

UR20-4AI-UI-12

Weidmüller Interface GmbH & Co. KG

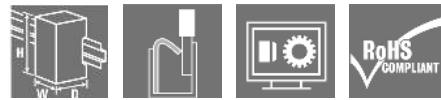
Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image



Inputs can be parameterised; up to 3-wire + FE; accuracy 0.1% FSR

Analogue input modules of the u-remote system are available in many variants with different resolutions and wiring solutions.

Variants are available with 12- and 16-bit resolution, which record up to 4 analogue sensors with +/-10 V, +/-5 V, 0...10 V, 0...5 V, 2...10 V, 1...5 V, 0...20 mA or 4...20 mA with maximum accuracy. Each plug-in connector can optionally connect sensors with 2- or 3-wire technology. The parameters for the measurement range can be individually set for each channel. In addition, each channel has its own status LED. A special variant for Weidmüller interface units enables current measurements with 16-bit resolution and maximum accuracy for 8 sensors at a time (0...20 mA or 4...20 mA).

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, Current/Voltage, 12 Bit
Order No.	1394390000
Type	UR20-4AI-UI-12
GTIN (EAN)	4050118195200
Qty.	1 pc(s).
Replacement parts	1350930000 1434230000 1484030000

UR20-4AI-UI-12

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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	87 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	0.1% FSR		
Conversion time	1 ms		
Individual channel diagnosis	No		
Internal resistance I	41.2 Ω		
Internal resistance U	100 kΩ		
Module diagnosis	Yes		
Number of analogue inputs	4		
Resolution	12-bit		
Response time	< 50 ms		
Reverse polarity protection	Yes		
Sensor connection	2-wire, 3-wire, 3-wire + FE		
Sensor supply	Yes		
Sensor supply	nominal	750 mA	
	min.	0 mA	
	max.	750 mA	
Short-circuit-proof	Yes		
Type	1. U (0...5 V, 0...10 V, 1...5 V, 2...10 V, ±10 V), 2. I (0-20 mA or 4-20 mA), Adjustable input for current or voltage		

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		

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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)	25 mA + sensor feed	Current consumption from I _{sys} , typ.	8 mA
Reverse polarity protection	Yes	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, IEC 61162-450
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	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

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Technical data

Tender specification sheets

Long specification	Analogue input module 4AI-UI-12 4-channel analogue input module, positively switching Connection system: PUSH- IN Potentials on plug: analogue input, 24 VDC and 0 V of the input path, FE 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: 88.6 g Module diagnosis: yes Individual channel diagnosis: no Reverse- polarity protection: yes Operating temperature: -20°C - +60°C Process data: 4 bits Diagnostic data: 1 bit Galvanic isolation: between field and system bus Supply voltage: 24 VDC +25% / -15% Internal current consumption: 8 mA Supply current consumption: 25 mA + sensor feed Accuracy: 0.25% FSR Resolution: 12 bits Conversion time: 1 ms Input parameters: voltage or current Internal resistance U: 100 kΩ Internal resistance I: 41.2 Ω Brand: Weidmüller Type: UR20-4AI-UI-12
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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	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 CCC certificate UKCA Declaration of Conformity - EN CE Declaration of Conformity - DE
Engineering Data	CAD data – STEP Compatibility information – Combinability of UR20
Engineering Data	WSCAD, Zuken E3.S
Product Change Notification	Release-Notes - Firmware
Software	Firmware – Current firmware UR20-4AI-UI Firmware – Archive firmware UR20-4AI-UI
User Documentation	MAN_U-REMOTE_DE MAN_U-REMOTE_EN
Catalogues	Catalogues in PDF-format

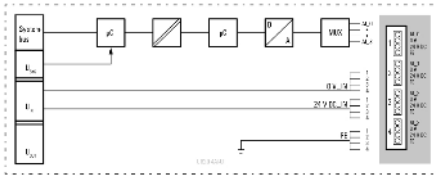
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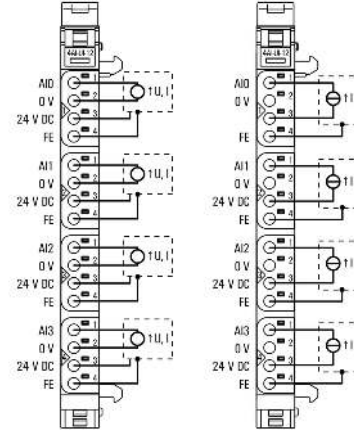
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Drawings

Block diagram

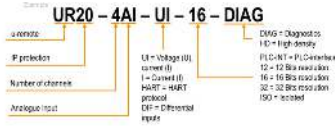


Connection diagram



Explanation of abbreviations

Analogue input modules



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Accessories

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).	

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	

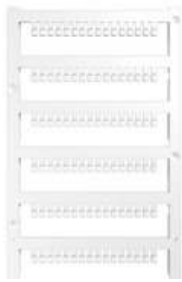
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Accessories

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).	

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).	

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Accessories

Custom printing



General ordering data

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

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	Rail, TS 35, TS 35 x 7.5, without slot, Aluminium, untreated
Order No.	0330800000		
GTIN (EAN)	4008190100650		
Qty.	2 m		

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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.	051450000	Rail, TS 35, TS 35 x 7.5, with slot, Steel, galvanic zinc plated and passivated
GTIN (EAN)	4008190046019	
Qty.	2 m	
Type	TS 35X7.5/LL 1M/ST/ZN	Version
Order No.	051451000	Rail, TS 35, TS 35 x 7.5, with slot, Steel, galvanic zinc plated and passivated
GTIN (EAN)	4008190116620	
Qty.	1 m	
Type	TS 35X7.5/LL 2M/ST/SZ	Version
Order No.	791506000	Rail, TS 35, TS 35 x 7.5, with slot, Steel, galvanic zinc plated and passivated
GTIN (EAN)	4032248296279	
Qty.	2 m	
Type	TS 35X7.5 2M/ST/ZN	Version
Order No.	038340000	Rail, TS 35, TS 35 x 7.5, without slot, Steel, galvanic zinc plated and passivated
GTIN (EAN)	4008190088026	
Qty.	2 m	

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Accessories

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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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Replacement parts

Electronic modules



General ordering data

Type	UR20-EM-1394390000-SP	Version
Order No.	1434230000	Replacement part ,
GTIN (EAN)	4050118238921	
Qty.	1 pc(s).	

Plugkit



General ordering data

Type	UR20-PK-1394390000-SP	Version
Order No.	1484030000	Replacement part
GTIN (EAN)	4050118293654	
Qty.	5 pc(s).	

Data sheet

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Replacement parts

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).		