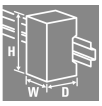
Data sheet

UR20-4AI-UI-16-HD

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

www.weidmueller.com



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 (UIN).

General ordering data

Version	Remote I/O module, IP20, 4-channel, Analog signals, Input, Current/Voltage, 16 Bit
Order No.	1506920000
Type	UR20-4AI-UI-16-HD
GTIN (EAN)	4050118315424
Qty.	1 items

UR20-4AI-UI-16-HD

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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	72 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, 7cl	
REACH SVHC	Lead 7439-92-1	
SCIP	82327f13-cd27-455a-ab5b-a62e1996dcf8	
Product Carbon Footprint	Cradle to gate	7,740 kg CO2 eq.

analogue inputs

Short-circuit-proof	Yes	
Reverse polarity protection	Yes	
Response time / fallback time	<50 ms	
Accuracy	0.1% FSR	
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)	
Resolution	16 Bit	
Sensor supply	Yes	
Conversion time	1 ms	
Sensor supply	min.	0 mA
	nominal	750 mA
	max.	750 mA
Module diagnosis	Yes	
Individual channel diagnosis	No	
Internal resistance U	100 kΩ	
Sensor connection	2-wire, 3-wire, 3-wire + FE	
Number analogue inputs	4	
Internal resistance I	45 Ω	

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Connection data

Wire cross-section, finely stranded, max. (AWG)	AWG 22	Wire cross-section, finely stranded, min. (AWG)	AWG 26
Wire cross-section, solid, max. (AWG)	AWG 22	Wire cross-section, solid, min. (AWG)	AWG 26
Wire cross-section, solid, max.	0.35 mm²	Wire cross-section, solid, min.	0.14 mm²
Wire connection cross section, finely stranded, max.	0.35 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

Reverse polarity protection	Yes	Supply voltage	24 V DC +20 %/ -15 %, via the system bus
Current consumption from IIN (the respective power segment)	25 mA + sensor feed	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	8 Byte
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
Diagnostic data	1 Bit		

Important note

Product information	Note: Please order connector (1469340000) separately

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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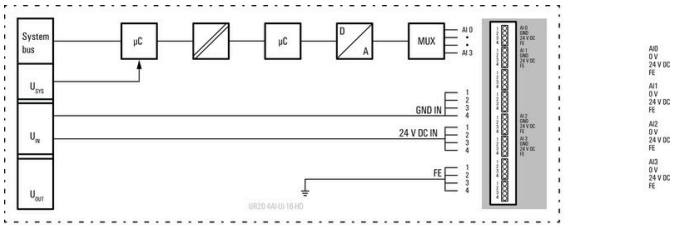
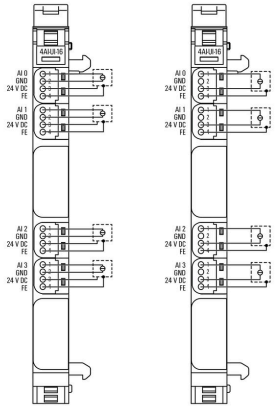
Drawings

Block diagram

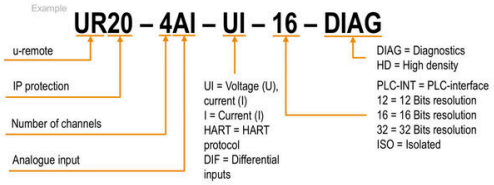


Connection diagram



Explanation of abbreviations

Analogue input modules



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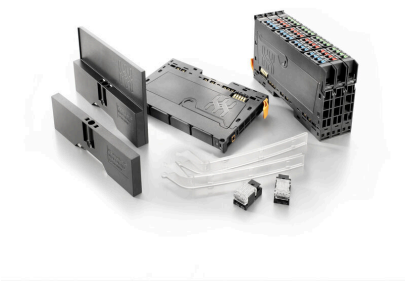
Accessories

Accessories

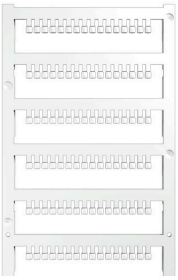


System accessory
Discover a wide range of accessories for your u-remote system - the ideal addition to make your applications even more efficient and flexible.

General ordering data

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

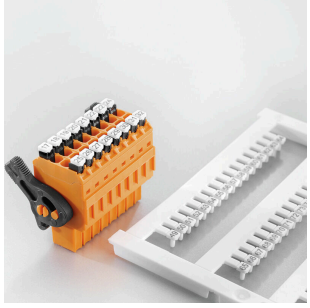
Blank



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
GTIN (EAN)	4050118126778	in mm (P): 3.50 Weidmueller, white
Qty.	960 ST	

Custom printing



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Accessories

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
GTIN (EAN)	4050118126761	in mm (P): 3.50 Weidmueller, To customer specification
Qty.	192 ST	
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 ST	

Blank

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 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 ST	

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	Terminal rail, Accessories, Aluminium, untreated, Width: 2000 mm,
GTIN (EAN)	4008190100650	Height: 35 mm, Depth: 7.5 mm
Qty.	40 M	

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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, Accessories, Stainless steel 1.4301, untreated, Width:
GTIN (EAN)	4032248003372	2000 mm, Height: 35 mm, Depth: 7.5 mm
Qty.	40 M	

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 2M/ST/ZN	Version
Order No.	0383400000	Terminal rail, Accessories, Steel, galvanic zinc plated and passivated,
GTIN (EAN)	4008190088026	Width: 2000 mm, Height: 35 mm, Depth: 7.5 mm
Qty.	40 M	
Type	TS 35X7.5/LL 2M/ST/ZN	Version
Order No.	0514500000	Terminal rail, Accessories, Steel, galvanic zinc plated and passivated,
GTIN (EAN)	4008190046019	Width: 2000 mm, Height: 35 mm, Depth: 7.5 mm
Qty.	40 M	
Type	TS 35X7.5/LL 1M/ST/ZN	Version
Order No.	0514510000	Terminal rail, Accessories, Steel, galvanic zinc plated and passivated,
GTIN (EAN)	4008190116620	Width: 1000 mm, Height: 35 mm, Depth: 7.5 mm
Qty.	20 M	
Type	TS 35X7.5/LL 2M/ST/SZ	Version
Order No.	7915060000	Terminal rail, Accessories, Steel, galvanic zinc plated and passivated,
GTIN (EAN)	4032248296279	Width: 2000 mm, Height: 35 mm, Depth: 7.5 mm
Qty.	40 M	

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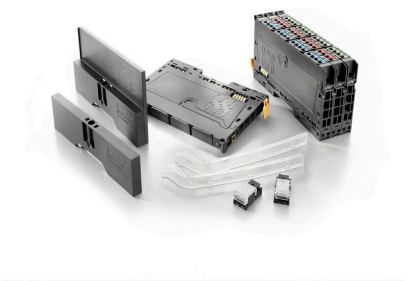
Accessories

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	PWZ-UR20-HD	Version
Order No.	1525820000	Pressing tools
GTIN (EAN)	4050118347067	
Qty.	1 ST	

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

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Accessories

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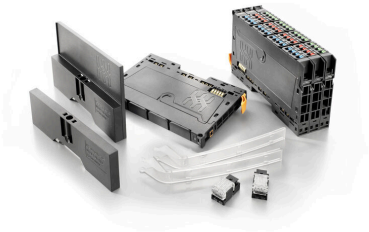

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General ordering data

Type	UR20-PG0.35	Version
Order No.	1469340000	Connecting plug
GTIN (EAN)	4050118275339	
Qty.	8 ST	

Crimping tools

Crimping tools for wire end ferrules, with and without plastic collars
- Ratchet guarantees precise crimping
- Release option in the event of incorrect operation

General ordering data

Type	PZ 2.5 S	Version
Order No.	2903690000	0.14mm², 2.5mm², Trapezoidal crimp
GTIN (EAN)	4099986027008	
Qty.	1 ST	

Basic modules

General ordering data

Type	UR20-BM-SP	Version
Order No.	1350930000	Replacement part, , Flange-mounted housing
GTIN (EAN)	4050118402735	
Qty.	5 ST	

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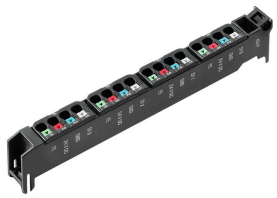
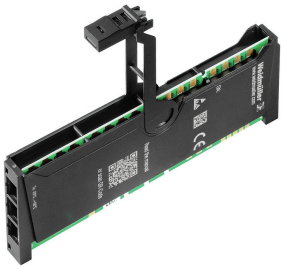
Plugkit



General ordering data

Type	UR20-PK-1506920000-SP	Version
Order No.	1518830000	Replacement part
GTIN (EAN)	4050118326529	
Qty.	5 ST	

Electronic modules



General ordering data

Type	UR20-EM-1506920000-SP	Version
Order No.	1515420000	Replacement part
GTIN (EAN)	4050118322866	
Qty.	1 ST	