

UR20-4DI-4DO-PN-FSPS-V2

Weidmüller Interface GmbH & Co. KG

Klingenbergstraße 26

D-32758 Detmold

Germany

www.weidmueller.com

Product image, Similar to illustration



SIL3; OSSD outputs; wire breakage and short-circuit detection

Safety technology is of central importance in industrial automation and machine building. If you want to reduce risks and avoid dangers for people and environment, you need solutions which satisfy stringent requirements and statutory specifications. The safety modules of the u-remote system have key features such as emergency-stop circuits and wire-breakage or short-circuit detection. They meet all SIL 3 requirements according to IEC 62061 and EN ISO 13849-1, category 4, PL e, and support the safe operation of your system.

By safely shutting down the downstream output modules, the safety modules attain maximum safety with optimum control. All input sensors are independently supplied via separate voltage paths and report the current machine status to the control unit. Restarting is either carried out in manual mode or using the autostart function. In addition, Weidmüller safety modules reduce maintenance and service times and improve response times in case of emergency – thanks to a concept of maximum transparency, e.g. using OSSD outputs.

The module electronics supply the connected actuators from the output current path (U_{OUT}).

General ordering data

Version	Remote I/O module, IP20, Safety, Digital signals, 4-channel
Order No.	2464570000
Type	UR20-4DI-4DO-PN-FSPS-V2
GTIN (EAN)	4050118479270
Qty.	1 pc(s).

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Technical data

Dimensions and weights

Depth	76 mm	Depth (inches)	2.992 inch
Height	130 mm	Height (inches)	5.118 inch
Mounting dimension - height	128 mm	Net weight	89.7 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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digital inputs

Individual channel diagnosis	Yes	Input filter	configurable
Input type	Type 1 in acc. with IEC 61131-2, Type 3 in acc. with IEC 61131-2	Input voltage, high	> 11 V
Input voltage, low	< 5 V	Module diagnosis	Yes
Number	4	Number of digital inputs	4
Reverse polarity protection	Yes	Sensor supply	Yes
Short-circuit-proof	Yes	Type	Types 1 and 3, EN 61131-2

digital outputs

Actuator connection	2-wire	Feedback-free	No
Individual channel diagnosis	Yes	Module diagnosis	Yes
Number	4	Number of digital outputs	4
Output current per channel, max.	0.5 A	Output current per module, max.	2 A
Response time of the protective circuit (current limiting)	< 100µs	Short-circuit-proof	Yes
Type	Types 1 and 3, EN 61131-2		

Connection data

Number	4	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	Type of restricted area	thermal	
	Positive expansion	X coordinate	43 mm
		Z coordinate	85 mm
		Y coordinate	160 mm
	Negative expansion	X coordinate	-28 mm
		Z coordinate	0 mm
		Y coordinate	-40 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.	max.	8 mA
	nominal	8 mA
	min.	8 mA
Current consumption from I _{OUT} (the respective power segment)	30 mA	
Current consumption from I _{OUT} (the respective power segment)	max.	30 mA
	nominal	30 mA
	min.	30 mA
Reverse polarity protection	Yes	
Voltage supply	24 V DC +20 %/ -15 %, via the system bus	

RS interface

Individual channel diagnosis	Yes	Module diagnosis	Yes
Number	4	Short-circuit-proof	Yes

Safety-related data

MTTF	100 Years	Proportion of safety-related outages (SFF)	98 %
Safety category	SIL 3		

Serial inputs

Individual channel diagnosis	Yes	Module diagnosis	Yes
Number	4	Short-circuit-proof	Yes

System data

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	Safe input and output module
Possible connection	2-wire, 4-wire	Transmission speed of system bus, max.	48 Mbit

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Technical data**Classifications**

ETIM 6.0	EC001599	ETIM 7.0	EC001599
ECLASS 9.0	27-24-26-05	ECLASS 9.1	27-24-26-05
ECLASS 10.0	27-24-26-05	ECLASS 11.0	27-24-26-05

Approvals

Approvals



ROHS	Conform
UL File Number Search	E141197

Downloads

Approval/Certificate/Document of Conformity	Declaration of Conformity TÜV_certificate_Safety-IO-module.pdf
Engineering Data	STEP
Product Change Notification	Release-Notes - Firmware
Software	UR20-4DI-4DO-PN-FSPS-V2-0008071-01_00_01-2 UR20-4DI-4DO-PN-FSPS-V2-0008071-01_00_05-8 CPD-Tool_(PROFIsafe_parameter-checksum-generator)
User Documentation	MAN_U-REMOTE_DE MAN_U-REMOTE_EN MAN_U-REMOTE_FS_DE MAN_U-REMOTE_FS_EN Application notes - PROFISAFE Siemens PLC STEP7 V5.5 EN Application notes - PROFISAFE Siemens PLC TIA-Portal EN

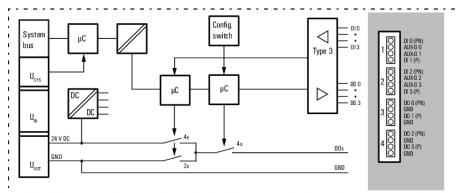
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Drawings

Block diagram



Connection diagram

