

UR20-4AI-TC-DIAG

Weidmüller Interface GmbH & Co. KG

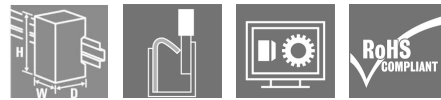
Klingenbergstraße 26

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, TC
Order No.	1315710000
Type	UR20-4AI-TC-DIAG
GTIN (EAN)	4050118118889
Qty.	1 pc(s).

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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
Mounting dimension - height	128 mm	Net weight	86 g
Width	11.5 mm	Width (inches)	0.453 inch

Temperatures

Storage temperature	-40 °C ... +85 °C	Operating temperature	-20 °C ... +60 °C
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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
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analogue inputs

Accuracy	0.2% FSR	Conversion time	adjustable, 36...240 ms
Individual channel diagnosis	Yes	Internal resistance U	1 MΩ
Measured temperature value, max.	2,315 °C	Measured temperature value, min.	-200 °C
Module diagnosis	Yes	Number of analogue inputs	4
Resolution	16 Bit	Reverse polarity protection	Yes
Sensor connection	2-wire	Temperature coefficient	≤ 50 ppm/K
Type	J, K, T, B, N, E, R, S, L, U, C, mV	cold junction compensation	Internal and external (int. accuracy ≤ 3 K)

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		
Restricted area	Negative expansion	Z coordinate	0 mm
		Y coordinate	-40 mm
		X coordinate	-28 mm
	Positive expansion	X coordinate	43 mm
		Y coordinate	160 mm
		Z coordinate	85 mm
Type of restricted area	thermal		
Shock	15 g over 11 ms, half sinus wave, acc. to IEC 60068-2-27		
Surge voltage category	II		
Test voltage	500 V		

Creation date 08 December 2020 13:57:44 CET

Catalogue status 07.12.2020 / We reserve the right to make technical changes.

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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} (power segment of the field bus coupler), typ.	8 mA		
Current consumption from I _{IN} (power segment of the fieldbus coupler), typ.	min.	8 mA	
	max.	8 mA	
	nominal	8 mA	
Current consumption from I _{IN} (the respective power segment)	< 20 mA		
Current consumption from I _{IN} (the respective power segment)	nominal	20 mA	
	max.	20 mA	
	min.	20 mA	
Reverse polarity protection	Yes		
Voltage supply	24 V DC +20 %/ -15 %, via the system bus		

RS interface

Individual channel diagnosis	Yes	Module diagnosis	Yes
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Serial inputs

Individual channel diagnosis	Yes	Module diagnosis	Yes
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System data

Diagnostic data	20 kByte	Field bus protocol	CANopen, DeviceNet, EtherCAT, EtherNet/IP, Modbus/TCP, PROFINET IRT, PROFIBUS DP-V1, POWERLINK
Galvanic isolation	DC 500 V between current paths	Interface	u-remote system bus
Module type	Temperature module	Parameter data	32 kByte
Process data	8 Leiter	Transmission speed of system bus, max.	48 % FSR

Classifications

ETIM 6.0	EC001597	ETIM 7.0	EC001597
ECLASS 9.0	27-24-26-02	ECLASS 9.1	27-24-26-02
ECLASS 10.0	27-24-26-02	ECLASS 11.0	27-24-26-02

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Technical data

Tender specification sheets

Long specification

4AI-TC-DIAG 4-channel analogue input module
 Automatic 50-60 Hz suppression Internal or external cold-junction compensation possible
 For various TC sensors
 Connection system: PUSH-IN
 Dimensions (HxWxD): 120 mm (with lever: 128 mm), 11.5 mm, 76 mm
 Module status: display via collective message, LED at the top of the module
 Channel status: indication directly at the contact point
 Weight: 86 g
 Module diagnosis: yes
 Individual channel diagnosis: yes
 Operating temperature: -20°C - +60°C
 Process data: 8 bytes
 Parameter data: 32 bytes
 Diagnostic data: 20 bytes
 Galvanic isolation: between field and system bus
 Supply voltage: 24 VDC +25% / -15%
 Internal current consumption: 8 mA
 Supply current consumption: 20 mA
 Accuracy: 0.2% over the entire voltage range
 Conversion time: 36 - 240 ms
 Internal resistance I: > 1 MΩ
 Resolution: 16 bits
 Brand: Weidmüller
 Type: UR20-4AI-TC-DIAG

Approvals

Approvals



WATEXIECEX

ROHS	Conform
UL File Number Search	E141197

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Technical data

Downloads

Approval/Certificate/Document of Conformity	Declaration of Conformity Compass safe distance certificate Lloyds Register certificate DNV/GL certificate ABS certificate RINA certificate Bureau Veritas - Type Approval Certificate PRS (Polish Register of Shipping) NIPPON KAIJI KYOKAI Certificate
Engineering Data	STEP
Engineering Data	EPLAN, WSCAD, Zuken E3.S
Product Change Notification	Release-Notes - Firmware
Software	Firmware UR20-4AI-RTD-DIAG UR20-4AI-TC-DIAG Archiv Firmware UR20-4AI-RTD-TC
User Documentation	MAN U-REMOTE DE MAN U-REMOTE EN

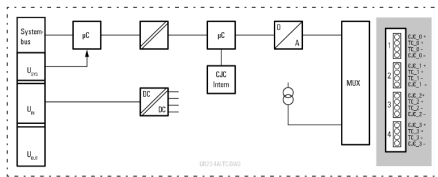
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Drawings

Block diagram



Connection diagram

