

UR20-8AI-RTD-DIAG-2W**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com**Product image****Available for TC and RTD; 16-bit resolution; 50/60 Hz suppression**

The involvement of thermocouple and resistance-temperature sensors is indispensable for a variety of applications. Weidmüller's 4-channel input modules are suited for all common thermocouple elements and resistance temperature sensors. With an accuracy of 0.2% of the measurement-range end value and a resolution of 16 bit, cable break and values above or below the limit value are detected by means of individual channel diagnostics. Additional features such as an automatic 50 Hz to 60 Hz suppression or external as well as internal cold-junction compensation, as available with the RTD module, round off the scope of function.

The module electronics supply the connected sensors with power from the input current path (U_{IN}).

General ordering data

| | |
|-------------------|---|
| Version | Remote I/O module, IP20, Analog signals, Temperature, RTD |
| Order No. | 2555940000 |
| Type | UR20-8AI-RTD-DIAG-2W |
| GTIN (EAN) | 4050118566062 |
| Qty. | 1 pc(s). |
| Replacement parts | 1350930000 2593300000 |

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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 |
| Width | 11.5 mm | Width (inches) | 0.453 inch |
| Mounting dimension - height | 128 mm | Net weight | 91 g |

Temperatures

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

analogue inputs

| | | | |
|----------------------------------|--|----------------------------------|--|
| Accuracy | 0.2% FSR / 0.3% FSR for Ni sensors / 0.6% FSR for Cu10 | Conversion time | 80 ms |
| Individual channel diagnosis | Yes | Measured temperature value, max. | 850 °C |
| Measured temperature value, min. | -200 °C | Module diagnosis | Yes |
| Number of analogue inputs | 8 | Resolution | 16 Bit |
| Reverse polarity protection | Yes | Sensor connection | 2-wire |
| Temperature coefficient | ≤ 50 ppm/K | Type | Pt100, Pt200, Pt500, Pt1000, Ni100, Ni120, Ni 200, Ni500, Ni1000, Cu 10, 40Ω, 80Ω, 150Ω, 300Ω, 500Ω, 1kΩ, 2kΩ, 4kΩ |

Connection data

| | | | |
|--|----------------------|--|----------------------|
| Type of connection | PUSH IN | Wire connection cross section, finely stranded, max. | 1.5 mm ² |
| Wire connection cross section, finely stranded, min. | 0.14 mm ² | 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 ² |
| Wire cross-section, solid, max. (AWG) | AWG 16 | Wire cross-section, solid, min. | 0.14 mm ² |
| 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 |
| 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 | | |

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Technical data

Power supply

| | | | |
|--|---------|---|--|
| Current consumption from I_{IN} (the respective power segment) | < 20 mA | Current consumption from I_{sys} , typ. | 8 mA |
| Reverse polarity protection | Yes | Voltage supply | 24 V DC +20 %/ -15 %, via the system bus |

System data

| | | | |
|--|--|--------------------|------------------------------------|
| Field bus protocol | PROFINET IRT, PROFINET RT, PROFIBUS DP-V1, EtherCAT, Modbus/TCP, EtherNet/IP, CANopen, DeviceNet, POWERLINK, CC-Link, CC-Link IE TSN | Galvanic isolation | 500 V DC between the current paths |
| Interface | u-remote system bus | Module type | Temperature module |
| Transmission speed of system bus, max. | 48 Mbit | | |

Classifications

| | | | |
|-------------|-------------|-------------|-------------|
| ETIM 6.0 | EC001596 | ETIM 7.0 | EC001596 |
| ETIM 8.0 | EC001596 | ETIM 9.0 | EC001596 |
| ECLASS 9.0 | 27-24-26-01 | ECLASS 9.1 | 27-24-26-01 |
| ECLASS 10.0 | 27-24-26-01 | ECLASS 11.0 | 27-24-26-01 |
| ECLASS 12.0 | 27-24-26-01 | ECLASS 13.0 | 27-24-26-01 |

Environmental Product Compliance

| | |
|------------|--------------------------------------|
| REACH SVHC | Lead 7439-92-1 |
| SCIP | 82327f13-cd27-455a-ab5b-a62e1996dcf8 |

Approvals

Approvals



| | |
|---------------------------|------------|
| UL File Number Search | UL Website |
| Certificate no. (cULus) | E141197 |
| Certificate no. (cULusEX) | E223527 |

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www.weidmueller.com**Technical data****Downloads**

| | |
|---|---|
| Approval/Certificate/Document of Conformity | KC certificate |
| | Lloyds Register certificate |
| | DNV/GL certificate |
| | RINA certificate |
| | DEMKO 15ATEX1525X |
| | UKCA Declaration of Conformity - EN |
| Engineering Data | CE Declaration of Conformity - DE |
| | CAD data – STEP |
| | Compatibility information – Combinability of UR20 |
| User Documentation | MAN_U-REMOTE_DE |
| | MAN_U-REMOTE_EN |
| Catalogues | Catalogues in PDF-format |

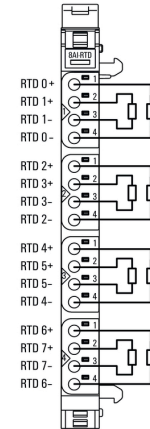
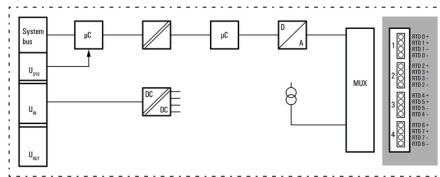
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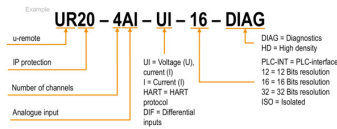
Drawings

Block diagram



Explanation of abbreviations

Analogue input modules

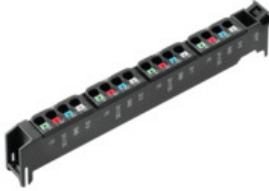


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Replacement parts**Plugkit****General ordering data**

| | | |
|------------|----------------------------|------------------|
| Type | UR20-PK-2555940000-SP | Version |
| Order No. | 2593300000 | Replacement part |
| GTIN (EAN) | 4050118605297 | |
| Qty. | 5 pc(s). | |

Basic modules**General ordering data**

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

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Accessories

Aluminum



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

General ordering data

| Type | TS 35X7.5 2M/AL/BK | Version |
|------------|----------------------------|---|
| Order No. | 0330800000 | Terminal rail, without slot, Accessories, 35 x 7.5 x 2000 mm, |
| GTIN (EAN) | 4008190100650 | Aluminium, untreated |
| Qty. | 2 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/LL 2M/ST/SZ | Version |
|------------|----------------------------|--|
| Order No. | 7915060000 | Terminal rail, with slot, Accessories, 35 x 7.5 x 2000 mm, Slit width: |
| GTIN (EAN) | 4032248296279 | 5.20 mm, Slit length: 25.00 mm, Steel, galvanic zinc plated and |
| Qty. | 2 m | passivated |
| Type | TS 35X7.5/LL 1M/ST/ZN | Version |
| Order No. | 0514510000 | Terminal rail, with slot, Accessories, 35 x 7.5 x 1000 mm, Slit width: |
| GTIN (EAN) | 4008190116620 | 5.20 mm, Slit length: 25.00 mm, Steel, galvanic zinc plated and |
| Qty. | 1 m | passivated |
| Type | TS 35X7.5 2M/ST/ZN | Version |
| Order No. | 0383400000 | Terminal rail, without slot, Accessories, 35 x 7.5 x 2000 mm, Steel, |
| GTIN (EAN) | 4008190088026 | galvanic zinc plated and passivated |
| Qty. | 2 m | |
| Type | TS 35X7.5/LL 2M/ST/ZN | Version |
| Order No. | 0514500000 | Terminal rail, with slot, Accessories, 35 x 7.5 x 2000 mm, Slit width: |
| GTIN (EAN) | 4008190046019 | 5.20 mm, Slit length: 25.00 mm, Steel, galvanic zinc plated and |
| Qty. | 2 m | passivated |

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Accessories

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 |
| GTIN (EAN) | 4050118145946 | Weidmueller, white |
| Qty. | 500 pc(s). | |

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, without slot, Accessories, 35 x 7.5 x 2000 mm, |
| GTIN (EAN) | 4032248003372 | Stainless steel, rust-proof, Stainless steel 1.4301, untreated |
| Qty. | 2 m | |

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Accessories

Custom printing



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- 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 SDR | Version |
| Order No. | 1341610000 | Dekafix, Terminal marker, 5 x 8 mm, Pitch in mm (P): 8.00 |
| GTIN (EAN) | 4050118146059 | Weidmueller, To customer specification |
| Qty. | 100 pc(s). | |

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 pc(s). | |

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

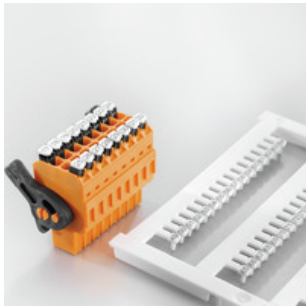
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Accessories**Blank****General ordering data**

| 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 in |
| GTIN (EAN) | 4050118126778 | mm (P): 3.50 Weidmueller, white |
| Qty. | 960 pc(s). | |

Custom printing**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 |
| GTIN (EAN) | 4050118126761 | mm (P): 3.50 Weidmueller, To customer specification |
| Qty. | 192 pc(s). | |