DATASHEET - NZMB2-4-A250/160

Part no.

Catalog No.



Circuit-breaker, 4p, 250A, 160A in 4th pole

NZMB2-4-A250/160 265856



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
Description			Set value in neutral conductor is synchronous with set value Ir of main pole.
Number of poles			4 pole
Standard equipment			Screw connection
Switching capacity			
400/415 V 50 Hz	I _{cu}	kA	25
Rated current = rated uninterrupted current			
Rated current = rated uninterrupted current	$I_n = I_u$	А	250
Neutral conductor	% of phase conductor	%	60
Reduced neutral conductor protection		А	160
Neutral conductor protection			Reduced neutral conductor protection
Setting range			
Overload trip			
द	l _r	A	200 - 250
Main pole	l _r	A	125 - 160
Short-circuit releases			
Non-delayed	I _i = I _n x		6 - 10
Short-circuit releases	l _{rm}	А	1500 - 2500

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 between the auxiliary contacts Weight Mounting position		V AC V AC kg	500 300 3.5 Vertical and 90° in all directions	With XFI earth-fault release: - NZM1, N1, NZM2, N2: vertical and 90° in all directions
Weight			3.5 Vertical and 90° in all directions	- NZM1, N1, NZM2, N2: vertical and 90° in all directions
-		kg	Vertical and 90° in all directions	- NZM1, N1, NZM2, N2: vertical and 90° in all directions
Mounting position				- NZM1, N1, NZM2, N2: vertical and 90° in all directions
			ġo /	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: IP2	0 (basic degree of protection)
Enclosures			With insulating surround: IP40	
			With door coupling rotary handle:	iP66
Terminations			Tunnel terminal: IP10 Phase isolator and strip terminal: I	P00
Other technical data (sheet catalogue)			Temperature dependency, Deratin	
Circuit-breakers			remperature dependency, Derutin	3
	I _n = I _u	А	250	
	U _{imp}			
Main contacts	ollinb	V	8000	
Auxiliary contacts		V	6000	
	U _e	V AC	440	
Overvoltage category/pollution degree			III/3	
Rated insulation voltage	Ui	V	690	
Use in unearthed supply systems		V	≦ 440	
Switching capacity				
Rated short-circuit making capacity	I _{cm}			
240 V	I _{cm}	kA	63	
400/415 V	l _{cm}	kA	53	
440 V 50/60 Hz	I _{cm}	kA	53	
Rated short-circuit breaking capacity I _{cn}	I _{cn}			
Icu to IEC/EN 60947 test cycle 0-t-C0	lcu	kA		
240 V 50/60 Hz	I _{cu}	kA	30	
	I _{cu}	kA	25	
	I _{cu}	kA	25	
	lcs	kA		
240 V 50/60 Hz	I _{cs}	kA	30	
400/415 V 50/60 Hz	I _{cs}	kA	25	
440 V 50/60 Hz	I _{cs}	kA	18.5	
				ected short-circuit currents at the installation
			location exceed the switching cap	acity of the circuit-breaker.
Utilization category to IEC/EN 60947-2	•		A	
	Operations		20000	
Lifespan, electrical				
AC-1				
	Operations		10000	
415 V 50/60 Hz	Operations		7500	
Max. operating frequency		0ps/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)
Bolt terminal and rear-side connection			
Direct on the switch			
Solid		mm ²	1 x (10 - 16) 2 x (10 - 16)
Stranded		mm ²	1 x (25 - 50) 2 x (25 - 50)
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
Control a chilar	max.	mm	24 x 8
Control cables		0	1(0.75
		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	In	А	250
Equipment heat dissipation, current-dependent	P _{vid}	W	58.13
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.

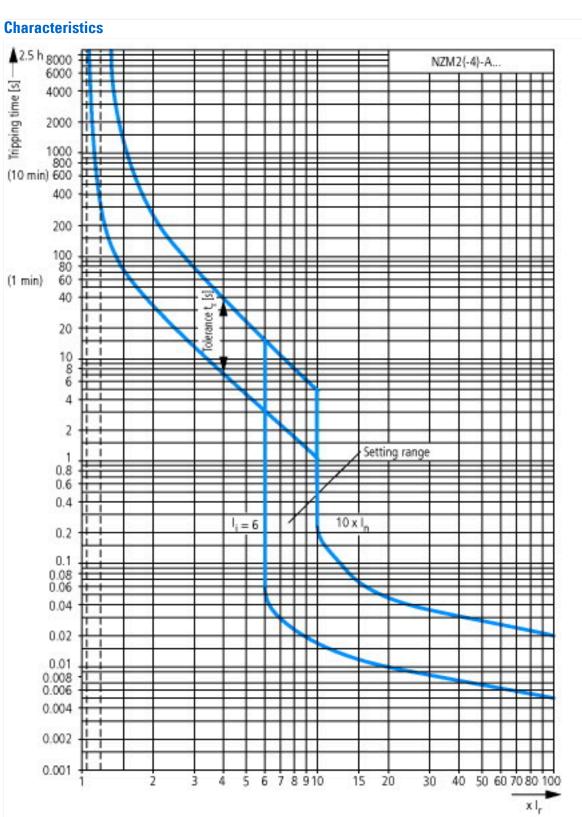
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation	Meets the product standard's requirements.
10.2.5 Lifting	Does not apply, since the entire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

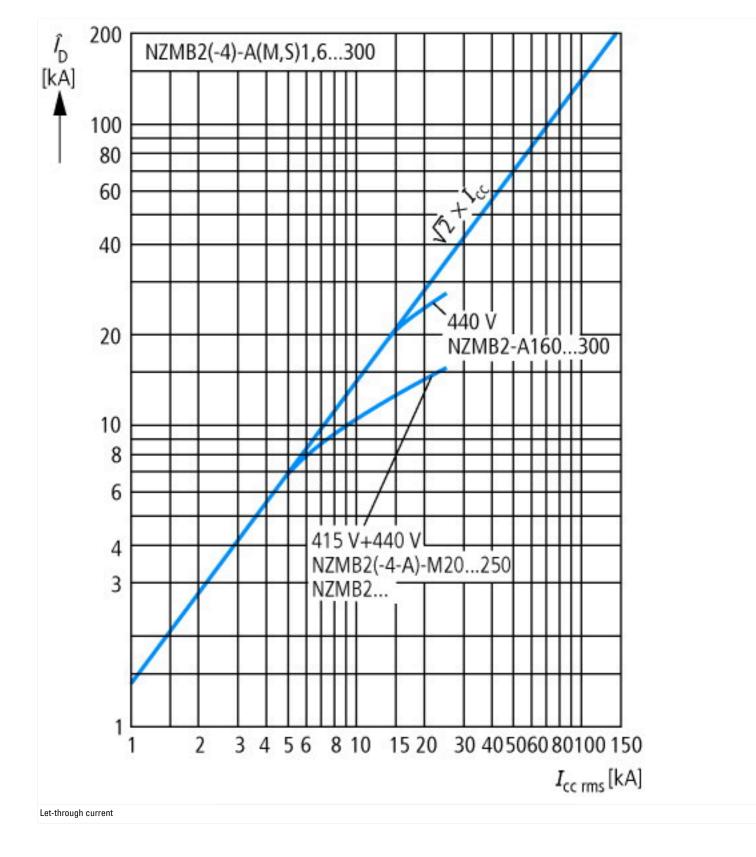
Technical data ETIM 7.0

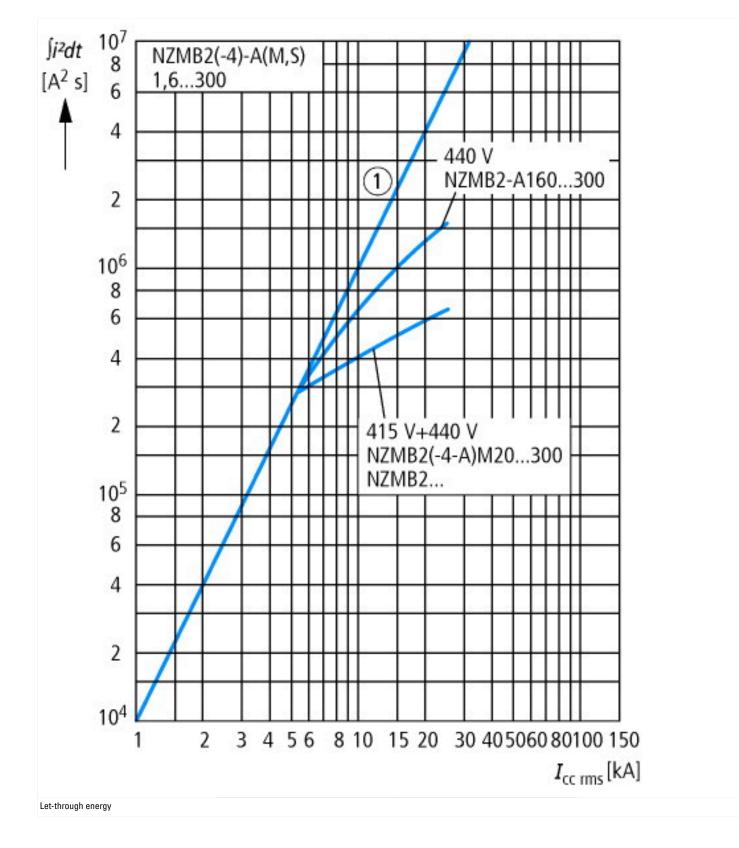
Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)

Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013])

Rated permanent current lu	А	250
Rated voltage	V	440 - 440
Rated short-circuit breaking capacity Icu at 400 V, 50 Hz	kA	25
Overload release current setting	А	200 - 250
Adjustment range short-term delayed short-circuit release	А	0 - 0
Adjustment range undelayed short-circuit release	А	6 - 10
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		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

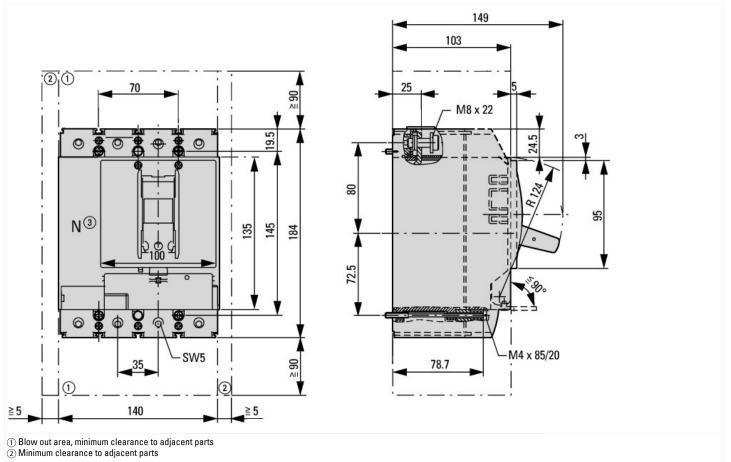


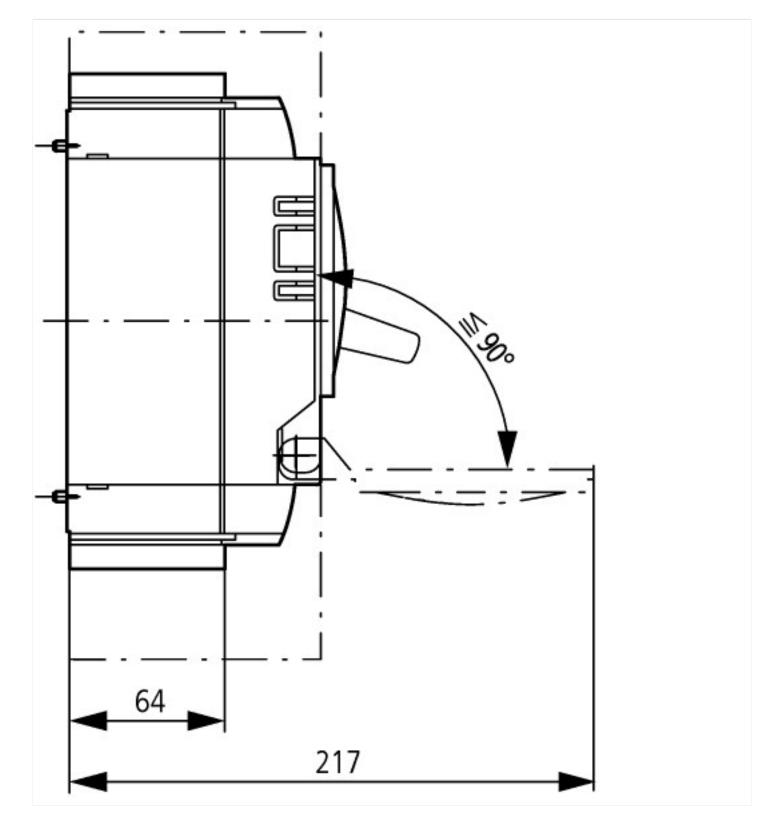




02/18/2021







Additional product information (links)

IL01206006Z (AWA1230-1916) Circuit-Breaker, basic unit	https://es-assets.eaton.com/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 the standard stand
additional technical information for NZM power switch	https://es-assets.eaton.com/DOCUMENTATION/PDF/nzm_technic_de_en.pdf