

UR20-4DI-2W-230V-AC

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26
D-32758 Detmold
Germany

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, 4-channel |
| Order No. | 1550070000 |
| Type | UR20-4DI-2W-230V-AC |
| GTIN (EAN) | 4050118356380 |
| Qty. | 1 items |

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Technical data

Approvals

Approvals



| | |
|---------------------------|----------------------------|
| ROHS | Conform |
| UL File Number Search | UL Website |
| 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 | 89 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 | 8,705 kg CO2 eq. | |

digital inputs

| | | | |
|------------------------------|--------------|--------------------------|-------------------------------|
| Reverse polarity protection | Yes | Number of digital inputs | 4 |
| Input frequency | 50 Hz, 60 Hz | Type | Types 1 and 3, EN 61131-2 |
| Sensor supply | No | Input filter | configurable, 10 ms |
| Max. input frequency | 60 Hz | Input voltage, high | ≥ 80 V |
| Module diagnosis | Yes | Input voltage, low | <65 V |
| Individual channel diagnosis | No | Supply voltage (input) | 277 V AC (UL), 265 V AC (VDE) |
| Sensor connection | 2-wire | | |

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 ² |
| Wire cross-section, solid, min. | 0.14 mm ² | Wire connection cross section, finely stranded, max. | 1.5 mm ² |
| Wire connection cross section, finely stranded, min. | 0.14 mm ² | | |

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 I _{sys} , typ. | 8 mA | Supply voltage (input) | 277 V AC (UL), 265 V AC (VDE) |

System data

| | | | |
|--|---|----------------------|--|
| Module type | Digital input module | Interface | u-remote system bus |
| Galvanic isolation | 500 V DC between the current paths | Line-to-line voltage | 400 V is possible between the channels |
| 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 | Possible connection | 2-wire |
| Transmission speed of system bus, max. | 48 Mbit | | |

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 | | |

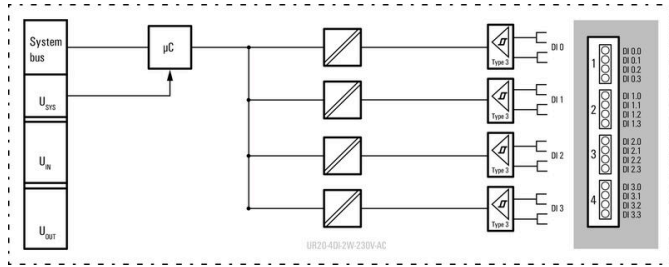
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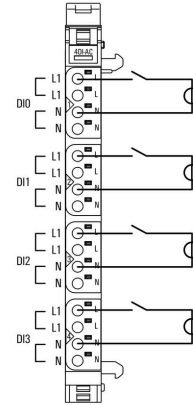
Drawings

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Block diagram



Connection diagram



Explanation of abbreviations

Digital input modules



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Accessories

Accessories



System accessory

Discover a wide range of accessories for your u-remote system - the ideal addition to make your applications even more efficient and flexible.

General ordering data

| | | |
|------------|----------------------------|----------------|
| Type | UR20-EBK-ACC | Version |
| Order No. | 1346610000 | End bracket, , |
| GTIN (EAN) | 4050118151596 | |
| Qty. | 5 ST | |

| | | |
|------------|----------------------------|----------|
| Type | UR20-SM-ACC | Version |
| Order No. | 1339920000 | Cover, , |
| GTIN (EAN) | 4050118144727 | |
| Qty. | 20 ST | |

Blank



General ordering data

| | | |
|------------|----------------------------|--|
| Type | PM 2.7/2.6 MC NE WS | Version |
| Order No. | 1323710000 | OMNIMATE Signal - series PM, Pusher markers, 2.7 x 2.6 mm, Pitch |
| GTIN (EAN) | 4050118126778 | in mm (P): 3.50 Weidmueller, white |
| Qty. | 960 ST | |

Custom printing



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Accessories

General ordering data

| | | | |
|------------|----------------------------|---|--|
| Type | PM 2.7/2.6 MC SDR | Version | |
| Order No. | 1323700000 | OMNIMATE Signal - series PM, Pusher markers, 2.7 x 2.6 mm, Pitch in mm (P): 3.50 Weidmueller, To customer specification | |
| GTIN (EAN) | 4050118126761 | | |
| Qty. | 192 ST | | |
| Type | DEK 5/8-11.5 MC SDR | Version | |
| Order No. | 1341610000 | Dekafix, Terminal marker, 5 x 8 mm, Pitch in mm (P): 8.00 Weidmueller, To customer specification | |
| GTIN (EAN) | 4050118146059 | | |
| Qty. | 100 ST | | |

Blank



The Dekafix (DEK) marker is the universal marker for all conductor and plug-in connectors as well as for electronic sub-assemblies. The system is ideal for short number sequences and covers a wide range of ready-printed markers.

Strips for fast installation in only one work step. The printing is easy to read, rich in contrast and available in various widths.

- Large range of ready-to-use markers
 - Strips for fast installation
 - Terminal markers, suitable for all Weidmüller cable connectors
 - Available as blank MultiCard or with standard printing
- For custom printing: Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

General ordering data

| | | | |
|------------|----------------------------|--|--|
| Type | DEK 5/8-11.5 MC NE WS | Version | |
| Order No. | 1341630000 | Dekafix, Terminal marker, 5 x 8 mm, Pitch in mm (P): 8.00 Weidmueller, white | |
| GTIN (EAN) | 4050118145946 | | |
| Qty. | 500 ST | | |

Aluminum



Aluminum has the second best electrical conductivity after copper. One advantage is low weight, anMiscellaneous is outstanding corrosion protection.

General ordering data

| | | | |
|------------|----------------------------|--|--|
| Type | TS 35X7.5 2M/AL/BK | Version | |
| Order No. | 0330800000 | Terminal rail, Accessories, Aluminium, untreated, Width: 2000 mm, Height: 35 mm, Depth: 7.5 mm | |
| GTIN (EAN) | 4008190100650 | | |
| Qty. | 40 M | | |

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Accessories

Stainless steel



Stainless steel is a collective term for all types of steel (alloys) with a high degree of purity and corrosion resistance.

General ordering data

| | | | |
|------------|----------------------------|---|--|
| Type | TS 35X7.5 2M/CRN | Version | |
| Order No. | 1747350000 | Terminal rail, Accessories, Stainless steel 1.4301, untreated, Width: | |
| GTIN (EAN) | 4032248003372 | 2000 mm, Height: 35 mm, Depth: 7.5 mm | |
| Qty. | 40 M | | |

Steel



Steel DIN rails are the most widespread on the market. Among metal DIN rails, they have the lowest shortcircuit protection, similar to stainless steel.

General ordering data

| | | | |
|------------|----------------------------|---|--|
| Type | TS 35X7.5 2M/ST/ZN | Version | |
| Order No. | 0383400000 | Terminal rail, Accessories, Steel, galvanic zinc plated and passivated, | |
| GTIN (EAN) | 4008190088026 | Width: 2000 mm, Height: 35 mm, Depth: 7.5 mm | |
| Qty. | 40 M | | |
| Type | TS 35X7.5/LL 2M/ST/ZN | Version | |
| Order No. | 0514500000 | Terminal rail, Accessories, Steel, galvanic zinc plated and passivated, | |
| GTIN (EAN) | 4008190046019 | Width: 2000 mm, Height: 35 mm, Depth: 7.5 mm | |
| Qty. | 40 M | | |
| Type | TS 35X7.5/LL 1M/ST/ZN | Version | |
| Order No. | 0514510000 | Terminal rail, Accessories, Steel, galvanic zinc plated and passivated, | |
| GTIN (EAN) | 4008190116620 | Width: 1000 mm, Height: 35 mm, Depth: 7.5 mm | |
| Qty. | 20 M | | |
| Type | TS 35X7.5/LL 2M/ST/SZ | Version | |
| Order No. | 7915060000 | Terminal rail, Accessories, Steel, galvanic zinc plated and passivated, | |
| GTIN (EAN) | 4032248296279 | Width: 2000 mm, Height: 35 mm, Depth: 7.5 mm | |
| Qty. | 40 M | | |

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Accessories

Crimping tools



Crimping tools for wire end ferrules, with and without plastic collars

- Ratchet guarantees precise crimping
- Release option in the event of incorrect operation

General ordering data

| | | | |
|------------|----------------------------|---------|--|
| Type | PZ 2.5 S | Version | |
| Order No. | 2903690000 | | 0.14mm ² , 2.5mm ² , Trapezoidal crimp |
| GTIN (EAN) | 4099986027008 | | |
| Qty. | 1 ST | | |

Basic modules



General ordering data

| | | | |
|------------|----------------------------|---------|---|
| Type | UR20-BM-SP | Version | |
| Order No. | 1350930000 | | Replacement part , Flange-mounted housing |
| GTIN (EAN) | 4050118402735 | | |
| Qty. | 5 ST | | |

Electronic modules



General ordering data

| | | | |
|------------|----------------------------|---------|------------------|
| Type | UR20-EM-1550070000-SP | Version | |
| Order No. | 1558880000 | | Replacement part |
| GTIN (EAN) | 4050118364002 | | |
| Qty. | 1 ST | | |

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Plugkit



General ordering data

| | | | |
|------------|----------------------------|------------------|--|
| Type | UR20-PK-1550070000-SP | Version | |
| Order No. | 1559820000 | Replacement part | |
| GTIN (EAN) | 4050118364774 | | |
| Qty. | 5 ST | | |