

# DATASHEET - NZM1-XUHIV24DC



Undervoltage release, 24 V DC, +2early N/O

Part no. **NZM1-XUHIV24DC**  
Catalog No. **259547**



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 <sub>s</sub> | V | 24 V DC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| For use with          |                |   | NZM1(-4), N(S)1(-4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

## Technical data

### Undervoltage release

|                                                                          |                  |                  |            |
|--------------------------------------------------------------------------|------------------|------------------|------------|
| Rated control voltage                                                    | U <sub>s</sub>   | V                |            |
| DC                                                                       | U <sub>s</sub>   | V DC             | 24 - 24    |
| Rated control voltage                                                    | U <sub>s</sub>   | V                | 24 V DC    |
| Operating range                                                          |                  |                  |            |
| Drop-out voltage                                                         |                  | x U <sub>s</sub> | 0.35 - 0.7 |
| Pick-up voltage                                                          | x U <sub>c</sub> |                  | 0.85 - 1.1 |
| Power consumption                                                        |                  |                  |            |
| AC                                                                       |                  |                  |            |
| Pick-up AC                                                               |                  | VA               | 1.5        |
| Sealing AC                                                               |                  | VA               | 1.5        |
| DC                                                                       |                  | x U <sub>s</sub> |            |
| 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.                         |

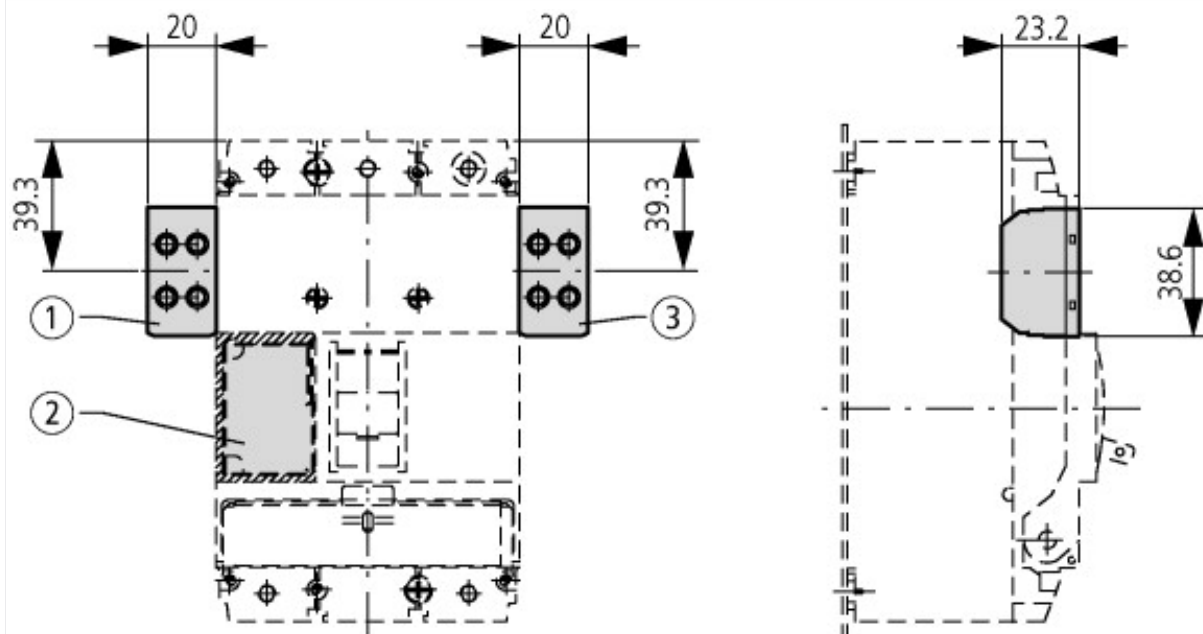
## Technical data ETIM 7.0

|                                                                                                                                                                                        |   |  |                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--|------------------|
| 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 |  | 0 - 0            |
| Rated control supply voltage Us at AC 60HZ                                                                                                                                             | V |  | 0 - 0            |
| Rated control supply voltage Us at DC                                                                                                                                                  | V |  | 24 - 24          |
| Voltage type for actuating                                                                                                                                                             |   |  | DC               |
| 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)