Data sheet

UR20-2AI-SG-24-DIAG

Weidmüller Interface GmbH & Co. KG
Klingenbergstraße 26
D-32758 Detmold
Germany

www.weidmueller.com

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 items

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Technical data

Approvals

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

Dimensions and weights

Depth	76 mm	Depth (inches)	2.9921 inch
Height	120 mm	Height (inches)	4.7244 inch
Width	11.5 mm	Width (inches)	0.4528 inch
Mounting dimension - height	128 mm	Net weight	90 g

Temperatures

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

Environmental Product Compliance

RoHS Compliance Status	Compliant with exemption	
RoHS Exemption (if applicable/known)	7a, 7cI	
REACH SVHC	Lead 7439-92-1	
SCIP	82327f13-cd27-455a-ab5b-a62e1996dcf8	
Product Carbon Footprint	Cradle to gate	8,848 kg CO2 eq.

analogue inputs

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

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digital inputs

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

Connection data

Wire cross-section, finely stranded, max. (AWG)	AWG 16	Wire cross-section, finely stranded, min. (AWG)	AWG 26
Wire cross-section, solid, max. (AWG)	AWG 16	Wire cross-section, solid, min. (AWG)	AWG 26
Type of connection	PUSH IN	Wire cross-section, solid, max.	1.5 mm²
Wire cross-section, solid, min.	0.14 mm²	Wire connection cross section, finely stranded, max.	1.5 mm²
Wire connection cross section, finely stranded, min.	0.14 mm²		

General data

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	UL 94 flammability rating	V-0
Test voltage	500 V	Surge voltage category	II
Pollution severity	2	Mounting rail	TS 35
Air pressure (operation)	≥ 795 hPa (height ≤ 2000 m) as per DIN EN 61131-2	Air humidity (transport)	10% to 95%, non-condensing 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	Air pressure (storage)	1013 hPa (height 0 m) to 700 hPa (height 3000 m) as per DIN EN 61131-2
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
Shock	15 g over 11 ms, half sinus wave, acc. to IEC 60068-2-27		

Power supply

Supply voltage	24 V DC +20 %/ -15 %, via the system bus	Current consumption from IIN (the respective power segment)	35 mA
Current consumption from Isys, typ.	8 mA		

System data

Module type	Analogue input module	Interface	u-remote system bus
Galvanic isolation	500 V DC between the current paths	Process data	10 Byte

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Technical data

Configuration interface	Micro USB 2.0	Field bus protocol	PROFINET IRT, PROFINET RT, PROFIBUS DP-V1, EtherCAT, Modbus/TCP, EtherNet/IP, CANopen, DeviceNet, POWERLINK, CC-Link, CC-Link IE TSN
Transmission speed of system bus, max.	48 MBit/s	Parameter data	14 Byte
Diagnostic data	1 Bit		

Classifications

ETIM 8.0	EC001596	ETIM 9.0	EC001596
ETIM 10.0	EC001596	ECLASS 14.0	27-24-26-01
ECLASS 15.0	27-24-26-01		

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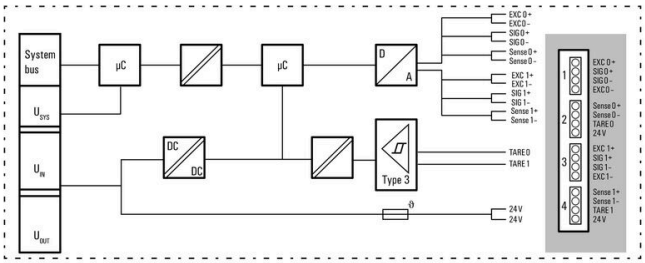
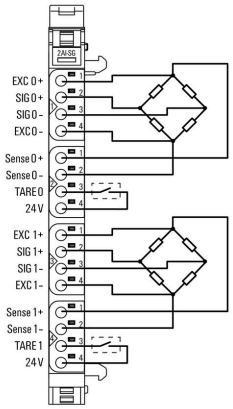
Drawings

Block diagram



Connection diagram



Explanation of abbreviations

Strain gauge module