

UR20-4AI-UI-16-DIAG-HD

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 $\pm 10\text{ V}$, $\pm 5\text{ V}$, $0\ldots 10\text{ V}$, $0\ldots 5\text{ V}$, $2\ldots 10\text{ V}$, $1\ldots 5\text{ V}$, $0\ldots 20\text{ mA}$ or $4\ldots 20\text{ mA}$ 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 ($0\ldots 20\text{ mA}$ or $4\ldots 20\text{ mA}$).

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, 16 Bit
Order No.	1506910000
Type	UR20-4AI-UI-16-DIAG-HD
GTIN (EAN)	4050118315417
Qty.	1 pc(s).
Replacement parts	1350930000 1518820000 1515430000

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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	72 g

Temperatures

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

Accuracy	0.1% FSR	
Conversion time	1 ms	
Individual channel diagnosis	Yes	
Internal resistance I	45 Ω	
Internal resistance U	100 kΩ	
Module diagnosis	Yes	
Number of analogue inputs	4	
Resolution	16 Bit	
Response time	< 50 ms	
Reverse polarity protection	Yes	
Sensor connection	2-wire, 3-wire, 3-wire + FE	
Sensor supply	Yes	
Sensor supply	min.	0 mA
	max.	750 mA
	nominal	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)	

Connection data

Wire connection cross section, finely stranded, max.	0.35 mm ²	Wire connection cross section, finely stranded, min.	0.14 mm ²
Wire cross-section, finely stranded, max. (AWG)	AWG 22	Wire cross-section, finely stranded, min. (AWG)	AWG 26
Wire cross-section, solid, max.	0.35 mm ²	Wire cross-section, solid, max. (AWG)	AWG 22
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
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	ETIM 9.0	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	ECLASS 13.0	27-24-26-01

Environmental Product Compliance

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

Important note

Product information	Note: Please order connector (1469340000) separately
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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	KC certificate DNV/GL certificate DEMKO15ATEX1525X CCC certificate UKCA Declaration of Conformity - EN CE Declaration of Conformity - DE
Engineering Data	CAD data – STEP Compatibility information – Combinability of UR20
Engineering Data	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

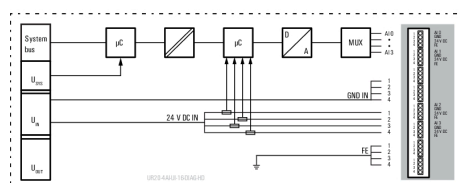
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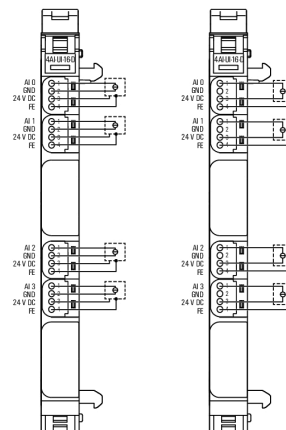
www.weidmueller.com

Drawings

Block diagram

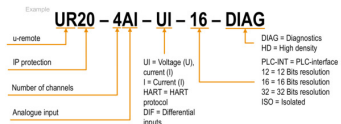


Connection diagram



Explanation of abbreviations

Analogue input modules

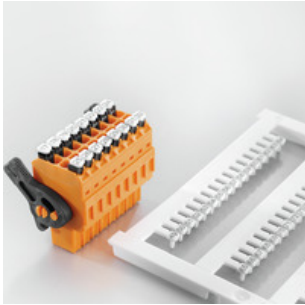


UR20-4AI-UI-16-DIAG-HD**Weidmüller Interface GmbH & Co. KG**

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www.weidmueller.com**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).	

Tools

- Stripping tools with automatic self-adjustment
- For flexible and solid conductors
- Ideally suitable for mechanical and plant engineering, railway and rail traffic, wind energy, robot technology, explosion protection as well as marine, offshore and ship building sectors
- Stripping length adjustable via end stop
- Automatic opening of clamping jaws after stripping
- No fanning-out of individual conductors
- Adjustable to diverse insulation thicknesses
- Double-insulated cables in two process steps without special adjustment
- No play in self-adjusting cutting unit
- Long service life
- Optimised ergonomic design

General ordering data

Type	STRIPAX ULTIMATE	Version
Order No.	1468880000	Tools, Stripping and cutting tool
GTIN (EAN)	4050118274158	
Qty.	1 pc(s).	

UR20-4AI-UI-16-DIAG-HD**Weidmüller Interface GmbH & Co. KG**

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www.weidmueller.com**Accessories****Aluminum**

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

General ordering data

Type	TS 35X7.5 2M/AL/BK	Version
Order No.	0330800000	Terminal rail, without slot, Accessories, 35 x 7.5 x 2000 mm,
GTIN (EAN)	4008190100650	Aluminium, untreated
Qty.	2 m	

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).	

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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).	

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	Terminal rail, without slot, Accessories, 35 x 7.5 x 2000 mm,
GTIN (EAN)	4032248003372	Stainless steel, rust-proof, Stainless steel 1.4301, untreated
Qty.	2 m	

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Accessories

Accessories

**System accessory**

Discover a wide range of accessories for your u-remote system - the ideal addition to make your applications even more efficient and flexible.

General ordering data

Type	KOSM BHZ5.00	Version	Product data	Packaging
Order No.	1483050000	PCB plug-in connector, Accessories, Coding element, orange		Box
GTIN (EAN)	4050118292039			
Qty.	100 pc(s).			
Type	UR20-EBK-ACC	Version		
Order No.	1346610000	End bracket, ,		
GTIN (EAN)	4050118151596			
Qty.	5 pc(s).			
Type	UR20-PG0.35	Version		
Order No.	1469340000	Connecting plug		
GTIN (EAN)	4050118275339			
Qty.	8 pc(s).			
Type	UR20-SM-ACC	Version		
Order No.	1339920000	Cover, ,		
GTIN (EAN)	4050118144727			
Qty.	20 pc(s).			
Type	PWZ-UR20-HD	Version		
Order No.	1525820000	Pressing tools		
GTIN (EAN)	4050118347067			
Qty.	1 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/SZ	Version		
Order No.	7915060000	Terminal rail, with slot, Accessories, 35 x 7.5 x 2000 mm, Slit width:		
GTIN (EAN)	4032248296279	5.20 mm, Slit length: 25.00 mm, Steel, galvanic zinc plated and		
Qty.	2 m	passivated		

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Accessories

Type	TS 35X7.5 2M/ST/ZN	Version
Order No.	0383400000	Terminal rail, without slot, Accessories, 35 x 7.5 x 2000 mm, Steel,
GTIN (EAN)	4008190088026	galvanic zinc plated and passivated
Qty.	2 m	
Type	TS 35X7.5/LL 2M/ST/ZN	Version
Order No.	0514500000	Terminal rail, with slot, Accessories, 35 x 7.5 x 2000 mm, Slit width:
GTIN (EAN)	4008190046019	5.20 mm, Slit length: 25.00 mm, Steel, galvanic zinc plated and
Qty.	2 m	passivated
Type	TS 35X7.5/LL 1M/ST/ZN	Version
Order No.	0514510000	Terminal rail, with slot, Accessories, 35 x 7.5 x 1000 mm, Slit width:
GTIN (EAN)	4008190116620	5.20 mm, Slit length: 25.00 mm, Steel, galvanic zinc plated and
Qty.	1 m	passivated

Blank



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- 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 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).	

UR20-4AI-UI-16-DIAG-HD**Weidmüller Interface GmbH & Co. KG**

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www.weidmueller.com**Accessories****Tools**

- For flexible and solid conductors with special insulating materials
- High-quality stripping for industrial applications (complies with aircraft industry requirements)
- Specially shaped blades enable stripping of special types of insulation and conductor configurations
- Stripping length adjustable via end stop
- Very versatile thanks to interchangeable stripping units
- Stripping results reproduced accurately over and over again
- No damage to the conductor
- A long-lasting, reliable tool thanks to its sturdy design
- Integrated cutting function

General ordering data

Type	MULTI-STRIPAX 6-16	Version
Order No.	9202210000	Tools, Stripping and cutting tool
GTIN (EAN)	4032248486144	
Qty.	1 pc(s).	

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www.weidmueller.com**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).				

Electronic modules**General ordering data**

Type	UR20-EM-1506910000-SP	Version	
Order No.	1515430000	Replacement part	
GTIN (EAN)	4050118322767		
Qty.	1 pc(s).		

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www.weidmueller.com**Replacement parts****Plugkit****General ordering data**

Type	UR20-PK-1506910000-SP	Version
Order No.	1518820000	Replacement part
GTIN (EAN)	4050118326345	
Qty.	5 pc(s).	