

## UR20-4DO-P

Weidmüller Interface GmbH &amp; Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

## Product image


**Digital output modules P- or N-switching; short-circuit-proof; up to 3-wire + FE**

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

Digital output modules are available in the following variants: 4 DO, 8 DO with 2- and 3-wire technology, 16 DO with or without PLC interface connection. They are mainly used for the incorporation of decentralised actuators. All outputs are designed for DC-13 actuators acc. to DIN EN 60947-5-1 and IEC 61131-2 specifications. As with the digital input modules, frequencies of up to 1 kHz are possible. Protection of the outputs ensures maximum system safety. This consists of an automatic restart following a short-circuit. Clearly visible LEDs signal the status of the entire module as well as the status of individual channels.

In addition to the standard applications of the digital output modules, the range also includes special variants such as the 4RO-SSR module for rapidly switching applications. Fitted with solid state technology, 0.5 A is available here to each output. Furthermore, there is also the 4RO-CO relay module for power-intensive applications. It equipped with four CO contacts, optimised for a switching voltage of 255 V UC and designed for a switching current of 5 A.

**General ordering data**

|            |                                                             |
|------------|-------------------------------------------------------------|
| Version    | Remote I/O module, IP20, Digital signals, Output, 4-channel |
| Order No.  | <a href="#">1315220000</a>                                  |
| Type       | UR20-4DO-P                                                  |
| GTIN (EAN) | 4050118118391                                               |
| 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      | 86 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 outputs

|                                                            |                             |          |
|------------------------------------------------------------|-----------------------------|----------|
| Actuator connection                                        | 2-wire, 3-wire, 3-wire + FE |          |
| Actuator supply                                            | nominal                     | 750 mA   |
|                                                            | min.                        | 0 mA     |
|                                                            | max.                        | 750 mA   |
| Feedback-free                                              | Yes                         |          |
| Individual channel diagnosis                               | No                          |          |
| Inductive load (DC13)                                      | 0.2 Hz                      |          |
| Lamp load (12 W)                                           | 1 kHz                       |          |
| Max. response time, high                                   | 100 μs                      |          |
| Max. response time, low                                    | 250 μs                      |          |
| Module diagnosis                                           | Yes                         |          |
| Number of digital outputs                                  | 4                           |          |
| Output current as per application                          | nominal                     | 2,000 mA |
|                                                            | min.                        | 0 mA     |
|                                                            | max.                        | 2,000 mA |
| Output current per channel, max.                           | 500 mA                      |          |
| Output current per module, max.                            | 2,000 mA                    |          |
| Resistive load (min. 47 Ω)                                 | 1 kHz                       |          |
| Response time of the protective circuit (current limiting) | < 100μs                     |          |
| Short-circuit-proof                                        | Yes (thermal cut-out)       |          |
| Simultaneity factor                                        | max.                        | 100 %    |
|                                                            | nominal                     | 100 %    |
|                                                            | min.                        | 0 %      |
| Switch-off energy (inductive)                              | < 150 mJ / channel          |          |
| Type                                                       | Lamp load, Ohmic, Inductive |          |

## 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               |                                                      |                      |

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## 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)  | $\geq 795$ hPa (height $\leq 2000$ 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                                                                                                                                |              |        |
| 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 $\leq f \leq 8.4$ Hz: 3.5-mm amplitude as per IEC 60068-2-6, 8.4 Hz $\leq f \leq 150$ 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>OUT</sub> (the respective power segment)                | 10 mA + load                             |       |
| Current consumption from I <sub>OUT</sub> (the respective power segment)                | max.                                     | 10 mA |
|                                                                                         | min.                                     | 10 mA |
|                                                                                         | nominal                                  | 10 mA |
| Voltage supply                                                                          | 24 V DC +20 %/ -15 %, via the system bus |       |

## RS interface

|                              |                       |                  |     |
|------------------------------|-----------------------|------------------|-----|
| Individual channel diagnosis | No                    | Module diagnosis | Yes |
| Short-circuit-proof          | Yes (thermal cut-out) |                  |     |

## Serial inputs

|                              |                       |                  |     |
|------------------------------|-----------------------|------------------|-----|
| Individual channel diagnosis | No                    | Module diagnosis | Yes |
| Short-circuit-proof          | Yes (thermal cut-out) |                  |     |

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## Technical data

## System data

|                    |                                    |                                        |                                                                                                |
|--------------------|------------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------|
| Diagnostic data    |                                    | Field bus protocol                     | CANopen, DeviceNet, EtherCAT, EtherNet/IP, Modbus/TCP, PROFINET IRT, PROFIBUS DP-V1, POWERLINK |
|                    | 1 Bit                              |                                        |                                                                                                |
| Galvanic isolation | 500 V DC between the current paths | Interface                              | u-remote system bus                                                                            |
| Module type        | Digital output module              | Possible connection                    | 2-wire, 3-wire, 3 conductor FES                                                                |
| Process data       | 4 Bit                              | Transmission speed of system bus, max. | 48 Mbit                                                                                        |

## Classifications

|             |             |             |             |
|-------------|-------------|-------------|-------------|
| ETIM 6.0    | EC001597    | ETIM 7.0    | EC001597    |
| ECLASS 9.0  | 27-24-26-02 | ECLASS 9.1  | 27-24-26-02 |
| ECLASS 10.0 | 27-24-26-02 | ECLASS 11.0 | 27-24-26-02 |

## 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="#">STEP</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>                                                                                                                                                                                                                                                                                                                                                               |

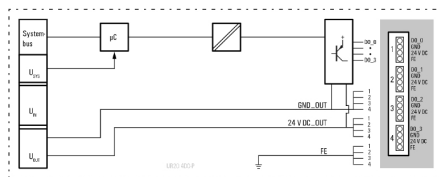
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## Drawings

### Block diagram



### Connection diagram

