

UR20-4AI-UI-16-DIAG

Weidmüller Interface GmbH & Co. KG

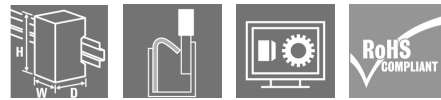
Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



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 (U_{IN}).

General ordering data

| | |
|-------------------|--|
| Version | Remote I/O module, IP20, 4-channel, Analog signals, Input, Current/Voltage, 16 Bit |
| Order No. | 1315690000 |
| Type | UR20-4AI-UI-16-DIAG |
| GTIN (EAN) | 4050118118612 |
| Qty. | 1 pc(s). |
| Replacement parts | 1350930000 1518870000 1347280000 |

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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 | 89 g |

Temperatures

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

analogue inputs

| | | | |
|------------------------------|---|--------|--|
| Accuracy | 0.1% FSR | | |
| Conversion time | 1 ms | | |
| Individual channel diagnosis | Yes | | |
| Internal resistance I | 41.2 Ω | | |
| Internal resistance U | 100 kΩ | | |
| Module diagnosis | Yes | | |
| Number of analogue inputs | 4 | | |
| Resolution | 16 Bit | | |
| Response time | < 50 ms | | |
| Reverse polarity protection | Yes | | |
| Sensor connection | 2-wire, 3-wire, 3-wire + FE | | |
| Sensor supply | Yes | | |
| Sensor supply | min. | 0 mA | |
| | max. | 750 mA | |
| | nominal | 750 mA | |
| Short-circuit-proof | Yes | | |
| 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) | | |

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 | | |

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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) | ≥ 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 | | |

Power supply

| | | | |
|---|---------------------|--|--|
| Current consumption from I _{IN} (the respective power segment) | 25 mA + sensor feed | 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

| | | | |
|--|------------------------------------|--------------------|---|
| Diagnostic data | 1 Bit | 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 |
| Galvanic isolation | 500 V DC between the current paths | Interface | u-remote system bus |
| Module type | Analogue input module | Process data | 8 Byte |
| 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 |
| ECLASS 14.0 | 27-24-26-01 | | |

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 |

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Catalogue status 26.11.2024 / We reserve the right to make technical changes.

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Technical data

Approvals

Approvals



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

Downloads

| | |
|---|---|
| Approval/Certificate/Document of Conformity | KC certificate Compass safe distance certificate Lloyds Register certificate DNV certificate ABS certificate RINA certificate Bureau Veritas - Type Approval Certificate PRS (Polish Register of Shipping) NIPPON KAIJI KYOKAI Certificate - ClassNK DEMKO15ATEX1525X CCC certificate CCS certificate CCS certificate UKCA Declaration of Conformity - EN CE Declaration of Conformity - DE |
| Engineering Data | CAD data – STEP Compatibility information – Combinability of UR20 |
| Product Change Notification | Release-Notes - Firmware |
| Software | Firmware – Current firmware UR20-4AI-UI Firmware – Archive firmware UR20-4AI-UI |
| User Documentation | Handbuch u-remote DE Manual u-remote EN |
| Catalogues | Catalogues in PDF-format |

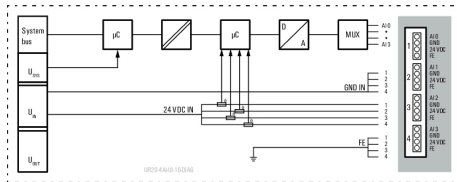
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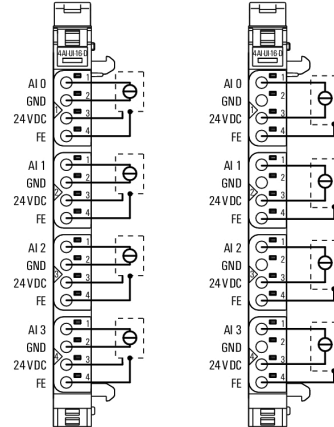
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Drawings

Block diagram



Connection diagram



Explanation of abbreviations

Analogue input modules

