

UR20-4AI-UI-16**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.	1315620000
Type	UR20-4AI-UI-16
GTIN (EAN)	4050118118551
Qty.	1 pc(s).

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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
Mounting dimension - height	128 mm	Net weight	89 g
Width	11.5 mm	Width (inches)	0.453 inch

Temperatures

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

REACH SVHC	Lead 7439-92-1
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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	16 Bit	
Response time	< 50 ms	
Reverse polarity protection	Yes	
Sensor connection	2-wire, 3-wire, 3-wire + FE	
Sensor supply	Yes	
Sensor supply	max.	750 mA
	min.	0 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), 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		

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

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Restricted area	Positive expansion	X coordinate	43 mm
		Z coordinate	85 mm
		Y coordinate	160 mm
	Type of restricted area	thermal	
	Negative expansion	Z coordinate	0 mm
		Y coordinate	-40 mm
		X coordinate	-28 mm
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} (power segment of the field bus coupler), typ.	8 mA	
Current consumption from I _{IN} (power segment of the fieldbus coupler), typ.	min.	8 mA
	nominal	8 mA
	max.	8 mA
Current consumption from I _{IN} (the respective power segment)	25 mA + sensor feed	
Current consumption from I _{IN} (the respective power segment)	max.	25 mA
	nominal	25 mA
	min.	25 mA
Reverse polarity protection	Yes	
Voltage supply	24 V DC +20 %/ -15 %, via the system bus	

RS interface

Individual channel diagnosis	No	Module diagnosis	Yes
Short-circuit-proof	Yes		

Serial inputs

Individual channel diagnosis	No	Module diagnosis	Yes
Short-circuit-proof	Yes		

System data

Configuration interface	Micro USB 2.0	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
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

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Technical data

Tender specification sheets

Long specification

Analogue input module
4AI-UI-16 4-channel
analogue input module,
positively switching
Connection system: PUSH-
IN Potentials on plugs:
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 bits 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:
0.1% FSR Resolution:
16 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-16

Approvals

Approvals

ABS
DESIGN
ASSESSED

DNV-GL
TYPE APPROVED PRODUCT
DNVGL.COM/IF

ATEX

EAC

IEC EX

UL
UL US
LISTED
FOR HAZ. LOC. C1D2

KR
KOREANCERT

Lloyd's Register
TYPE APPROVED

WATXIECEX

ROHS	Conform
UL File Number Search	E141197

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Technical data

Downloads

Approval/Certificate/Document of Conformity	Declaration 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)
Engineering Data	NIPPON KAIJI KYOKAI Certificate
	STEP
Engineering Data	EPLAN, WSCAD, Zuken E3.S
Product Change Notification	Release-Notes - Firmware
Software	Current Firmware 4AI_UI
	Archiv Firmware UR20-4AI-UI
User Documentation	MAN_U-REMOTE_DE
	MAN_U-REMOTE_EN

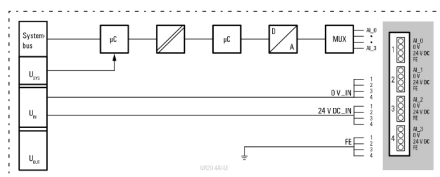
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Drawings

Block diagram



Connection diagram

