

UR20-2AI-UI-16-DIAG

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com



Inputs can be parameterised; up to 3-wire + FE; accuracy 0.1% FSR

Analogue input modules of the u-remote system are available in many variants with different resolutions and wiring solutions.

Variants are available with 12- and 16-bit resolution, which record up to 4 analogue sensors with +/-10 V, +/-5 V, 0...10 V, 0...5 V, 2...10 V, 1...5 V, 0...20 mA or 4...20 mA with maximum accuracy. Each plug-in connector can optionally connect sensors with 2- or 3-wire technology. The parameters for the measurement range can be individually set for each channel. In addition, each channel has its own status LED.

A special variant for Weidmüller interface units enables current measurements with 16-bit resolution and maximum accuracy for 8 sensors at a time (0...20 mA or 4...20 mA).

The module electronics supply the connected sensors with power from the input current path (UIN).

General ordering data

| | |
|------------|--|
| Version | Remote I/O module, IP20, 2-channel, Analog signals, Input, Current/Voltage, 16 Bit |
| Order No. | 2566090000 |
| Type | UR20-2AI-UI-16-DIAG |
| GTIN (EAN) | 4050118575729 |
| 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 |
| Net weight | 82.5 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 | 7,664 kg CO2 eq. | |

analogue inputs

| | | | |
|-------------------------------|---|------------------------------|-----------------------------|
| Short-circuit-proof | Yes | Reverse polarity protection | Yes |
| Response time / fallback time | <50 ms | Accuracy | 0.1% FSR |
| Type | 1. U (0...5 V, 0...10 V, 1...5 V, 2...10 V, ±10 V), 2. I (0-20 mA or 4-20 mA) | Resolution | 16 Bit |
| Sensor supply | Yes | Conversion time | 1 ms |
| Module diagnosis | Yes | Individual channel diagnosis | Yes |
| Internal resistance U | 100 kΩ | Sensor connection | 2-wire, 3-wire, 3-wire + FE |
| Number analogue inputs | 2 | Internal resistance I | 41.2 Ω |

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 IIN (the respective power segment) | 25 mA + sensor feed | Current consumption from I _{sys} , typ. | 8 mA |

System data

| | | | |
|--------------------|--------------------------------|--|---------------------|
| Module type | Analogue input module | Interface | u-remote system bus |
| Galvanic isolation | DC 500 V between current paths | Process data | 4 Byte |
| Connection type | PUSH IN | Transmission speed of system bus, max. | 48 MBit/s |
| Diagnostic data | 1 Bit | | |

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 8.0 | EC001596 | ETIM 9.0 | EC001596 |
| ETIM 10.0 | EC001596 | ECLASS 14.0 | 27-24-26-01 |
| ECLASS 15.0 | 27-24-26-01 | | |

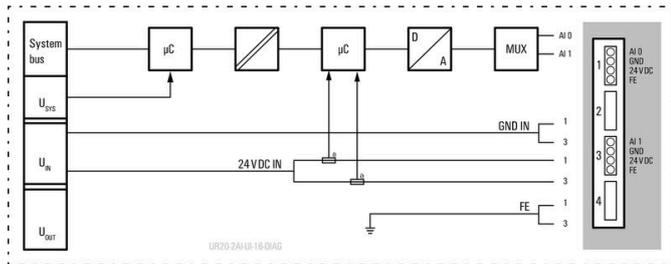
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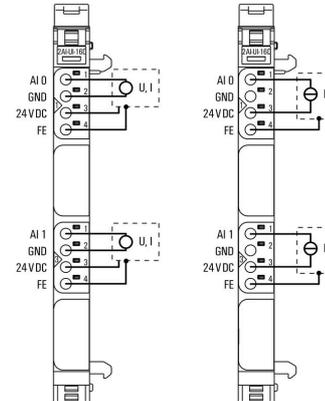
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Drawings

Block diagram

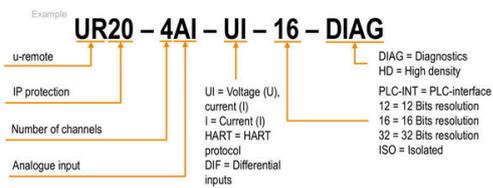


Connection diagram



Explanation of abbreviations

Analogue 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-2566090000-SP | Version | |
| Order No. | 2568080000 | | Replacement part |
| GTIN (EAN) | 4050118578911 | | |
| Qty. | 1 ST | | |

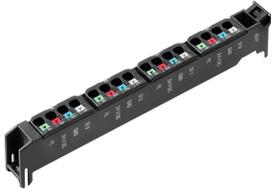
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Accessories

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Plugkit



General ordering data

| | | | |
|------------|----------------------------|---------|--|
| Type | UR20-PK-2566090000-SP | Version | |
| Order No. | 2568070000 | | |
| GTIN (EAN) | 4050118578904 | | |
| Qty. | 5 ST | | |