



189725  
NZM2/3-XU2A24DC

Overview

Specifications

Resources



Delivery program

Technical data

Design verification as  
per IEC/EN 61439

Technical data ETIM 7.0

Approvals

## DELIVERY PROGRAM

Product range  
Accessories

Accessories  
Undervoltage release

Accessories  
Undervoltage release with two relays

Standard/Approval  
UL/CSA, IEC

Construction size  
NZM2/3

Description  
Instantaneous shut-off of the NZM circuit breaker  
when the control voltage drops below 35 - 70%  
U<sub>s</sub>.  
For use with emergency-stop devices in  
connection with an emergency-stop button.  
For signaling commands or different states of the  
circuit-breaker.

Two relays per unit.

The activation criteria can be configured in the trip unit.

Configuration via communication or circuit breaker display or front USB port and Eaton Power Xpert Protection Manager.

When the under-voltage trip is switched off, accidental contact with the circuit breaker's primary contacts is prevented when switched on. Only for use in combination with circuit-breakers with electronic trips.

Under-voltage trip relay modules cannot be installed simultaneously with make-before-break auxiliary contact NZM...-XHIV, under-voltage trip NZM...-XU... or shunt trip NZM...-XA.

Relay contacts for control wiring.

Relays can be used for controlling remote operator with  $U_s=208-204\text{ V AC}$ .

Control wiring on push-in clamps.

Cannot be used with the PXR10 NZM-AX electronic trip.

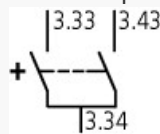
Connection type  
with push in terminal

Auxiliary contacts  
without auxiliary contact

For use with  
PXR20(25) NZM2(-4)-...X...  
PXR20(25) NZM3(-4)-...X...

Number of relays  
2

Contact sequence



## TECHNICAL DATA

### Undervoltage release

Rated control voltage [ $U_s$ ]  
DC [ $U_s$ ]  
24-24 V DC

Operating range  
Drop-out voltage  
 $0.35 - 0.7 \times U_s$

Operating range  
Pick-up voltage [ $\times U_c$ ]  
0.85 - 1.1

Power consumption  
AC  
Pick-up AC  
1.5 VA

Power consumption  
AC  
Sealing AC  
1.5 VA

Power consumption  
DC  
Pick-up DC  
0.8 W

Power consumption  
DC  
Sealing DC  
0.8 W

Maximum opening delay (response time until  
opening of the main contacts)  
19 ms

Minimum command time  
10 - 15 ms

**Terminal capacity**  
Solid  
 $1 \times (0.2 - 1.5) \text{ mm}^2$

**Terminal capacity**  
Stranded  
 $1 \times (0.25 - 1.5) \text{ mm}^2$

**Terminal capacity**  
 $1 \times (24 - 16) \text{ AWG}$

**Terminal capacity**  
with insulated end sleeve in accordance with  
DIN46224 / 4

1 x (0,25 - 1,5) mm<sup>2</sup>

**Terminal capacity**

with uninsulated end sleeve in accordance with  
DIN46228 / 1  
1 x (0,25 - 0,75) mm<sup>2</sup>

**Relay contacts**

Rated control voltage [ $U_s$  ]  
AC [ $U_s$  ]  
24-240 V AC

Rated control voltage [ $U_s$  ]  
DC [ $U_s$  ]  
24-24 V DC

Contacts  
Rated impulse withstand voltage [ $U_{imp}$ ]  
4000 V AC

Contacts  
Rated insulation voltage [ $U_i$  ]  
250 V

Contacts  
Overvoltage category/pollution degree  
II/2

Switching capacity  
Rated operational current  
AC-1  
24 V [ $I_e$ ]  
1 A

Switching capacity  
Rated operational current  
AC-1  
110 V [ $I_e$ ]  
1 A

Switching capacity  
Rated operational current  
AC-1  
230 V [ $I_e$ ]  
1 A

Switching capacity  
Rated operational current

DC-1  
24 V [ $I_b$ ]  
1 A

Switching capacity  
Min. switching capacity (reference value)  
0.1 mA / 0.1 VDC

Connection  
Stripping length  
8 mm

Connection  
**Terminal capacity**  
Solid  
1 x (0.2 – 1.5) mm<sup>2</sup>

Connection  
**Terminal capacity**  
Stranded  
1 x (0.25 – 1.5) mm<sup>2</sup>

Connection  
**Terminal capacity**  
1 x (24 - 16) AWG

Connection  
**Terminal capacity**  
with insulated end sleeve in accordance with  
DIN46224 / 4  
1 x (0,25 - 1,5) mm<sup>2</sup>

Connection  
**Terminal capacity**  
with uninsulated end sleeve in accordance with  
DIN46228 / 1  
1 x (0,25 - 0,75) mm<sup>2</sup>

## DESIGN VERIFICATION AS PER IEC/EN 61439

### 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 Strength of materials and parts  
10.2.3.1 Verification of thermal stability of enclosures  
Meets the product standard's requirements.

10.2 Strength of materials and parts  
10.2.3.2 Verification of resistance of insulating materials to normal heat  
Meets the product standard's requirements.

10.2 Strength of materials and parts  
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 Strength of materials and parts  
10.2.4 Resistance to ultra-violet (UV) radiation  
Meets the product standard's requirements.

10.2 Strength of materials and parts  
10.2.5 Lifting  
Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts  
10.2.6 Mechanical impact  
Does not apply, since the entire switchgear needs to be evaluated.

10.2 Strength of materials and parts  
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 Insulation properties  
10.9.3 Impulse withstand voltage  
Is the panel builder's responsibility.

10.9 Insulation properties  
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) / Under voltage coil (EC001022)

Rated control supply voltage  $U_s$  at AC 50HZ  
0 - 0 V

Rated control supply voltage  $U_s$  at AC 60HZ  
0 - 0 V

Rated control supply voltage  $U_s$  at DC  
24 - 24 V

Voltage type for actuating  
DC

Type of electric connection  
Spring clamp connection

Number of contacts as normally open contact  
2

Number of contacts as normally closed contact  
0

Number of contacts as change-over contact  
0

Delayed  
No

Suitable for power circuit breaker  
Yes

Suitable for off-load switch  
Yes

Suitable for motor safety switch  
Yes

Suitable for overload relay  
No

## APPROVALS

Product Standards  
UL489; CSA-C22.2 No. 5-09; IEC60947, CE marking

UL File No.  
E140305

UL Category Control No.  
DIHS

CSA File No.  
022086

CSA Class No.  
1437-01

North America Certification  
UL listed, CSA certified



