

## UR20-16DI-N-PLC-INT

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

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Germany

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



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 (UIN).

### General ordering data

|            |  |
|------------|--|
| Version    | Remote I/O module, IP20, Digital signals, Input, PLC |
| Order No.  | <a href="#">131540000</a>                            |
| Type       | UR20-16DI-N-PLC-INT                                  |
| GTIN (EAN) | 4050118118568  |
| Qty.       | 1 items  |

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Technical data

Approvals

Approvals



|                           |                            |
|---------------------------|----------------------------|
| ROHS                      | Conform                    |
| UL File Number Search     | <a href="#">UL Website</a> |
| Certificate no. (cULus)   | E141197                    |
| Certificate no. (cULusEX) | E223527                    |

Dimensions and weights

|                             |         |                 |             |
|-----------------------------|---------|-----------------|-------------|
| Depth                       | 76 mm   | Depth (inches)  | 2.9921 inch |
| Height                      | 120 mm  | Height (inches) | 4.7244 inch |
| Width                       | 11.5 mm | Width (inches)  | 0.4528 inch |
| Mounting dimension - height | 128 mm  | Net weight      | 82 g        |

Temperatures

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

Environmental Product Compliance

|                                      |                                      |                  |  |
|--------------------------------------|--------------------------------------|------------------|--|
| RoHS Compliance Status               | Compliant with exemption             |                  |  |
| RoHS Exemption (if applicable/known) | 7a, 7cl                              |                  |  |
| REACH SVHC                           | Lead 7439-92-1                       |                  |  |
| SCIP                                 | 82327f13-cd27-455a-ab5b-a62e1996dcf8 |                  |  |
| Product Carbon Footprint             | Cradle to gate                       | 8,017 kg CO2 eq. |  |

digital inputs

|                              |                           |                          |   |
|------------------------------|---------------------------|--------------------------|---|
| Reverse polarity protection  | Yes                       | Number of digital inputs | 16  |
| Type                         | Types 1 and 3, EN 61131-2 | Sensor supply            | external  |
| Input filter                 | 3 ms                      | Input voltage, high      | < 11 V referred to +24 V of the input power supply UIN  |
| Module diagnosis             | Yes                       | Input voltage, low       | > - 5 V referred to +24 V of the input power supply UIN |
| Individual channel diagnosis | No                        | Sensor connection        | PLC-Interface   |

Connection data

|   |        |   |        |
|---|--------|---|--------|
| Wire cross-section, finely stranded, max. (AWG) | AWG 16 | Wire cross-section, finely stranded, min. (AWG) | AWG 26 |
| Wire cross-section, solid, max. (AWG)           | AWG 16 | Wire cross-section, solid, min. (AWG)           | AWG 26 |

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|--|----------------------|--|--------------------------------|
| Type of connection                                   | PUSH IN              | Wire cross-section, solid, max.                      | 1.5 mm <sup>2</sup>            |
| Wire cross-section, solid, min.                      | 0.14 mm <sup>2</sup> | 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> | I/O plug-in connector                                | 20-pin ribbon cable connection |

### General data

|                          |  |                           |  |
|--------------------------|--|---------------------------|--|
| 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 | UL 94 flammability rating | V-0  |
| Test voltage             | 500 V  | Surge voltage category    | II   |
| Pollution severity       | 2  | Mounting rail             | TS 35  |
| Air pressure (operation) | ≥ 795 hPa (height ≤ 2000 m) as per DIN EN 61131-2  | Air humidity (transport)  | 10% to 95%, non-condensing 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   | Air pressure (storage)    | 1013 hPa (height 0 m) to 700 hPa (height 3000 m) as per DIN EN 61131-2 |
| 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                       |
| Shock                    | 15 g over 11 ms, half sinus wave, acc. to IEC 60068-2-27   |                           |  |

### Power supply

|   |        |  |  |
|---|--------|--|--|
| Reverse polarity protection                                 | Yes    | Supply voltage                                   | 24 V DC +20 %/ -15 %, via the system bus |
| Current consumption from IIN (the respective power segment) | <15 mA | Current consumption from I <sub>sys</sub> , typ. | 8 mA                                     |

### System data

|  |                                    |                    |   |
|--|------------------------------------|--------------------|---|
| Module type                            | Special module                     | Interface          | u-remote system bus   |
| Galvanic isolation                     | 500 V DC between the current paths | 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 |
| Transmission speed of system bus, max. | 48 MBit/s                          | Diagnostic data    | 1 Byte  |

### Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 8.0    | EC001599    | ETIM 9.0    | EC001599    |
| ETIM 10.0   | EC001599    | ECLASS 14.0 | 27-24-26-04 |
| ECLASS 15.0 | 27-24-26-04 |             |             |

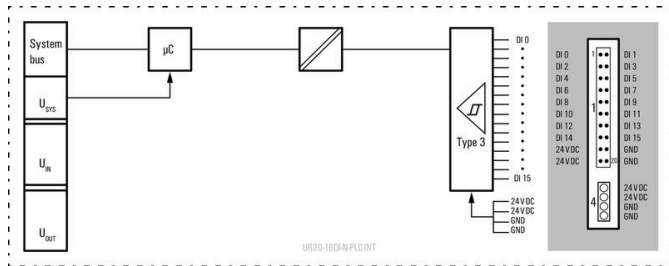
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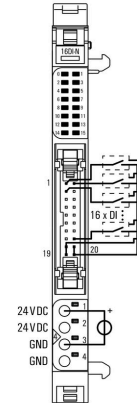
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# Drawings

### Block diagram



### Connection diagram



### Explanation of abbreviations

#### Digital input modules

