





**Molded Case Switch, 3p, 400A**

**Part no.** NS3-400-NA  
**Catalog No.** 102687

**EL-Nummer (Norway)** 4315511

Similar to illustration

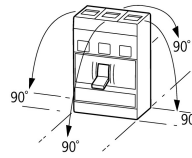
**Delivery program**

Product range			Switch-disconnectors
Protective function			Disconnectors/main switches
Standard/Approval			UL/CSA, IEC
Installation type			Fixed
Construction size			N3
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			Screw connection
Switch positions			I, +, 0
Rated current = rated uninterrupted current	$I_n = I_u$	A	400
Rated current = rated uninterrupted current	$I_n = I_u$	A	400
<b>Switching capacity</b>			
SCCR 480Y/277 V 60 Hz	$I_{cu}$	kA	100
SCCR 480 V 60 Hz	$I_{cu}$	kA	100
SCCR 600Y/347 V 60 Hz	$I_{cu}$	kA	50
SCCR 600 V 60 Hz	$I_{cu}$	kA	50
<b>Short-circuit releases</b>			
			
Non-delayed	$I_j = I_n \times \dots$		6600 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	400
Rated current = rated uninterrupted current	$I_n = I_u$	A	400
Rated uninterrupted current	$I_u$	A	
IEC/EN 61131-3	$I_u$	A	600
UL 489, CSA 22.2 No. 5.1	$I_u$	A	600
Overvoltage 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		<p>With residual-current release XFI:</p> <ul style="list-style-type: none"> <li>- NZM1, N1, NZM2, N2: vertical and 90° in all directions</li> </ul> <p>with plug-in adapter elements</p> <ul style="list-style-type: none"> <li>- NZM1, N1, NZM2, N2: vertical, 90° right/left</li> </ul> <p>with withdrawable unit:</p> <ul style="list-style-type: none"> <li>- NZM3, N3: vertical, 90° left</li> <li>- NZM4, N4: vertical</li> </ul> <p>with remote operator:</p> <ul style="list-style-type: none"> <li>- NZM2, N(S)2, NZM3, N(S)3, NZM4, N(S)4: vertical and 90° in all directions</li> </ul>
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 480 V 60 Hz	$I_{cu}$	kA	100
SCCR 600Y/347 V 60 Hz	$I_{cu}$	kA	50
SCCR 600 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	143
690 V 50/60 Hz	$I_c$	kA	74

### 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	65
690 V 50/60 Hz	$I_{cu}$	kA	35
$I_{cs}$ 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	33
690 V 50/60 Hz	$I_{cs}$	kA	9
Lifespan, mechanical	Operations		15000
Max. operating frequency		Ops/h	60

### Lifespan, electrical

400 V 50/60 Hz	Operations		5000
415 V 50/60 Hz	Operations		3000
690 V 50/60 Hz	Operations		3000
400 V 50/60 Hz	Operations		2000
415 V 50/60 Hz	Operations		2000
690 V 50/60 Hz	Operations		2000
		ms	< 10

### Terminal capacity IEC

Standard equipment			Screw connection
Optional accessories			Box terminal Tunnel terminal connection on rear

<b>Copper conductors and cables</b>			
Box terminal			
Solid		mm <sup>2</sup>	2 x 16
Stranded		mm <sup>2</sup>	1 x (35 - 240) 2 x (25 - 120)
Tunnel terminal			
Stranded			
1-hole		mm <sup>2</sup>	1 x (25 - 185)
Double hole		mm <sup>2</sup>	1 x (50 - 240) 2 x (50 - 240)
Bolt terminal and rear-side connection			
Direct on the switch			
Solid		mm <sup>2</sup>	1 x 16 2 x 16
Stranded		mm <sup>2</sup>	1 x (25 - 240) 2 x (25 - 240)
Connection width extension			
Connection width extension		mm <sup>2</sup>	2 x 300
<b>Al conductors, Al cable</b>			
Tunnel terminal			
Solid		mm <sup>2</sup>	1 x 16
Stranded			
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.
Double hole		mm <sup>2</sup>	1 x (50 - 240) 2 x (50 - 240)
Bolt terminal and rear-side connection			
Direct on the switch			
Solid		mm <sup>2</sup>	1 x 16 2 x (10 - 16)
Stranded		mm <sup>2</sup>	1 x (25 - 120) 2 x (25 - 120)
<b>Cu strip (number of segments x width x segment thickness)</b>			
Box terminal			
	min.	mm	6 x 16 x 0.8
	max.	mm	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	(2 x) 10 x 50 x 1.0
<b>Copper busbar (width x thickness)</b>			
Bolt terminal and rear-side connection			
Screw connection			M10
Direct on the switch			
	min.	mm	20 x 5
	max.	mm	30 x 10 + 30 x 5
Connection width extension			
Connection width extension	max.	mm	2 x (10 x 50)
<b>NA terminal capacity</b>			
<b>Copper conductors and cables</b>			
Box terminal			
Stranded		AWG/ kcmil	1 x (2 - 500)
Tunnel terminal			
solid		AWG	1 x 6
Stranded		AWG	

Double hole fitting		AWG/ kcmil	1 x (0 - 500) 2 x (0 - 500)
Bolt terminal and rear-side connection			
Connection width extension		AWG/ kcmil	
Connection width extension		AWG/ kcmil	2 x 500
Cu strip (number of segments x width x segment thickness)			
Box terminal			
	min.	mm	6 x 16 x 0.8
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	(2 x) 10 x 50 x 1.0
Copper busbar (width x thickness)		mm	
Bolt terminal and rear-side connection			
Screw connection			M10
Direct on the switch			
	min.	mm	20 x 5
	max.	mm	30 x 10 + 30 x 5
Connection width extension		mm	
Connection width extension	max.	mm	2 x (10 x 50)

## Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	$I_n$	A	400
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.

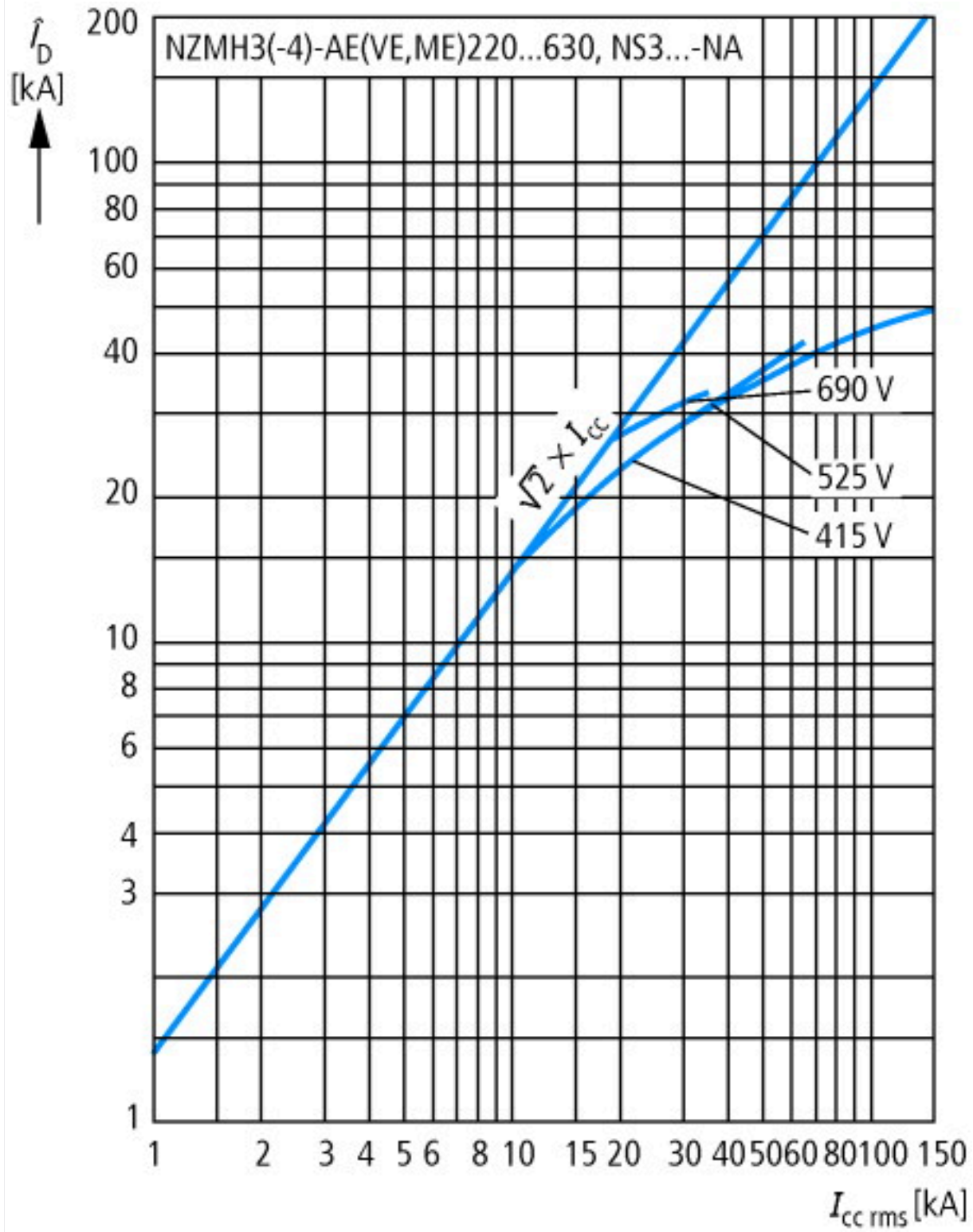
## Technical data ETIM 7.0

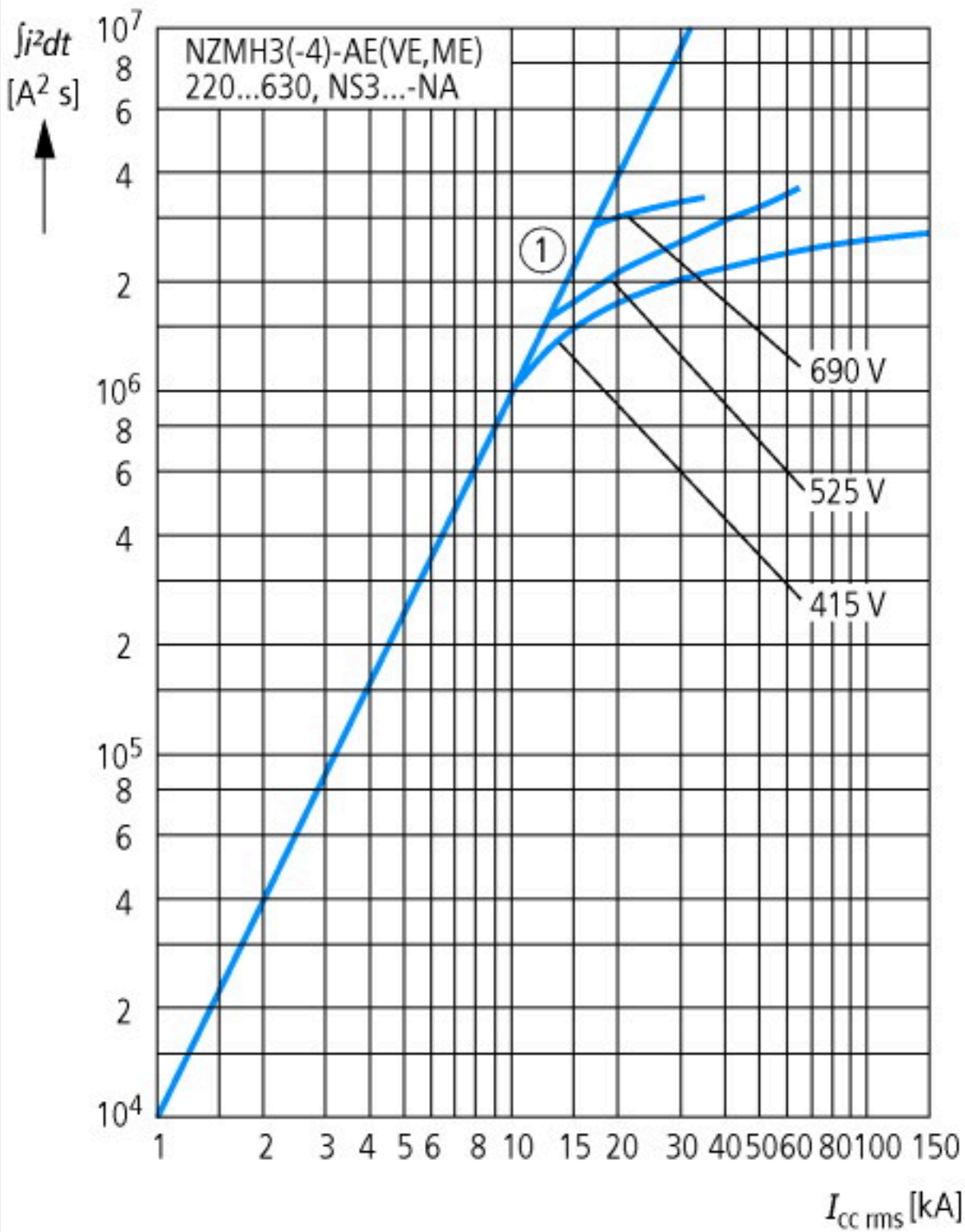
Low-voltage industrial components (EG000017) / Power circuit-breaker for trafo/generator/installation protection (EC000228)		
Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Circuit breaker for power transformer, generator and system protection (ecl@ss10.0.1-27-37-04-09 [AJZ716013])		
Rated permanent current I <sub>u</sub>	A	400
Rated voltage	V	690 - 690
Rated short-circuit breaking capacity I <sub>cu</sub> 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	6600 - 6600
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

## Approvals

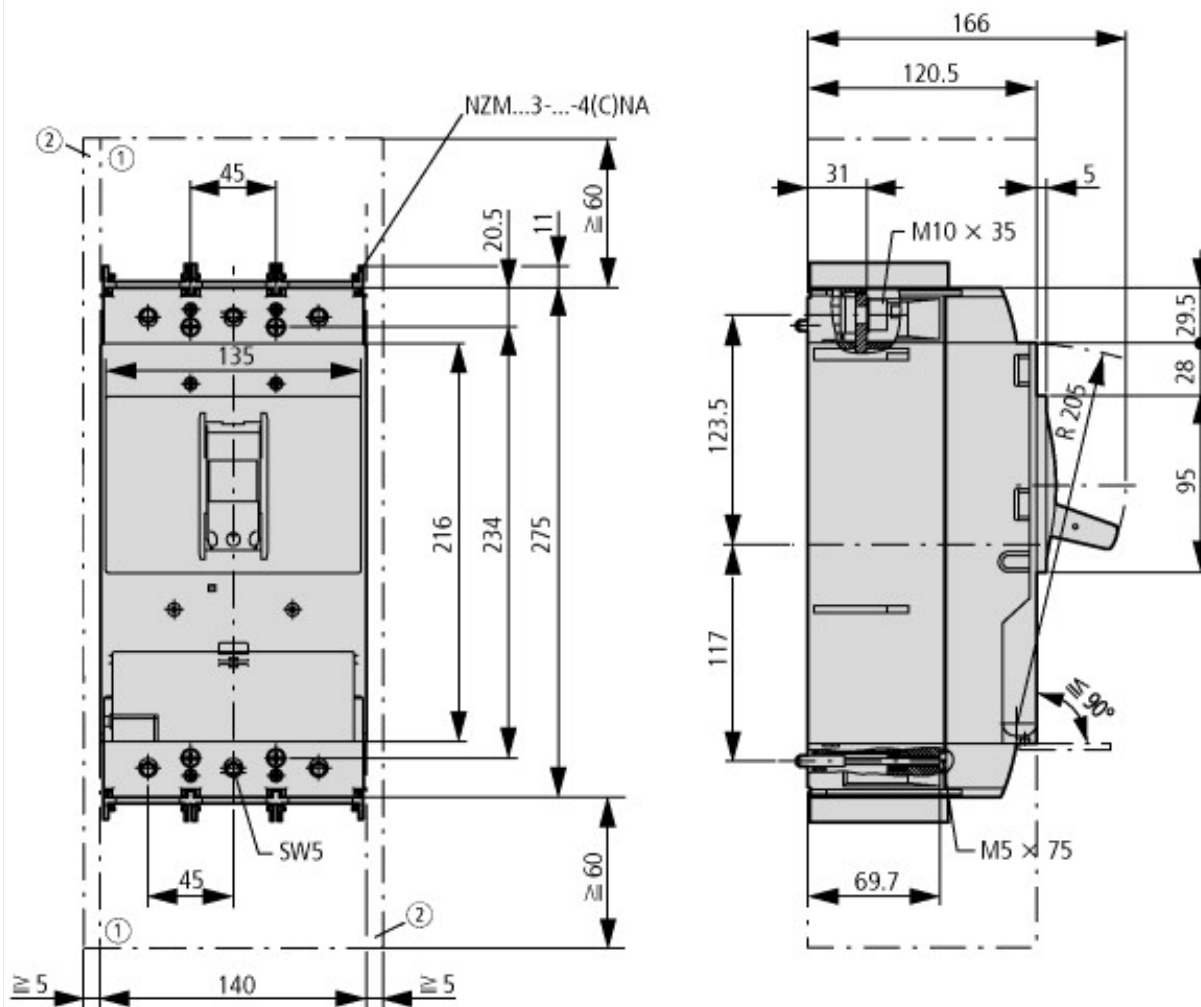
Product Standards		UL 489; CSA-C22.2 No. 5-09; IEC 60947-2; CE marking
UL File No.		E148671
UL Category Control No.		WJAZ
CSA File No.		022086
CSA Class No.		4652-06
North America Certification		UL listed, CSA certified
Specially designed for North America		Yes
Suitable for		Feeder circuits, branch circuits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

## Characteristics





## Dimensions



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





### Additional product information (links)

Weight	<a href="http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.171">http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.171</a>
Temperature dependency, Derating	<a href="http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.172">http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.172</a>
Effective power loss	<a href="http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.174">http://ecat.moeller.net/flip-cat/?edition=HPLEN&amp;startpage=17.174</a>
CurveSelect characteristics program	<a href="http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/CharacteristicsProgram/index.htm">http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/CharacteristicsProgram/index.htm</a>
Eaton configurator	<a href="http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/ConfiguratorCircuitBreaker/index.htm">http://www.eaton.eu/DE/Europe/Electrical/CustomerSupport/ConfigurationTools/ConfiguratorCircuitBreaker/index.htm</a>
additional technical information for NZM power switch	<a href="https://es-assets.eaton.com/DOCUMENTATION/PDF/nzm_technic_de_en.pdf">https://es-assets.eaton.com/DOCUMENTATION/PDF/nzm_technic_de_en.pdf</a>