Data sheet

UR20-8DI-PN-FSPS

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

www.weidmueller.com



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 (UOUT).

General ordering data

Version	Remote I/O module, IP20, Safety, Digital signals, 8-channel
Order No.	1335070000
Type	UR20-8DI-PN-FSPS
GTIN (EAN)	4050118138368
Qty.	1 items
Delivery status	Discontinued
Last order date	2022-03-30T00:00:00+02:00
Alternative product	UR20-8DI-PN-FSPS-V2

UR20-8DI-PN-FSPS

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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	93 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, 7cI
REACH SVHC	Lead 7439-92-1
SCIP	82327f13-cd27-455a-ab5b-a62e1996dcf8

digital inputs

Reverse polarity protection	Yes	Number	8
Number of digital inputs	8	Sensor supply	Yes
Input filter	configurable	Input voltage, high	> 11 V
Module diagnosis	Yes	Input voltage, low	< 5 V
Individual channel diagnosis	Yes	Sensor connection	2-wire, 3-wire, 4-wire

digital outputs

Number	8	Module diagnosis	Yes
Individual channel diagnosis	Yes	Sensor connection	2-wire, 3-wire, 4-wire

Connection data

Wire cross-section, finely stranded, max. (AWG)	AWG 16	Wire cross-section, finely stranded, min. (AWG)	AWG 26
Wire cross-section, solid, max. (AWG)	AWG 16	Wire cross-section, solid, min. (AWG)	AWG 26
Type of connection	PUSH IN	Number	8
Wire cross-section, solid, max.	1.5 mm²	Wire cross-section, solid, min.	0.14 mm²
Wire connection cross section, finely stranded, max.	1.5 mm²	Wire connection cross section, finely stranded, min.	0.14 mm²

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Technical data

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 Isys, typ.	8 mA	Current consumption from IOUT (the respective power segment)	30 mA

Safety characteristics in acc. with EN 61508

PFD (probability of failure on demand), inputs	Single-channel circuit 1oo1: 8,77*10#⁴	PFH (probability of failure per hour in 1/h), inputs	Single-channel circuit 1oo1: 10#⁸, Dual-channel circuit 1oo2: 2,17*10#¹⁰
Proportion of safety-related outages (SFF)	98 %		

Safety characteristics in acc. with EN 62061

PFH (probability of failure per hour in 1/h), inputs	Single-channel circuit 1oo1: 10#⁸, Dual-channel circuit 1oo2: 2,94*10#⁹	Achievable safety level, inputs	SILCL 2 (IEC 62061), SILCL 3 (IEC 62061)

Safety characteristics in acc. with EN ISO 13849

Diagnostic coverage (DC), inputs	Input, single-channel wiring: 90%; dual-channel wiring: 99%	Achievable safety level, inputs	PLd, category 2 (DIN EN ISO 13849-1) / architecture 1oo1 (1 channel), Ple, category 4 (DIN EN ISO 13849-1) / architecture 1oo2 (2 channels)
MTTF	100 a		

System data

Module type	Safe input module	Interface	u-remote system bus
Galvanic isolation	500 V DC between the current paths	Field bus protocol	PROFINET IRT, PROFINET RT
Possible connection	2-wire, 4-wire	Transmission speed of system bus, max.	48 MBit/s

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Technical data

Classifications

ETIM 8.0	EC001599	ETIM 9.0	EC001599
ETIM 10.0	EC001599	ECLASS 14.0	27-24-26-05
ECLASS 15.0	27-24-26-05		

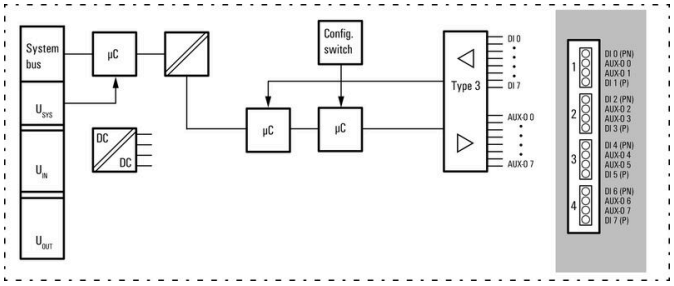
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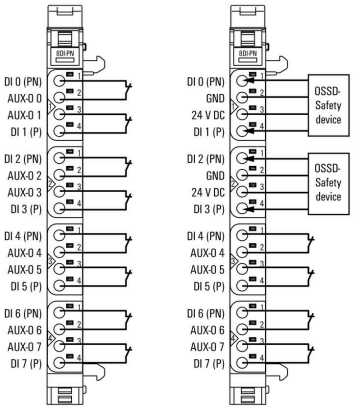
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Drawings

Block diagram

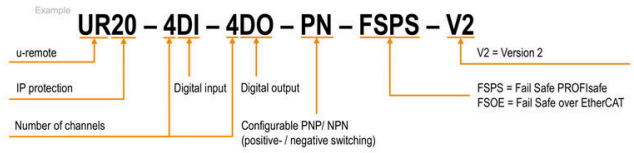


Connection diagram



Explanation of abbreviations

Safe I/O modules



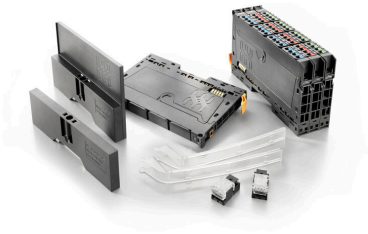
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Accessories

Accessories



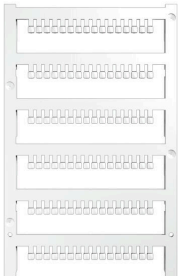
System accessory
Discover a wide range of accessories for your u-remote system - the ideal addition to make your applications even more efficient and flexible.

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	

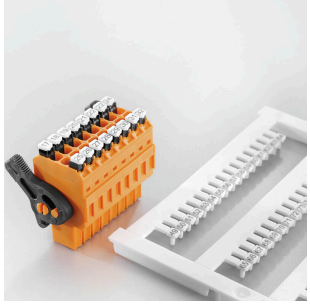
Blank



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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Accessories

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

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-PF-O-SIL-SP	Version
Order No.	1350970000	Replacement part, , Flange-mounted housing
GTIN (EAN)	4050118398342	
Qty.	5 ST	

Electronic modules



General ordering data

Type	UR20-EM-1335070000-SP	Version
Order No.	1347570000	Replacement part
GTIN (EAN)	4050118152197	
Qty.	1 ST	

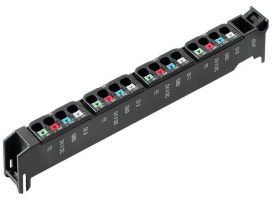
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Accessories

Plugkit



General ordering data

Type	UR20-PK-1335070000-SP	Version
Order No.	1992950000	Replacement part
GTIN (EAN)	4050118398366	
Qty.	5 ST	