

## UR20-8DI-N-3W

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://www.weidmueller.com)

### Product image



### Digital input modules P- or N-switching; Reverse polarity protection, up to 3-wire +FE

Digital input modules from Weidmüller are available in different versions and are used primarily to receive binary control signals from sensors, transmitters, switches or proximity switches. Thanks to their flexible design, they will satisfy your need for well co-ordinated project planning with reserve potential.

All modules are available with 4, 8 or 16 inputs and comply fully with IEC 61131-2. The digital input modules are available as P- or N-switching variant. The digital inputs are for Type 1 and Type 3 sensors in accordance with the standard. With a maximum input frequency of up to 1 kHz, they are used in many different applications. The variant for PLC interface units enables rapid cabling to the proven Weidmüller interface sub-assemblies using system cables. This ensures rapid incorporation into your overall system. Two modules with a timestamp function are able to capture binary signals and to provide a timestamp in 1 µs resolution. Further solutions are possible with

the module UR20-4DI-2W-230V-AC which works with accurate current up to 230V as an input signal.

The module electronics supply the connected sensors from the input current path ( $U_{IN}$ ).

### General ordering data

|            |                                                            |
|------------|------------------------------------------------------------|
| Version    | Remote I/O module, IP20, Digital signals, Input, 8-channel |
| Order No.  | <a href="#">1315370000</a>                                 |
| Type       | UR20-8DI-N-3W                                              |
| GTIN (EAN) | 4050118118520                                              |
| Qty.       | 1 pc(s).                                                   |

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## Technical data

## Dimensions and weights

|                             |         |                 |            |
|-----------------------------|---------|-----------------|------------|
| Depth                       | 76 mm   | Depth (inches)  | 2.992 inch |
| Height                      | 120 mm  | Height (inches) | 4.724 inch |
| Mounting dimension - height | 128 mm  | Net weight      | 83 g       |
| Width                       | 11.5 mm | Width (inches)  | 0.453 inch |

## Temperatures

|                     |                   |                       |                   |
|---------------------|-------------------|-----------------------|-------------------|
| Storage temperature | -40 °C ... +85 °C | Operating temperature | -20 °C ... +60 °C |
|---------------------|-------------------|-----------------------|-------------------|

## Environmental Product Compliance

|            |                |
|------------|----------------|
| REACH SVHC | Lead 7439-92-1 |
|------------|----------------|

## digital inputs

|                              |                                                                      |          |
|------------------------------|----------------------------------------------------------------------|----------|
| Individual channel diagnosis | No                                                                   |          |
| Input filter                 | configurable                                                         |          |
| Input voltage, high          | < - 11 V referred to +24 V of the input power supply U <sub>IN</sub> |          |
| Input voltage, low           | > - 5 V referred to +24 V of the input power supply U <sub>IN</sub>  |          |
| Module diagnosis             | Yes                                                                  |          |
| Number of digital inputs     | 8                                                                    |          |
| Reverse polarity protection  | Yes                                                                  |          |
| Sensor connection            | 2-wire, 3-wire                                                       |          |
| Sensor supply                | Yes                                                                  |          |
| Sensor supply                | max.                                                                 | 8,000 mA |
|                              | min.                                                                 | 0        |
|                              | nominal                                                              | 750 mA   |
| Type                         | Types 1 and 3, EN 61131-2                                            |          |

## Connection data

|                                                      |                      |                                                      |                      |
|------------------------------------------------------|----------------------|------------------------------------------------------|----------------------|
| Type of connection                                   | PUSH IN              | Wire connection cross section, finely stranded, max. | 1.5 mm <sup>2</sup>  |
| Wire connection cross section, finely stranded, min. | 0.14 mm <sup>2</sup> | Wire cross-section, finely stranded, max. (AWG)      | AWG 16               |
| Wire cross-section, finely stranded, min. (AWG)      | AWG 26               | Wire cross-section, solid, max.                      | 1.5 mm <sup>2</sup>  |
| Wire cross-section, solid, max. (AWG)                | AWG 16               | Wire cross-section, solid, min.                      | 0.14 mm <sup>2</sup> |
| Wire cross-section, solid, min. (AWG)                | AWG 26               |                                                      |                      |

## General data

|                          |                                                                        |
|--------------------------|------------------------------------------------------------------------|
| Air humidity (operation) | 10% to 95%, non-condensing as per DIN EN 61131-2                       |
| Air humidity (storage)   | 10% to 95%, non-condensing as per DIN EN 61131-2                       |
| Air humidity (transport) | 10% to 95%, non-condensing as per DIN EN 61131-2                       |
| Air pressure (operation) | ≥ 795 hPa (height ≤ 2000 m) as per DIN EN 61131-2                      |
| Air pressure (storage)   | 1013 hPa (height 0 m) to 700 hPa (height 3000 m) as per DIN EN 61131-2 |
| Air pressure (transport) | 1013 hPa (height 0 m) to 700 hPa (height 3000 m) as per DIN EN 61131-2 |
| Pollution severity       | 2                                                                      |
| Rail                     | TS 35                                                                  |

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|                           |                                                                                                                      |              |        |
|---------------------------|----------------------------------------------------------------------------------------------------------------------|--------------|--------|
| Restricted area           | Positive expansion                                                                                                   | X coordinate | 43 mm  |
|                           |                                                                                                                      | Z coordinate | 85 mm  |
|                           |                                                                                                                      | Y coordinate | 160 mm |
|                           | Type of restricted area                                                                                              | thermal      |        |
|                           | Negative expansion                                                                                                   | Z coordinate | 0 mm   |
|                           |                                                                                                                      | Y coordinate | -40 mm |
|                           |                                                                                                                      | X coordinate | -28 mm |
| Shock                     | 15 g over 11 ms, half sinus wave, acc. to IEC 60068-2-27                                                             |              |        |
| Surge voltage category    | II                                                                                                                   |              |        |
| Test voltage              | 500 V                                                                                                                |              |        |
| UL 94 flammability rating | V-0                                                                                                                  |              |        |
| Vibration resistance      | 5 Hz ≤ f ≤ 8.4 Hz: 3.5-mm amplitude as per IEC 60068-2-6, 8.4 Hz ≤ f ≤ 150 Hz: 1 g acceleration as per IEC 60068-2-6 |              |        |

## Power supply

|                                                                                         |                                          |       |
|-----------------------------------------------------------------------------------------|------------------------------------------|-------|
| Current consumption from I <sub>IN</sub> (power segment of the field bus coupler), typ. | 8 mA                                     |       |
| Current consumption from I <sub>IN</sub> (power segment of the fieldbus coupler), typ.  | min.                                     | 8 mA  |
|                                                                                         | nominal                                  | 8 mA  |
|                                                                                         | max.                                     | 8 mA  |
| Current consumption from I <sub>IN</sub> (the respective power segment)                 | < 20 mA                                  |       |
| Current consumption from I <sub>IN</sub> (the respective power segment)                 | max.                                     | 20 mA |
|                                                                                         | nominal                                  | 20 mA |
|                                                                                         | min.                                     | 20 mA |
| Reverse polarity protection                                                             | Yes                                      |       |
| Voltage supply                                                                          | 24 V DC +20 %/ -15 %, via the system bus |       |

## RS interface

|                              |    |                  |     |
|------------------------------|----|------------------|-----|
| Individual channel diagnosis | No | Module diagnosis | Yes |
|------------------------------|----|------------------|-----|

## Serial inputs

|                              |    |                  |     |
|------------------------------|----|------------------|-----|
| Individual channel diagnosis | No | Module diagnosis | Yes |
|------------------------------|----|------------------|-----|

## System data

|                                                |                                    |                     |                                                                                                                                                     |
|------------------------------------------------|------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Diagnostic data                                |                                    | Field bus protocol  | PROFINET IRT, PROFINET RT, PROFIBUS DP-V1, EtherCAT, Modbus/TCP, EtherNet/IP, CANopen, DeviceNet, POWERLINK, CC-Link, CC-Link IE TSN, IEC 61162-450 |
|                                                | 1 Byte                             |                     |                                                                                                                                                     |
| Galvanic isolation                             | 500 V DC between the current paths | Interface           | u-remote system bus                                                                                                                                 |
| Module type                                    | Digital input module               | Possible connection | 3-wire, Single-conductor, 2-wire                                                                                                                    |
| Transmission speed of system bus, max. 48 Mbit |                                    |                     |                                                                                                                                                     |

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC001599    | ETIM 7.0    | EC001599    |
| ECLASS 9.0  | 27-24-26-04 | ECLASS 9.1  | 27-24-26-04 |
| ECLASS 10.0 | 27-24-26-04 | ECLASS 11.0 | 27-24-26-04 |

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## Technical data

## Approvals

Approvals



|                       |         |
|-----------------------|---------|
| ROHS                  | Conform |
| UL File Number Search | E141197 |

## Downloads

|                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of Conformity</a><br><a href="#">Compass safe distance certificate</a><br><a href="#">Lloyds Register certificate</a><br><a href="#">DNV/GL certificate</a><br><a href="#">ABS certificate</a><br><a href="#">RINA certificate</a><br><a href="#">Bureau Veritas - Type Approval Certificate</a><br><a href="#">PRS (Polish Register of Shipping)</a><br><a href="#">NIPPON KAIJI KYOKAI Certificate</a> |
| Engineering Data                            | <a href="#">EPLAN, WSCAD, Zuken E3.S</a>                                                                                                                                                                                                                                                                                                                                                                                         |
| User Documentation                          | <a href="#">MAN_U-REMOTE_DE</a><br><a href="#">MAN_U-REMOTE_EN</a>                                                                                                                                                                                                                                                                                                                                                               |

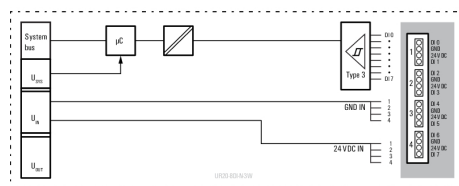
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## Drawings

### Block diagram



### Connection diagram

