UR20-4AI-R-HS-16-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, 4-channel, Analog signals, Input, 16 Bit
Order No.	2001670000
Type	UR20-4AI-R-HS-16-DIAG
GTIN (EAN)	4050118383553
Qty.	1 pc(s).
Replacement parts	1350930000 2068640000 2068610000

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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
Operating temperature, min.	-20 °C	Operating temperature, max.	60 °C

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 mm²
Wire connection cross section, finely stranded, min.	0.14 mm²	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 mm²
Wire cross-section, solid, max. (AWG)	AWG 16	Wire cross-section, solid, min.	0.14 mm²
Wire cross-section, solid, min. (AWG)	AWG 26		

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Technical data

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)	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	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	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	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

Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
SCIP	82327f13-cd27-455a-ab5b-a62e1996dcf8

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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	RINA certificate Bureau Veritas - Type Approval Certificate DEMKO15ATEX1525X 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 – Current firmware UR20-4AI-R-HS-16-DIAG
User Documentation	MAN_U-REMOTE_DE MAN_U-REMOTE_EN
Catalogues	Catalogues in PDF-format

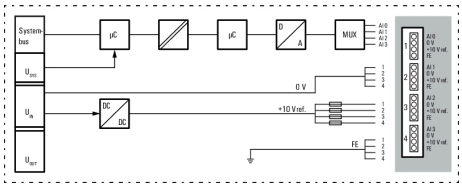
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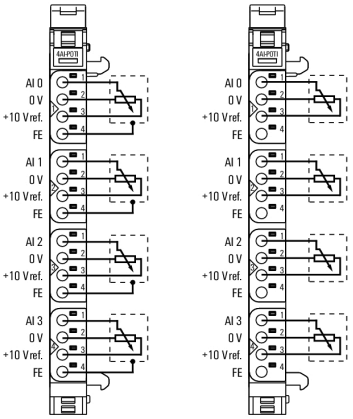
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Drawings

Block diagram

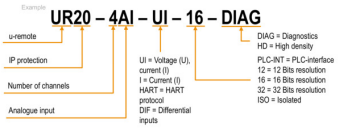


Connection diagram



Explanation of abbreviations

Analogue input modules



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Accessories

Aluminum



Aluminum has the second best electrical conductivity after copper. One advantage is low weight, anMiscellaneous is outstanding corrosion protection.

General ordering data

Type	TS 35X7.5 2M/AL/BK	Version
Order No.	0330800000	Rail, TS 35, TS 35 x 7.5, without slot, Aluminium, untreated
GTIN (EAN)	4008190100650	
Qty.	2 m	

Stainless steel



Stainless steel is a collective term for all types of steel (alloys) with a high degree of purity and corrosion resistance.

General ordering data

Type	TS 35X7.5 2M/CRN	Version
Order No.	1747350000	Rail, TS 35, TS 35 x 7.5, without slot, Stainless steel, rust-proof,
GTIN (EAN)	4032248003372	Stainless steel 1.4301, untreated
Qty.	2 m	

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Accessories

Custom printing



The Dekafix (DEK) marker is the universal marker for all conductor and plug-in connectors as well as for electronic sub-assemblies. The system is ideal for short number sequences and covers a wide range of ready-printed markers.
Strips for fast installation in only one work step. The printing is easy to read, rich in contrast and available in various widths.

- Large range of ready-to-use markers
- Strips for fast installation
- Terminal markers, suitable for all Weidmüller cable connectors
- Available as blank MultiCard or with standard printing

For custom printing: Please send us a file of our labeling software M-Print PRO or M-Print PRO Online (without installation) for your labeling specifications.

General ordering data

Type	DEK 5/8-11.5 MC SDR	Version
Order No.	1341610000	Dekafix, Terminal marker, 5 x 8 mm, Pitch in mm (P): 8.00
GTIN (EAN)	4050118146059	Weidmueller, To customer specification
Qty.	100 pc(s).	

Blank



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General ordering data

Type	DEK 5/8-11.5 MC NE WS	Version
Order No.	1341630000	Dekafix, Terminal marker, 5 x 8 mm, Pitch in mm (P): 8.00
GTIN (EAN)	4050118145946	Weidmueller, white
Qty.	500 pc(s).	

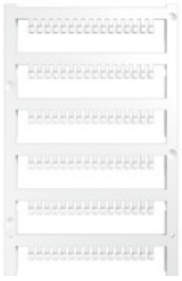
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Accessories

Blank



General ordering data

Type	PM 2.7/2.6 MC NE WS	Version
Order No.	1323710000	OMNIMATE Signal - series PM, Pusher markers, 2.7 x 2.6 mm, Pitch in
GTIN (EAN)	4050118126778	mm (P): 3.50 Weidmueller, white
Qty.	960 pc(s).	

Accessories



Potential-distribution modules; system accessory

A wide range of accessory modules is available for individual requirements of machine and plant engineering. Various potential distribution modules are available for the supply of sensors with 2- to 4-wire connection technology directly from the remote I/O system. These offer 16 "PUSH IN" potential points and supply your application with any auxiliary potential available. An empty module, where the system bus and voltage supply are looped through, allows you to plan expansion slots in a system and to start these up without any interruptions if required.

General ordering data

Type	UR20-SM-ACC	Version
Order No.	1339920000	Cover, ,
GTIN (EAN)	4050118144727	
Qty.	20 pc(s).	
Type	UR20-EBK-ACC	Version
Order No.	1346610000	End bracket, ,
GTIN (EAN)	4050118151596	
Qty.	5 pc(s).	

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Accessories

Custom printing



General ordering data

Type	PM 2.7/2.6 MC SDR	Version
Order No.	1323700000	OMNIMATE Signal - series PM, Pusher markers, 2.7 x 2.6 mm, Pitch in
GTIN (EAN)	4050118126761	mm (P): 3.50 Weidmueller, To customer specification
Qty.	192 pc(s).	

Steel



Steel DIN rails are the most widespread on the market. Among metal DIN rails, they have the lowest shortcircuit protection, similar to stainless steel.

General ordering data

Type	TS 35X7.5/LL 2M/ST/ZN	Version
Order No.	0514500000	Rail, TS 35, TS 35 x 7.5, with slot, Steel, galvanic zinc plated and
GTIN (EAN)	4008190046019	passivated
Qty.	2 m	
Type	TS 35X7.5/LL 2M/ST/SZ	Version
Order No.	7915060000	Rail, TS 35, TS 35 x 7.5, with slot, Steel, galvanic zinc plated and
GTIN (EAN)	4032248296279	passivated
Qty.	2 m	
Type	TS 35X7.5 2M/ST/ZN	Version
Order No.	0383400000	Rail, TS 35, TS 35 x 7.5, without slot, Steel, galvanic zinc plated and
GTIN (EAN)	4008190088026	passivated
Qty.	2 m	
Type	TS 35X7.5/LL 1M/ST/ZN	Version
Order No.	0514510000	Rail, TS 35, TS 35 x 7.5, with slot, Steel, galvanic zinc plated and
GTIN (EAN)	4008190116620	passivated
Qty.	1 m	

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Replacement parts

Electronic modules



General ordering data

Type	UR20-EM-2001670000-SP	Version	
Order No.	2068640000	Replacement part	
GTIN (EAN)	4050118416923		
Qty.	1 pc(s).		

Basic modules



General ordering data

Type	UR20-BM-SP	Version	Packaging
Order No.	1350930000	Replacement part, , Flange-mounted housing	Cardboard
GTIN (EAN)	4050118402735		box
Qty.	5 pc(s).		

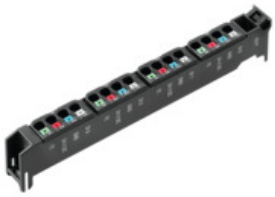
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Replacement parts

Plugkit



General ordering data

Type	UR20-PK-2001670000-SP	Version	
Order No.	2068610000	Replacement part	
GTIN (EAN)	4050118416909		
Qty.	5 pc(s).		