

**UR20-8DI-PN-FSOE-V2****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

**Product image, Similar to illustration****SIL3; OSSD outputs; wire breakage and short-circuit detection**

Safety technology is of central importance in industrial automation and machine building. If you want to reduce risks and avoid dangers for people and environment, you need solutions which satisfy stringent requirements and statutory specifications. The safety modules of the u-remote system have key features such as emergency-stop circuits and wire-breakage or short-circuit detection. They meet all SIL 3 requirements according to IEC 62061 and EN ISO 13849-1, category 4, PL e, and support the safe operation of your system.

By safely shutting down the downstream output modules, the safety modules attain maximum safety with optimum control. All input sensors are independently supplied via separate voltage paths and report the current machine status to the control unit. Restarting is either carried out in manual mode or using the autostart function. In addition, Weidmüller safety modules reduce maintenance and service times and improve response times in case of emergency – thanks to a concept of maximum transparency, e.g. using OSSD outputs.

The module electronics supply the connected actuators from the output current path ( $U_{OUT}$ ).

**General ordering data**

|            |                                                             |
|------------|-------------------------------------------------------------|
| Version    | Remote I/O module, IP20, Safety, Digital signals, 8-channel |
| Order No.  | <a href="#">2464600000</a>                                  |
| Type       | UR20-8DI-PN-FSOE-V2                                         |
| GTIN (EAN) | 4050118479409                                               |
| 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      | 89.69 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 | Yes                                                              | Input filter             | configurable              |
| Input type                   | Type 1 in acc. with IEC 61131-2, Type 3 in acc. with IEC 61131-2 | Input voltage, high      | > 11 V                    |
| Input voltage, low           | < 5 V                                                            | Module diagnosis         | Yes                       |
| Number                       | 8                                                                | Number of digital inputs | 8                         |
| Reverse polarity protection  | Yes                                                              | Sensor connection        | 2-wire, 3-wire, 4-wire    |
| Sensor supply                | Yes                                                              | Type                     | Types 1 and 3, EN 61131-2 |

## digital outputs

|                              |                           |                   |                        |
|------------------------------|---------------------------|-------------------|------------------------|
| Individual channel diagnosis | Yes                       | Module diagnosis  | Yes                    |
| Number                       | 8                         | Sensor connection | 2-wire, 3-wire, 4-wire |
| Type                         | Types 1 and 3, EN 61131-2 |                   |                        |

## Connection data

|                                                      |                      |                                                      |                      |
|------------------------------------------------------|----------------------|------------------------------------------------------|----------------------|
| Number                                               | 8                    | 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           | Type of restricted area                                                                                              | thermal            |                     |
|                           |                                                                                                                      | Positive expansion | X coordinate 43 mm  |
|                           |                                                                                                                      |                    | Z coordinate 85 mm  |
|                           |                                                                                                                      |                    | Y coordinate 160 mm |
|                           | Negative expansion                                                                                                   | X coordinate       | -28 mm              |
|                           |                                                                                                                      | Z coordinate       | 0 mm                |
|                           |                                                                                                                      | Y coordinate       | -40 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.  | max.                                     | 8 mA  |
|                                                                                         | nominal                                  | 8 mA  |
|                                                                                         | min.                                     | 8 mA  |
| Current consumption from I <sub>IN</sub> (the respective power segment)                 | 30 mA                                    |       |
| Current consumption from I <sub>IN</sub> (the respective power segment)                 | min.                                     | 30 mA |
|                                                                                         | max.                                     | 30 mA |
|                                                                                         | nominal                                  | 30 mA |
| Reverse polarity protection                                                             | Yes                                      |       |
| Voltage supply                                                                          | 24 V DC +20 %/ -15 %, via the system bus |       |

## RS interface

|                              |     |                  |     |
|------------------------------|-----|------------------|-----|
| Individual channel diagnosis | Yes | Module diagnosis | Yes |
| Number                       | 8   |                  |     |

## Safety-related data

|                                            |                           |                                                                                                   |
|--------------------------------------------|---------------------------|---------------------------------------------------------------------------------------------------|
| MTTF                                       | Probability of outage PFH | Input, single-channel wiring: 2*10 <sup>-9</sup> ;; Dual-channel wiring: 4.07*10 <sup>-11</sup> ; |
| 100 Years                                  |                           |                                                                                                   |
| Proportion of safety-related outages (SFF) | Safety category           | SIL 3                                                                                             |
| 98 %                                       |                           |                                                                                                   |

## Serial inputs

|                              |     |                  |     |
|------------------------------|-----|------------------|-----|
| Individual channel diagnosis | Yes | Module diagnosis | Yes |
| Number                       | 8   |                  |     |

## System data

|                     |                                        |                                    |
|---------------------|----------------------------------------|------------------------------------|
| Field bus protocol  | Galvanic isolation                     | 500 V DC between the current paths |
| EtherCAT            |                                        |                                    |
| Interface           | Module type                            | Safe input module                  |
| u-remote system bus |                                        |                                    |
| Possible connection | Transmission speed of system bus, max. | 48 Mbit                            |
| 2-wire, 4-wire      |                                        |                                    |

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## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC001599    | ETIM 7.0    | EC001599    |
| ECLASS 9.0  | 27-24-26-05 | ECLASS 9.1  | 27-24-26-05 |
| ECLASS 10.0 | 27-24-26-05 | ECLASS 11.0 | 27-24-26-05 |

## Approvals

Approvals



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

## Downloads

|                                             |                                                                                                                                                |
|---------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Approval/Certificate/Document of Conformity | <a href="#">Declaration of Conformity</a><br><a href="#">TÜV_certificate_Safety-IO-module.pdf</a>                                              |
| Engineering Data                            | <a href="#">STEP</a>                                                                                                                           |
| Product Change Notification                 | <a href="#">Release-Notes - Firmware</a>                                                                                                       |
| Software                                    | <a href="#">UR20-8DI-PN-FSOE-V2-0008080-01_00_04-7</a>                                                                                         |
| User Documentation                          | <a href="#">MAN_U-REMOTE_DE</a><br><a href="#">MAN_U-REMOTE_EN</a><br><a href="#">MAN_U-REMOTE_FS_DE</a><br><a href="#">MAN_U-REMOTE_FS_EN</a> |

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## Drawings

### Connection diagram

