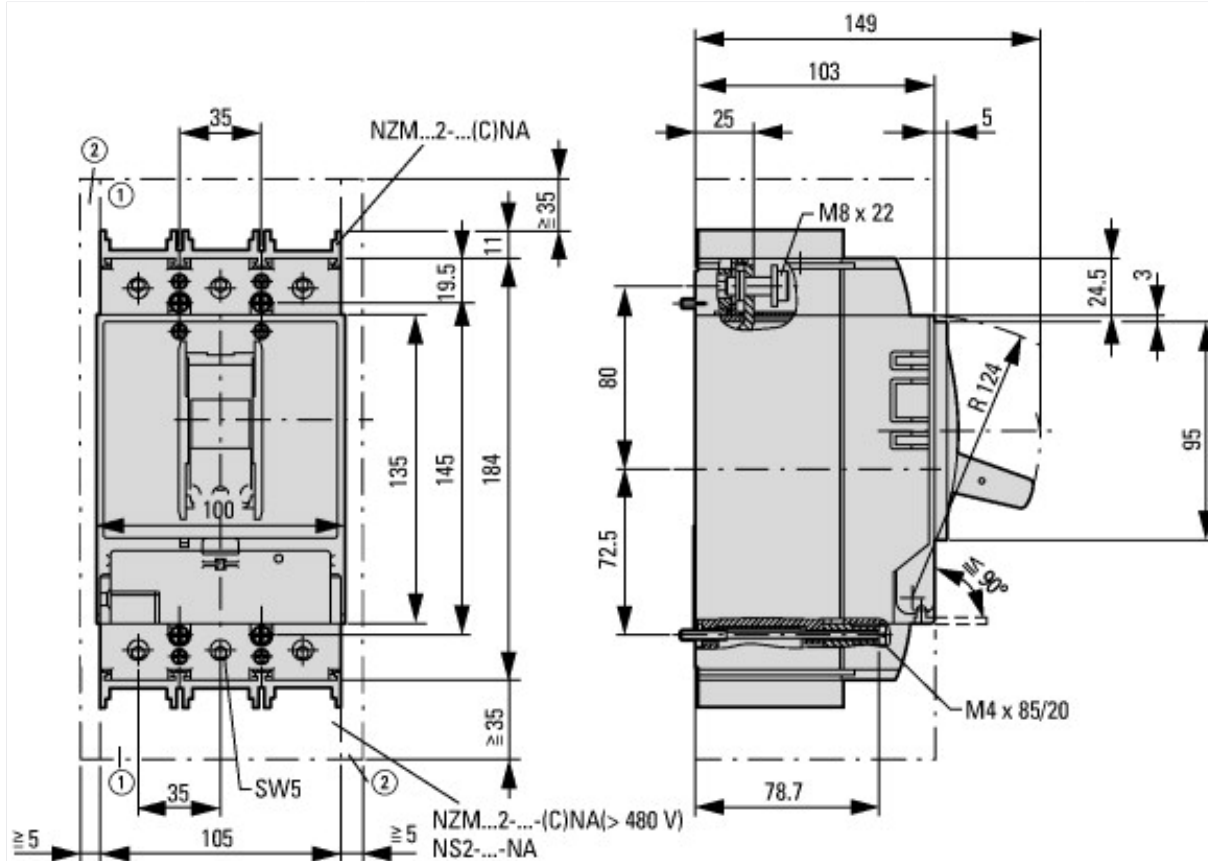


Let-through current

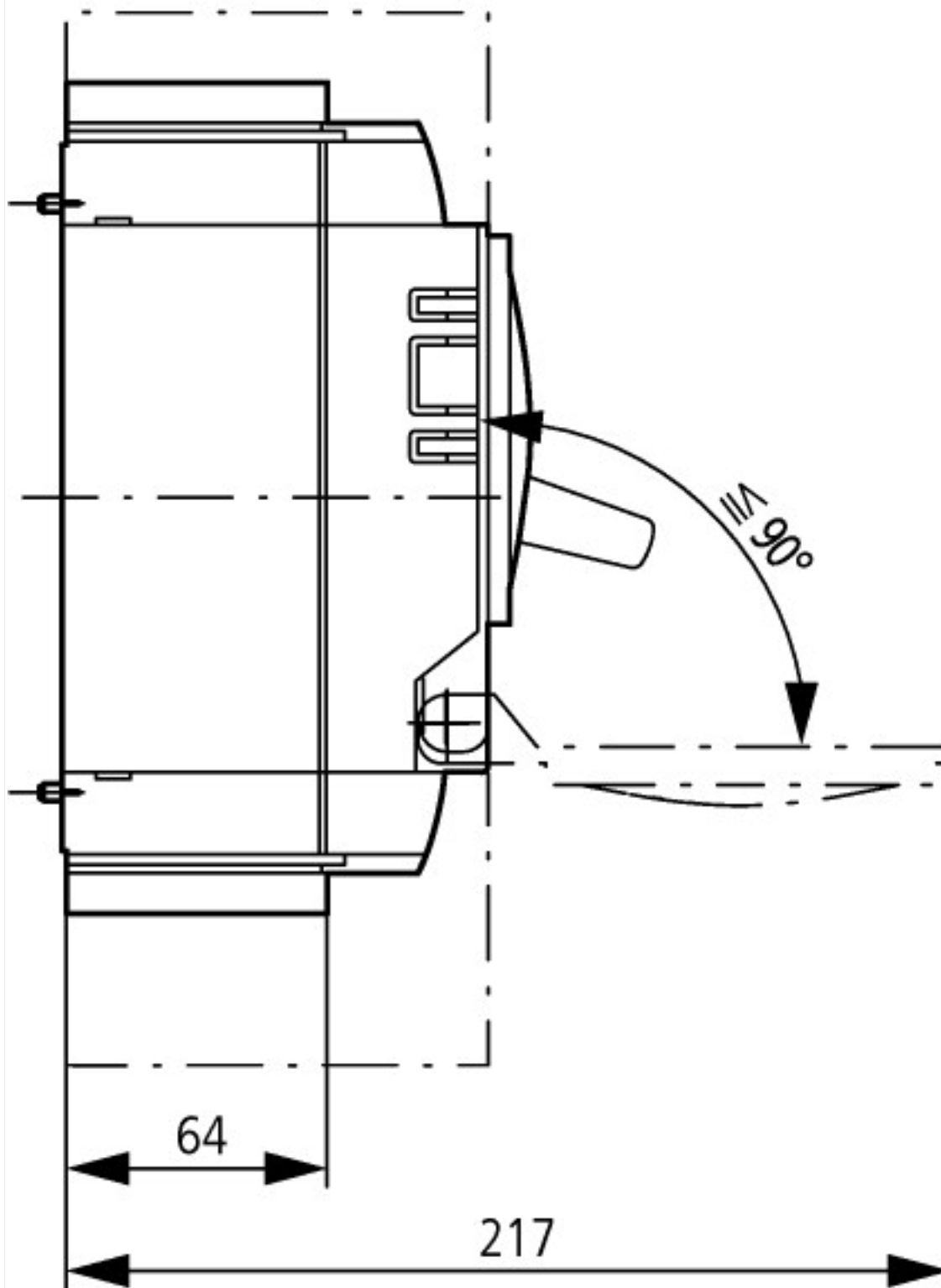


Let-through energy

Dimensions



- ① Blow out area, minimum clearance to adjacent parts
- ② Minimum clearance to adjacent parts



Additional product information (links)

IL01206006Z (AWA1230-1916) Circuit-Breaker, basic unit

IL01206006Z (AWA1230-1916) Circuit-Breaker, basic unit	ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01206006Z2015_11.pdf
Temperature dependency, Derating	http://ecat.moeller.net/flip-cat/?edition=HPLEN&startpage=17.172
CurveSelect characteristics program	http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/CharacteristicsProgram/index.htm
additional technical information for NZM power switch	ftp://ftp.moeller.net/DOCUMENTATION/PDF/nzm_technik_de_en.pdf