



Undervoltage release, 48VAC, +2early N/O

Part no. **NZM1-XUHIV48AC**  
 Catalog No. **259533**

Similar to illustration

## Delivery program

|                       |       |   |  |
|-----------------------|-------|---|--|
| Product range         |       |   | Accessories  |
| Accessories           |       |   | Undervoltage release   |
| Accessories           |       |   | Undervoltage release with early-make auxiliary contact   |
| Standard/Approval     |       |   | UL/CSA, IEC  |
| Construction size     |       |   | NZM1   |
| Description           |       |   | Undervoltage release with 2 early-make auxiliary contacts, e.g., for early-make connection of undervoltage release in main switch applications, as well as for interlock and load shedding circuits.<br>For use with emergency-stop devices in connection with an emergency-stop button.<br>When the under-voltage trip is switched off, accidental contact with the circuit breaker's primary contacts is prevented when switched on.<br>Early make of auxiliary contacts on switching on and off (manual operation): approx. 20 ms<br>Undervoltage releases cannot be installed simultaneously with NZM...-XHIV... early-make auxiliary contact or NZM...-XA... shunt release. |
| Connection type       |       |   | with terminal block on the left-hand switch side   |
| Auxiliary contacts    |       |   | with 2 early-make auxiliary contacts   |
| Rated control voltage | $U_s$ | V | 48 V 50/60 Hz  |
| For use with          |       |   | NZM1(-4), N(S)1(-4)  |

## Technical data

### Undervoltage release

|  |         |         |               |
|--|---------|---------|---------------|
| Rated control voltage  | $U_s$   | V       |               |
| AC   | $U_s$   | V AC    | 48 - 48       |
| Rated control voltage  | $U_s$   | V       | 48 V 50/60 Hz |
| Operating range  |         |         |               |
| Drop-out voltage   |         | $x U_s$ | 0.35 - 0.7    |
| Pick-up voltage  | $x U_c$ |         | 0.85 - 1.1    |
| Power consumption  |         |         |               |
| AC   |         |         |               |
| Pick-up AC   |         | VA      | 1.5           |
| Sealing AC   |         | VA      | 1.5           |
| DC   |         | $x U_s$ |               |
| Pick-up DC   |         | W       | 0.8           |
| Sealing DC   |         | W       | 0.8           |
| Maximum opening delay (response time until opening of the main contacts) |         | ms      | 19            |
| Minimum command time   |         | ms      | 10 - 15       |

### Terminal capacities

|   |  |                 |                                      |
|---|--|-----------------|--------------------------------------|
| Solid or flexible conductor, with ferrule |  | mm <sup>2</sup> | 1 x (0,75 - 2,5)<br>2 x (0,75 - 2,5) |
|   |  | AWG             | 1 x (18 ... 14)<br>2 x (18 ... 14)   |

## 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. |
| 10.2.3.1 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) / Under voltage coil (EC001022)   |   |                  |
| Electric engineering, automation, process control engineering / Low-voltage switch technology / Circuit breaker (LV < 1 kV) / Undervoltage trip (ecl@ss10.0.1-27-37-04-17 [AKF015013]) |   |                  |
| Rated control supply voltage Us at AC 50HZ   | V | 48 - 48          |
| Rated control supply voltage Us at AC 60HZ   | V | 48 - 48          |
| Rated control supply voltage Us at DC  | V | 0 - 0            |
| Voltage type for actuating   |   | AC               |
| Type of electric connection  |   | Screw 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   |   | No               |
| 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                        |

## Dimensions



- ①  
NZM1-XA(HIV)  
NZM1-XU(HIV)(20)  
NZM1-XHIV
- ②  
NZM1-XA(HIV)(L)  
NZM1-XU(V)(HIV)(L)(20)  
NZM1-XHIV(L)
- ③  
NZM1-XHIVR

## Additional product information (links)

**IL01203002Z (AWA1230-1914) Shunt release, Undervoltage release, Early-make auxiliary contact**

IL01203002Z (AWA1230-1914) Shunt release, Undervoltage release, Early-make auxiliary contact

[ftp://ftp.moeller.net/DOCUMENTATION/AWA\\_INSTRUCTIONS/IL01203002Z2010\\_11.pdf](ftp://ftp.moeller.net/DOCUMENTATION/AWA_INSTRUCTIONS/IL01203002Z2010_11.pdf)