

**UR20-4AI-R-HS-16-DIAG****Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://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, 4-channel, Analog signals, Input, 16 Bit
Order No.	<a href="#">2001670000</a>
Type	UR20-4AI-R-HS-16-DIAG
GTIN (EAN)	4050118383553
Qty.	1 pc(s).
Replacement parts	<a href="#">1350930000</a> <a href="#">2068640000</a> <a href="#">2068610000</a>

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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
Net weight	89 g		

## Temperatures

Storage temperature	-40 °C ... +85 °C	Operating temperature	-20 °C ... +60 °C
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## analogue inputs

Accuracy	< ± 0.25 % FSR at 25 °C	Conversion time	typ. 500 µs (typ. 625 µs at 50 Hz / typ. 521 µs at 60 Hz frequency suppression)
Current of supply voltage output	max. 0.05 A per channel, total 0.2 A	Individual channel diagnosis	Yes
Input resistance	typ. 500 kΩ against the wiper connection	Input value	Ratiometric potentiometer evaluation with own power supply
Internal resistance U	100 kΩ	Measurement range	300 Ω ... 50 kΩ
Module diagnosis	Yes	Number of analogue inputs	4
Resolution	16 Bit	Sensor connection	3-wire, 3-wire + FE
Sensor supply	Yes	Short-circuit-proof	Yes
Supply voltage for potentiometer	10 V DC ± 10%	Temperature coefficient	≤ 50 ppm/K
Wire-break recognition	Yes		

## 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		

## 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		

Creation date July 16, 2024 8:02:40 PM CEST

Catalogue status 13.07.2024 / We reserve the right to make technical changes.

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## Power supply

Current consumption from $I_{IN}$ (the respective power segment)	26 mA	Current consumption from $I_{sys}$ , typ.	8 mA
Voltage supply	24 V DC +20 %/ -15 %, via the system bus		

## System data

Diagnostic 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
	1 Bit		
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

## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	82327f13-cd27-455a-ab5b-a62e1996dcf8
RoHS Compliance Status	Compliant with exemption
RoHS Exemption (if applicable/known)	7a, 7cl

## Approvals

Approvals



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

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Approval/Certificate/Document of Conformity	<a href="#">KC certificate</a>
	<a href="#">Lloyds Register certificate</a>
	<a href="#">DNV/GL certificate</a>
	<a href="#">RINA certificate</a>
	<a href="#">Bureau Veritas - Type Approval Certificate</a>
	<a href="#">DEMKO15ATEX1525X</a>
	<a href="#">CCS certificate</a>
	<a href="#">UKCA Declaration of Conformity - EN</a>
	<a href="#">CE Declaration of Conformity - DE</a>
Engineering Data	<a href="#">CAD data – STEP</a>
	<a href="#">Compatibility information – Combinability of UR20</a>
Product Change Notification	<a href="#">Release-Notes - Firmware</a>
Software	<a href="#">Firmware – Current firmware UR20-4AI-R-HS-16-DIAG</a>
User Documentation	<a href="#">MAN_U-REMOTE_DE</a>
	<a href="#">MAN_U-REMOTE_EN</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>

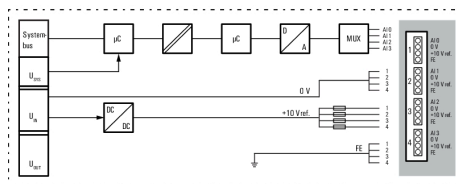
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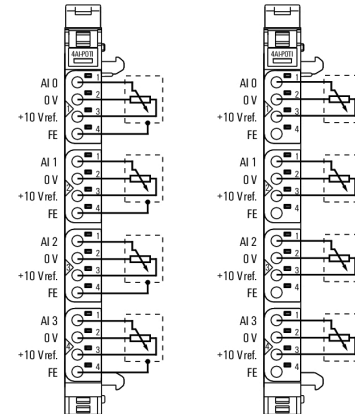
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## Drawings

## Block diagram



## Connection diagram



## Explanation of abbreviations

## Analogue input modules

