

UR20-2AI-SG-24-DIAG

Weidmüller Interfaces GmbH & Co. KG

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Product image



2-channel module for u-remote load cell analysis

Measuring bridges in the form of strain gauges are used to measure weight, torque or oscillation. Fast or exact measurements are often required here, for example when it comes to determining computational data.

The strain gauge module from u-remote provides an accuracy of up to 0.01% with two 24-bit resolution channels. Calibration and gauging enable industrial applications. A tare function can be triggered per channel, processes are optimised and costs reduced. The Calibration by an independent body can be performed easily via the u-remote web server. User-friendly calibration via the web server has a password protection as well as documentation functionality in order to secure settings.

The u-remote strain gauge module enables the parallel analysis of measurement data from up to four load cells on a single channel.

General ordering data

Version	Remote I/O module, IP20, Analog signals, Input, PUSH IN connection
Order No.	1990070000
Type	UR20-2AI-SG-24-DIAG
GTIN (EAN)	4050118374902
Qty.	1 pc(s).
Replacement parts	1350930000 2068620000 1562260000

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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	90 g

Temperatures

Storage temperature	-40 °C ... +85 °C	Operating temperature	-20 °C ... +60 °C
Operating temperature, min.	-20 °C	Operating temperature, max.	60 °C

analogue inputs

Accuracy	Customer calibration: $\pm 0.01\%$ FSR (100 ppm), $\pm 1\%$ FSR (with interference)		
Conversion time	5 - 800 ms, parameterisable		
Individual channel diagnosis	Yes		
Input filter	10 ms		
Input type	Type 1 in acc. with IEC 61131-2, Type 3 in acc. with IEC 61131-2		
Input value	Differential, to evaluate a strain gauge full-bridge		
Measurement range	± 150 mV		
Module diagnosis	Yes		
Number of analogue inputs	2		
Permissible sensor load	85 ... 5000 Ω		
Resolution	24 bit per channel		
Sensor connection	4-wire, 6-wire, parameterisable		
Sensor supply	max. 10 mA		
Sensor supply	min.	0 mA	
	max.	10 mA	
	nominal	10 mA	
Short-circuit-proof	Yes		
Supported sensor sensitivity	0.5 mV - 30 V, parameterisable		
Temperature coefficient	< 10 ppm/K		

digital inputs

Individual channel diagnosis	Yes		
Input filter	10 ms		
Input type	Type 1 in acc. with IEC 61131-2, Type 3 in acc. with IEC 61131-2		
Input voltage, high	> 11 V		
Input voltage, low	< 5 V		
Module diagnosis	Yes		
Number of digital inputs	2		
Sensor connection	4-wire, 6-wire, parameterisable		
Sensor supply	max. 10 mA		
Sensor supply	min.	0 mA	
	max.	10 mA	
	nominal	10 mA	
Short-circuit-proof	Yes		

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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		

Power supply

Current consumption from I _{IN} (the respective power segment)	35 mA	Current consumption from I _{sys} , typ.	8 mA
Voltage supply	24 V DC +20 %/ -15 %, via the system bus		

System data

Configuration interface	Micro USB 2.0	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	Galvanic isolation	500 V DC between the current paths
Interface	u-remote system bus	Module type	Analogue input module
Parameter data	14 Byte	Process data	10 Byte
Transmission speed of system bus, max.	48 Mbit		

Classifications

ETIM 6.0	EC001596	ETIM 7.0	EC001596
ETIM 8.0	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

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Catalogue status 18.02.2023 / We reserve the right to make technical changes.

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Environmental Product Compliance

REACH SVHC	Lead 7439-92-1	www.weidmueller.com
SCIP	82327f13-cd27-455a-ab5b-a62e1996dcf8	

Approvals

Approvals



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

Downloads

Approval/Certificate/Document 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 DEMKO 15ATEX1525X UKCA Declaration of Conformity - EN CE Declaration of Conformity - DE
Engineering Data	CAD data – STEP Compatibility information – Combinability of UR20
Engineering Data	WSCAD
Product Change Notification	Release-Notes - Firmware
Software	Firmware – Archive firmware UR20-2AI-SG-24-DIAG Firmware – Current firmware UR20-2AI-SG-24-DIAG
User Documentation	MAN_U-REMOTE_DE MAN_U-REMOTE_EN
Catalogues	Catalogues in PDF-format

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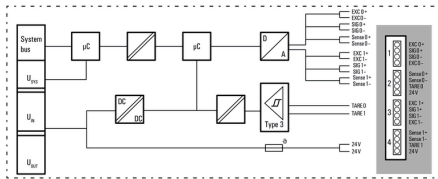
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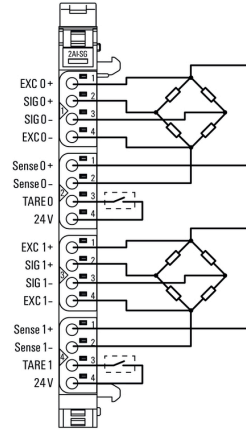
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Drawings

Block diagram



Connection diagram info@weidmueller.com



Explanation of abbreviations

Strain gauge module

