DATASHEET - NZMB2-4-A250/160-SVE

Part no. Catalog No.



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

NZMB2-4-A250/160-SVE 113216



Similar to illustration

Delivery program

Product range Interview Interview Interview Product function Greet System and cable protection Standard Approval EC System and cable protection Istallation type EC System instance Release system Interview instance System instance Number of poles Interview instance Standard equipment Number of poles Interview instance Standard equipment Standard equipment Interview instance Standard equipm				
Shadard/ApprovalFCInstallation typePlug-in unitsRelease systemTermomagnetic releaseConstruction sizeVDescriptionVNumber of polesSet value neutral conductor is synchronous with set value Ir of main pole.Subdard (spigment)VAdvalts VSo HzLeuAdvalts VSo HzLeuReted current = rated uninterrupted currentIn= luNeutral conductor protectionNoNeutral conductor protectionNoNeutral conductor protectionNoNeutral conductor protectionNoSetting rangeVOverload tripInImagenetic releasesImagenetic releaseSubtricting rangeImagenetic releaseNeutral conductor protectionImagenetic releaseSubtricting rangeImagenetic releaseSubtricting rangeImagenetic releaseNampoleImagenetic releasesSubtricting rangeImagenetic releasesSubtricting rangeImagenetic releasesImagenetic releasesImagenetic releasesSubtricting releasesImagenetic releasesSubtricting releasesImagenetic releasesSubtricting releasesImagenetic releaseImagenetic releasesImagenetic release	Product range			Circuit-breaker
Installation type Release system Release system Construction size Construction	Protective function			System and cable protection
Release systm Inermomagnetic release Construction size NZM2 Description St value in neutral conductor is synchronous with set value Ir of main pole. Number of poles St value in neutral conductor is synchronous with set value Ir of main pole. Standard equipment Strew connection Storder Gaugine framework Serve connection Standard equipment Inermomagnetic release Storder Gaugine framework Serve connection Standard equipment Inermomagnetic release Storder Gaugine framework Serve connection Standard equipment Inermomagnetic release Reduced reutral conductor protection Inermomagnetic release Reduced neutral conductor protection Inermomagnetic release Standard equipment Inermomagnetic release Overload trip Inermomagnetic release Intermomagnetic releases Inermomagnetic release Short-circuit releases Inermomagnetic release Short-circuit releases Inermomagnetic release	Standard/Approval			IEC
Construction size IM IM IM Description IM Set value in neutral conductor is synchronous with set value Ir of main pole. Number of poles Implementation of poles Implementation of poles Standard equipment Implementation of poles Implementation of poles Switching capacity Implementation of poles Implementation of poles Addv15 V50 Hz Implementation of poles Implementation of poles Rated current = rated uninterrupted current Implementation of poles Implementation of poles Reduced neutral conductor protection Implementation of poles Implementation of poles Neutral conductor protection Implementation of poles Implementation of poles Setting range Implementation of poles Implementation of poles Overload trip Implementation of poles Implementation of poles Main pole Implementation of poles Implementation of poles Short-circuit releases Implementation of poles Implementation of poles Short-circuit releases Implementation of poles Implementation of poles	Installation type			Plug-in units
Description Free Participant Set value in neutral conductor is synchronous with set value ir of main pole. Number of poles 4 pole Standard equipment Serve connection Adu/15 V 50 Hz Image: Conductor is synchronous with set value ir of main pole. Rated current = rated uninterrupted current Image: Conductor is synchronous with set value ir of main pole. Rated current = rated uninterrupted current Image: Conductor is synchronous with set value ir of main pole. Neutral conductor protection Image: Conductor is synchronous with set value ir of main pole. Neutral conductor protection Image: Conductor is synchronous with set value ir of main pole. Neutral conductor protection Image: Conductor is synchronous with set value ir of main pole. Neutral conductor protection Image: Conductor is synchronous with set value ir of main pole. Neutral conductor protection Image: Conductor is synchronous with set value ir of main pole. Neutral conductor protection Image: Conductor is synchronous with set value ir of main pole. Overload trip Image: Conductor is synchronous with set value ir of main pole. Image: Conductor is synchronous with set value ir of main pole. Image: Conductor is synchronous with set value ir of main pole. Image: Conductor is synchronous with set value ir of main pole. Image: Conductor is synchronous with set value ir of main pole. Image: Conductor is synchronous with set value i	Release system			Thermomagnetic release
Number of poles Image: Pole Pole Standard equipment Screw connection Switching capacity Icu Kat 400415 V 50 Hz Icu Kat Rated current = rated uninterrupted current Icu Kat Rated current = rated uninterrupted current Icu Kat Neutral conductor Scroudcotor Scroudcotor Reduced neutral conductor protection A 60 Neutral conductor protection A Reduced neutral conductor protection Setting range Icu A 8educed neutral conductor protection Main pole Irition A 200-250 Short-circuit releases Short-circuit releases Icu Icu	Construction size			NZM2
Standard equipment ceree connection Switching capacity Iu Kate 400/415 V 50 Hz Iu Kate Rated current = rated uninterrupted current In=lu Kate Rated current = rated uninterrupted current In=lu Kate Rated current = rated uninterrupted current In=lu Kate Reduced neutral conductor protection In=lu Kate Neutral conductor protection In=lu Kate Setting range Kate Kate Overload trip In Kate Main pole Ir Kate Short-circuit releases In Kate Short-circuit releases In In	Description			Set value in neutral conductor is synchronous with set value Ir of main pole.
Switching capacityIcuKallIcuKall400/415 V 50 HzIcuKall5Rated current = rated uninterrupted currentIn=luA50Rated current = rated uninterrupted currentIn=luA50Neutral conductorSof of phase WondcoorCSA60Reduced neutral conductor protectionA160Neutral conductor protectionA60Setting range	Number of poles			4 pole
400/415 V 50 HzIcuKA5Rated current = rated uninterrupted currentIn = IuSSRated current = rated uninterrupted currentIn = IuASNeutral conductorSo of of phase of of phase Neutral conductor protectionSASAReduced neutral conductor protectionImage: Solowing the solowing the solowing the solowing the solewing the sol	Standard equipment			Screw connection
Rated current = rated uninterrupted current in = lu A 250 Rated current = rated uninterrupted current ke lu = lu A 260 Neutral conductor % of phase conductor CSA 60 Reduced neutral conductor protection A 160 Neutral conductor protection A 8educed neutral conductor protection Setting range M Method neutral conductor protection Overload trip H M Main pole Ir A Short-circuit releases Ir A	Switching capacity			
Rated current = rated uninterrupted current In = Iu A 250 Neutral conductor So of doctor GO Reduced neutral conductor protection A BO Neutral conductor protection A Beduced neutral conductor protection Neutral conductor protection A Beduced neutral conductor protection Setting range A Beduced neutral conductor protection Overload trip F Beduced neutral conductor protection Main pole Ir A So of doctor Short-circuit releases Ir A So of doctor	400/415 V 50 Hz	I _{cu}	kA	25
Neutral conductor % of phase conductor CSA 6 Reduced neutral conductor protection A 60 Neutral conductor protection Feduced neutral conductor protection Reduced neutral conductor protection Setting range Overload trip Feduced neutral conductor protection Reduced neutral conductor protection Main pole I Y Y Short-circuit releases I I I	Rated current = rated uninterrupted current			
Image: Conductor Conductor Feduced neutral conductor protection Feduced neutral conductor protection Neutral conductor protection Image: Conductor Reduced neutral conductor protection Setting range: Conclusion Image: Conclusion Reduced neutral conductor protection Overload trip Image: Conclusion Image: Conclusion Image: Conclusion Image: Conclusion Image: Conclusion Image: Conclusion <td< td=""><td>Rated current = rated uninterrupted current</td><td>$I_n = I_u$</td><td>А</td><td>250</td></td<>	Rated current = rated uninterrupted current	$I_n = I_u$	А	250
Neutral conductor protection Reduced neutral conductor protection Setting range Hero Poer Person Poer Overload trip Image: Poer Poer Poer Poer Poer Poer Poer Poer	Neutral conductor	% of phase conductor	CSA	60
Setting range Image: Participation of the set o	Reduced neutral conductor protection		А	160
Overload trip Ir A 200 - 250 Main pole Ir A 125 - 160 Short-circuit releases Ir Ir Ir	Neutral conductor protection			Reduced neutral conductor protection
Image: ProblemImage: ProblemImage: ProblemImage: ProblemImage: ProblemImage: ProblemMain poleImage: ProblemImage: ProblemImage: ProblemImage: ProblemImage: ProblemShort-circuit releasesImage: ProblemImage: ProblemImage: ProblemImage: ProblemShort-circuit releasesImage: ProblemImage: ProblemImage: Problem	Setting range			
Main pole Ir A 125 - 160 Short-circuit releases I I I	Overload trip			
Short-circuit releases	द	l _r	A	200 - 250
	Main pole	l _r	A	125 - 160
Non-delayed I _i = I _n x 6 - 10				
	Non-delayed	l _i = l _n x		6 - 10

Technical data

andards		IEC/EN 60947
otection against direct contact		Finger and back of hand proof to VDE 0106 Part 100
imatic proofing		Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30
nbient temperature		
Ambient temperature, storage	°C	- 40 - + 70
Operation	°C	-25 - +70
echanical shock resistance (10 ms half-sinusoidal shock) according to IEC 068-2-27	g	20 (half-sinusoidal shock 20 ms)
fe isolation to EN 61140		
Between auxiliary contacts and main contacts	V AC	500
between the auxiliary contacts	V AC	300

Weight		kg	3.5
Mounting position		кy	3.5 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 - 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		٨	250
Rated current = rated uninterrupted current	I _n = I _u	A	250
Rated surge voltage invariability	U _{imp}		
Main contacts		V	8000
Auxiliary contacts		V	6000
Rated operational voltage	Ue	V AC	440
Overvoltage category/pollution degree			111/3
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		kA	53
440 V 50/60 Hz	I _{cm}	kA	53
	I _{cm}	KA .	
Rated short-circuit breaking capacity I _{cn}	I _{cn}	1.0	
Icu to IEC/EN 60947 test cycle O-t-CO	lcu	kA	20
240 V 50/60 Hz	I _{cu}	kA	30
400/415 V 50/60 Hz	I _{cu}	kA	25
440 V 50/60 Hz	l _{cu}	kA	25
Ics to IEC/EN 60947 test cycle 0-t-CO-t-CO	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
			Maximum back-up fuse, if the expected short-circuit currents at the installation location exceed the switching capacity of the circuit-breaker.
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			
400 V 50/60 Hz	Operations		10000
415 V 50/60 Hz	Operations		7500
Max. operating frequency		Ops/h	120
Total break time at short-circuit		ms	< 10
Terminal capacity			
Standard equipment			Screw connection
Accessories required			NZM2-4-XSVS
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	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.

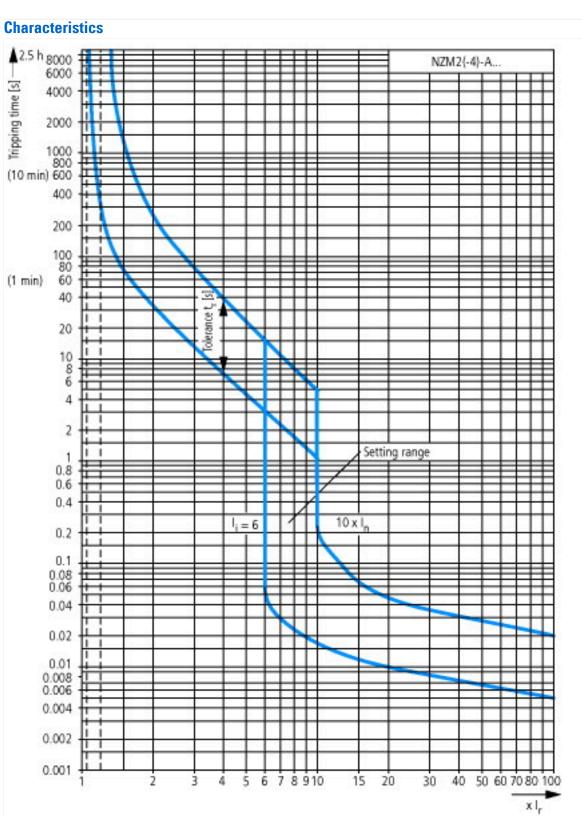
10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
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.

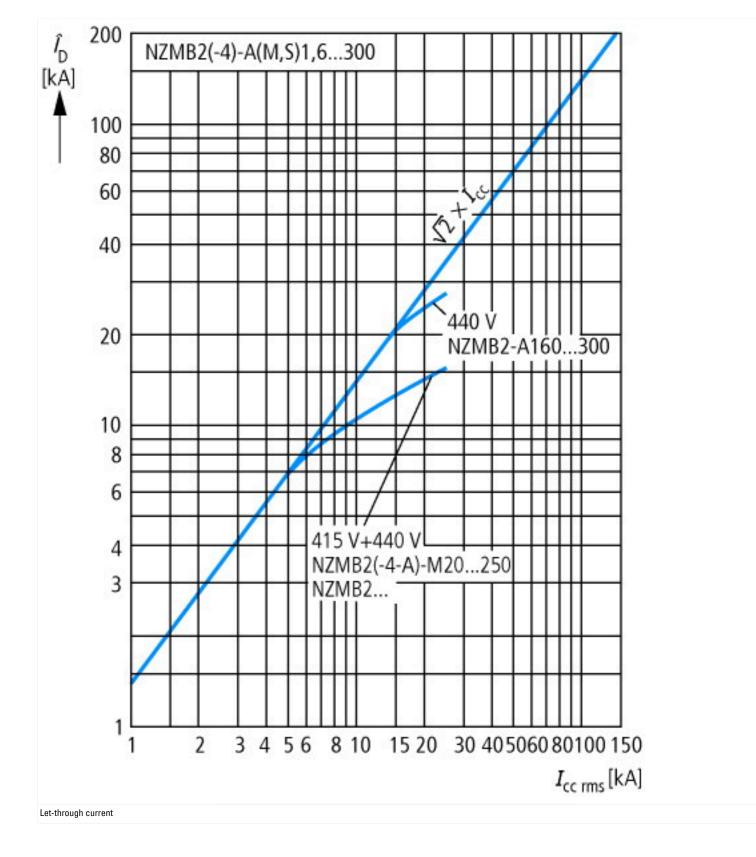
Technical data ETIM 7.0

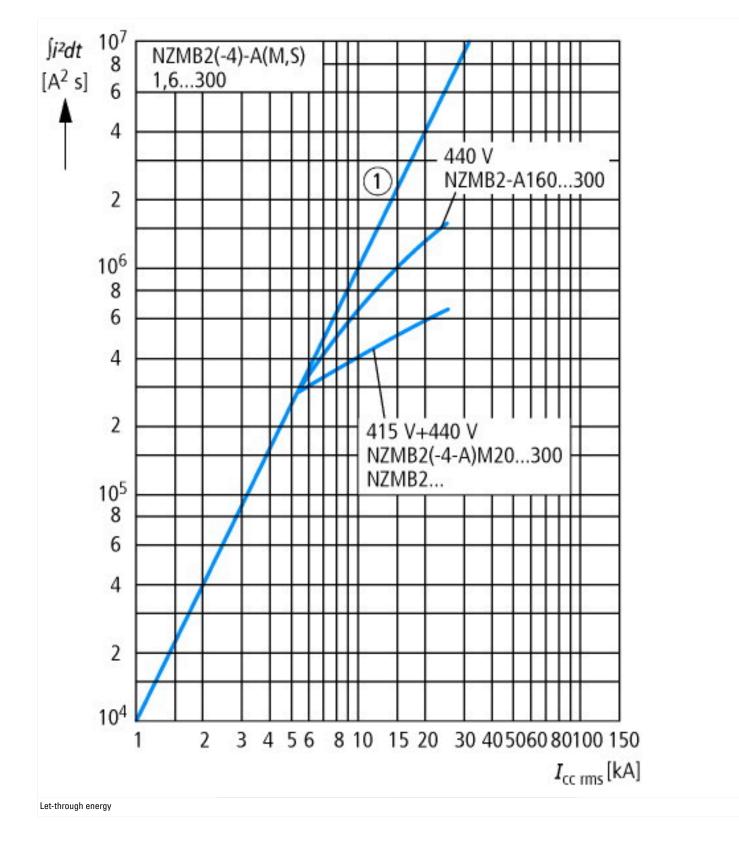
Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)

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])

A	250
V	440 - 440
kA	25
А	200 - 250
А	0 - 0
A	6 - 10
	No
	Screw connection
	Built-in device plug-in technique
	No
	Yes
	0
	0
	0
	No
	No
	4
	Front side
	Rocker lever
	Yes
	No
	Yes
	IP20
	V kA A A

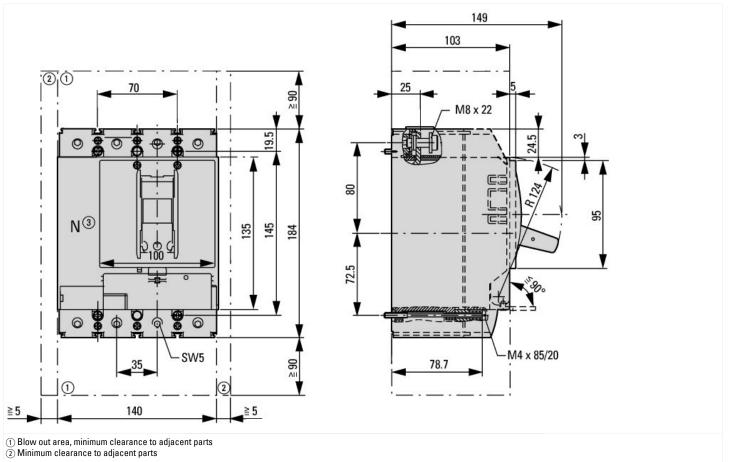


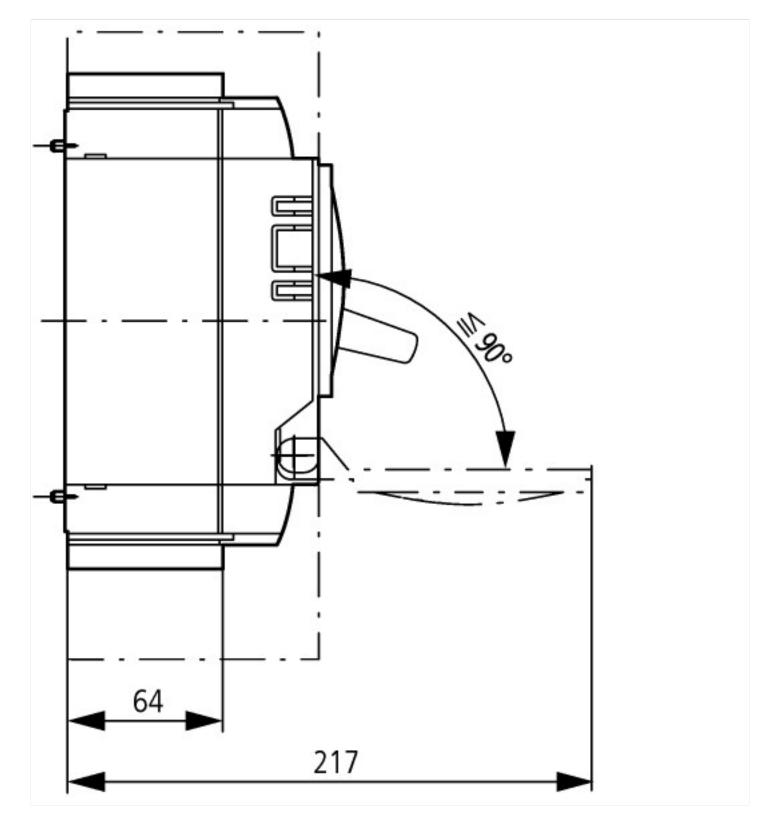




04/23/2020







Additional product information (links)

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_technic_de_en.pdf