





## Circuit-breaker 3p 250A

**Part no.** NS2-250-BT-NA  
**Article no.** 107610

Similar to illustration

## Delivery program

Product range			Switch-disconnectors
Protective function			Disconnectors/main switches
Standard/Approval			UL/CSA, IEC
Installation type			Fixed
Construction size			N2
Description			IEC/EN 60947-2: Circuit-breakers without overcurrent (CBI-X) with main switch characteristics and isolating characteristics to IEC/EN 60204.
Number of poles			3 pole
Standard equipment			Box terminal
Switch positions			I, +, 0
Rated current = rated uninterrupted current	$I_n = I_u$	A	250
Rated current = rated uninterrupted current	$I_n = I_u$	A	250
<b>Switching capacity</b>			
SCCR 480Y/277 V 60 Hz	$I_{cu}$	kA	100
SCCR 600Y/347 V 60 Hz	$I_{cu}$	kA	50
<b>Short-circuit releases</b>			
			
Non-delayed	$I_i = I_n \times \dots$		2500 A fixed
			

## Technical data

### Switch-disconnectors

Rated surge voltage invariability	$U_{imp}$		
Main contacts		V	8000
Auxiliary contacts		V	6000
Rated operational voltage	$U_e$	V AC	690
Rated current = rated uninterrupted current	$I_n = I_u$	A	250
Rated current = rated uninterrupted current	$I_n = I_u$	A	250
Rated uninterrupted current	$I_u$	A	
IEC/EN 61131-3	$I_u$	A	250
UL 489, CSA 22.2 No. 5.1	$I_u$	A	250
Oversvoltage category/pollution degree			III/3
Rated insulation voltage	$U_i$	V	1000
Other technical data (sheet catalogue)			Weight Temperature dependency, Derating Effective power loss
Ambient temperature			
Ambient temperature, storage		°C	- 40 - + 70
Operation		°C	-25 - +70
Mounting position			Vertical and 90° in all directions



With residual-current release XFI:  
 - NZM1, N1, NZM2, N2: vertical and 90° in all directions  
 with plug-in adapter elements  
 - 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

### Switching capacity (UL489, CSA 22.2 No. 5.1)

SCCR 240 V 60 Hz	$I_{cu}$	kA	150
SCCR 480Y/277 V 60 Hz	$I_{cu}$	kA	100
SCCR 600Y/347 V 60 Hz	$I_{cu}$	kA	50

### Rated short-circuit making capacity

240 V 50/60 Hz	$I_{cm}$	kA	330
400/415 V 50/60 Hz	$I_{cm}$	kA	330
440 V 50/60 Hz	$I_{cm}$	kA	286
525 V 50/60 Hz	$I_{cm}$	kA	105
690 V 50/60 Hz	$I_c$	kA	53

### Rated short-circuit breaking capacity $I_{cn}$

$I_{cu}$ to IEC/EN 60947 test cycle O-t-CO	$I_{cu}$	kA	
240 V 50/60 Hz	$I_{cu}$	kA	150
400/415 V 50 Hz	$I_{cu}$	kA	150
440 V 50/60 Hz	$I_{cu}$	kA	130
525 V 50/60 Hz	$I_{cu}$	kA	50
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	150
400/415 V 50/60 Hz	$I_{cs}$	kA	150
440 V 50/60 Hz	$I_{cs}$	kA	130
525 V 50/60 Hz	$I_{cs}$	kA	37.5
690 V 50/60 Hz	$I_{cs}$	kA	5
Lifespan, mechanical	Operations		20000
Max. operating frequency		Ops/h	120

### Lifespan, electrical

400 V 50/60 Hz	Operations		10000
415 V 50/60 Hz	Operations		10000
690 V 50/60 Hz	Operations		7500
400 V 50/60 Hz	Operations		6500
415 V 50/60 Hz	Operations		6500
690 V 50/60 Hz	Operations		5000
		ms	< 10

### Anschlussquerschnitte IEC

Standard equipment			Box terminal
Optional accessories			Screw connection Tunnel terminal connection on rear
Cu-Leitungen, Cu-Kabel			
Box terminal			
Solid		mm <sup>2</sup>	1 x (10 - 16) 2 x (6 - 16)

Stranded		mm <sup>2</sup>	1 x (25 - 185) 2 x (25 - 70)
Tunnel terminal			
Solid		mm <sup>2</sup>	1 x 16
Stranded		mm <sup>2</sup>	
1-hole		mm <sup>2</sup>	1 x (25 - 185)
Bolt terminal and rear-side connection			
Direct on the switch			
Solid		mm <sup>2</sup>	1 x (10 - 16) 2 x (4 - 16)
Stranded		mm <sup>2</sup>	1 x (25 - 185) 2 x (25 - 70)
<b>Al-Leitungen, Al-Kabel</b>			
Solid		mm <sup>2</sup>	1 x 16
Stranded		mm <sup>2</sup>	
1-hole		mm <sup>2</sup>	1 x (25 - 185) <sup>2)</sup>
			<sup>2)</sup> Up to 240 mm <sup>2</sup> can be connected depending on the cable manufacturer.
Bolt terminal and rear-side connection			
Direct on the switch			
Solid		mm <sup>2</sup>	1 x (10 - 16) 2 x (10 - 16)
Stranded		mm <sup>2</sup>	1 x (25 - 35) 2 x (25 - 35)
<b>Cu strip (number of segments x width x segment thickness)</b>			
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
<b>Copper busbar (width x thickness)</b>			
		mm	
Bolt terminal and rear-side connection			
Screw connection			M8
Direct on the switch			
	min.	mm	16 x 5
	max.	mm	24 x 8

## Anschlussquerschnitte NA

<b>Cu-Leitungen, Cu-Kabel</b>			
Box terminal			
solid		AWG	1 x (12 - 6)
Stranded		AWG/ kcmil	1 x (4 - 350)
Tunnel terminal			
solid		AWG	1 x 6
mehrdräftig		AWG	
1-hole		AWG/ kcmil	1 x (4 - 350)
Bolt terminal and rear-side connection			
Direct on the switch			
solid		AWG	1 x (12 - 6)
<b>Cu strip (number of segments x width x segment thickness)</b>			
Box terminal			
	min.	mm	2 x 9 x 0.8
	max.	mm	10 x 16 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 16 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	20 x 5

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	250
Equipment heat dissipation, current-dependent	$P_{vid}$	W	59.44
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

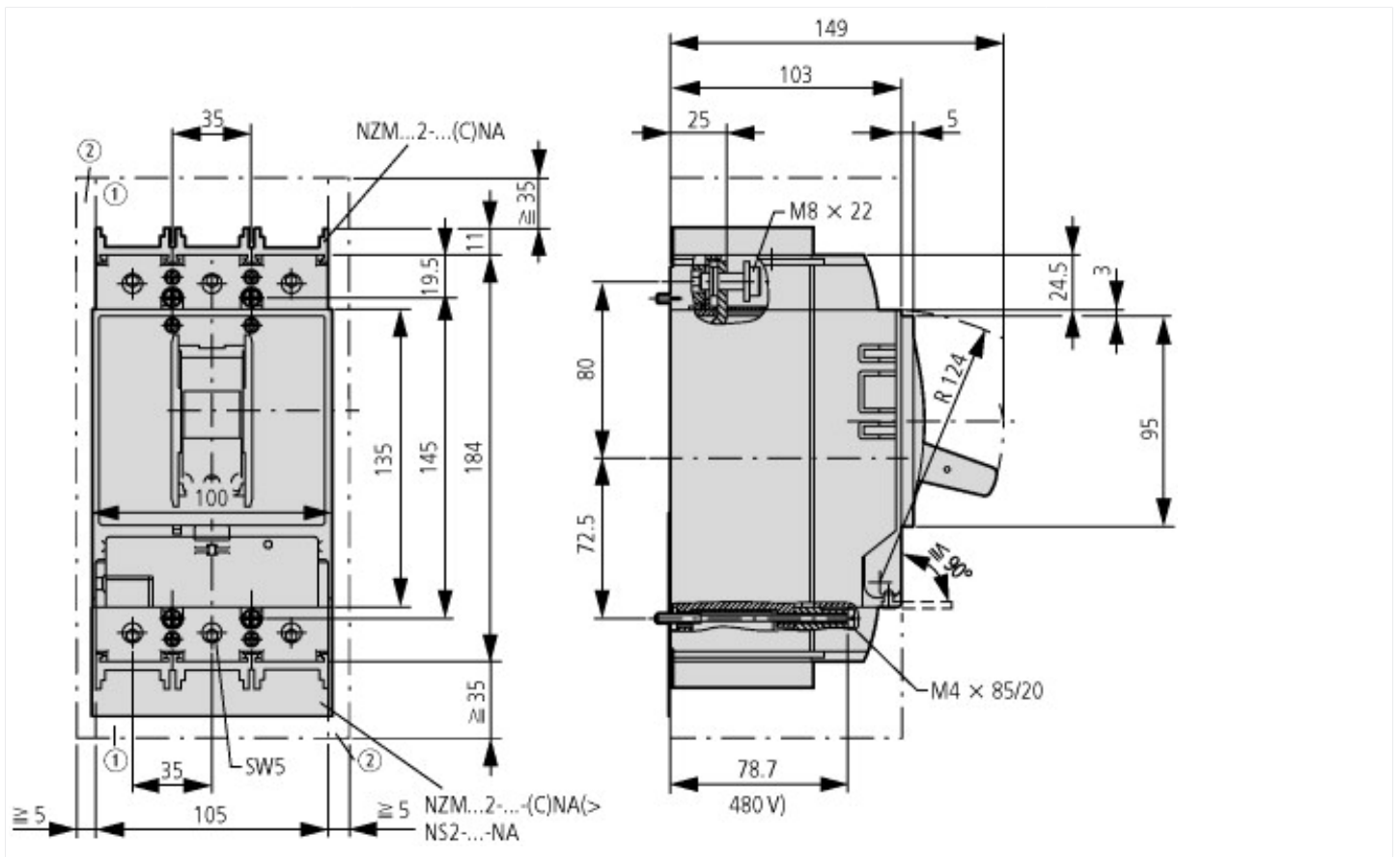
Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation prot. (EC000228)			
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss8.1-27-37-04-09 [AJZ716010])			
Rated permanent current $I_u$		A	250
Rated voltage		V	690 - 690
Rated short-circuit breaking capacity $I_{cu}$ at 400 V, 50 Hz		kA	150
Overload release current setting		A	0 - 0
Adjustment range short-term delayed short-circuit release		A	0 - 0
Adjustment range undelayed short-circuit release		A	2500 - 2500
Integrated earth fault protection			No
Type of electrical connection of main circuit			Frame clamp

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
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

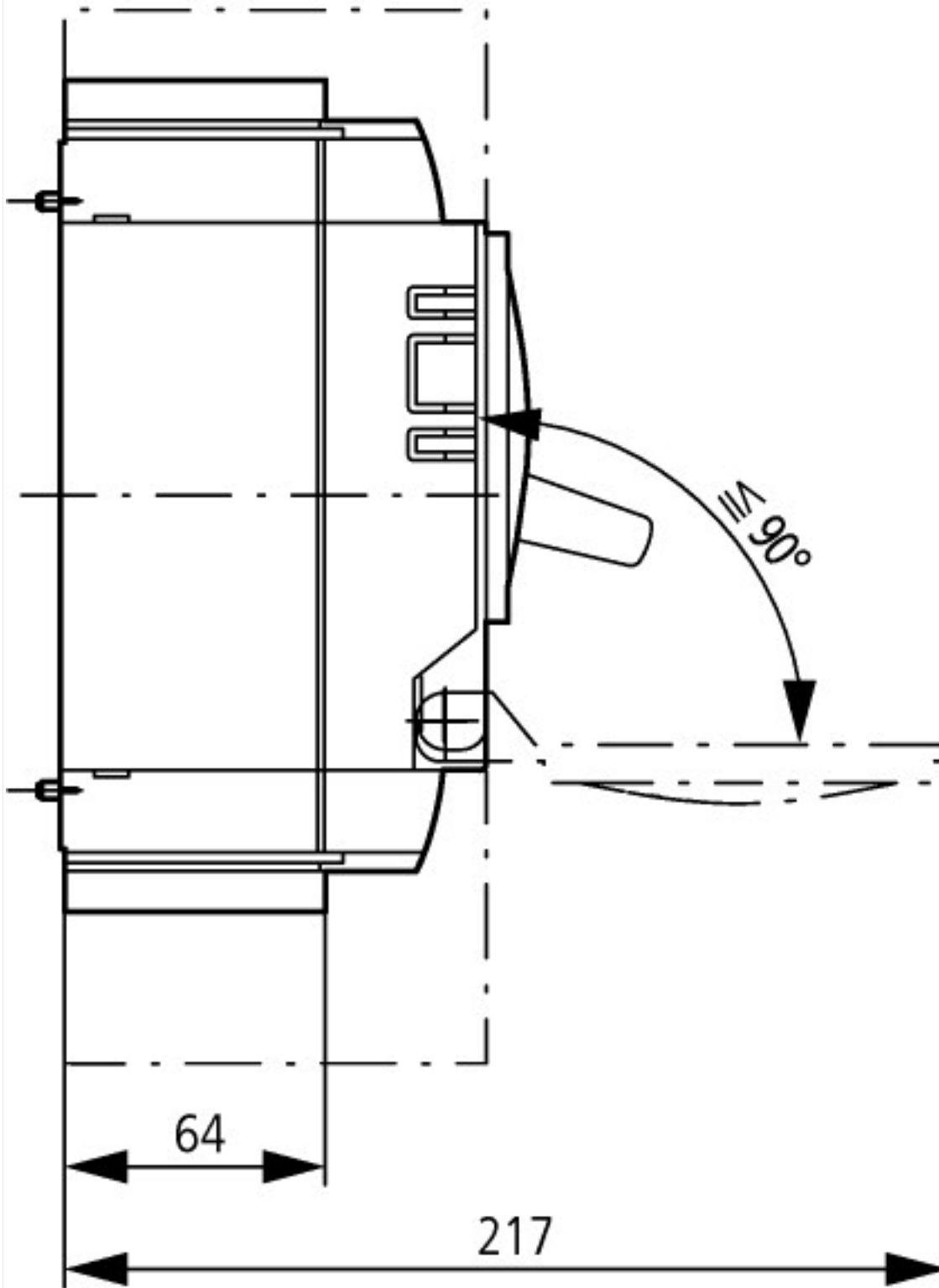
## Approvals

Product Standards		UL 489; CSA-C22.2 No. 5-09; IEC 60947-2; CE marking
UL File No.		E148671
UL Category Control No.		WJAZ
CSA File No.		022086
CSA Class No.		4652-06
North America Certification		UL listed, CSA certified
Specially designed for North America		Yes
Suitable for		Feeder circuits, branch circuits
Current Limiting Circuit-Breaker		No
Max. Voltage Rating		600Y/347 V
Degree of Protection		IEC: IP20; UL/CSA Type: -

## Dimensions



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](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01206006Z2015_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>

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>