

UR20-1SM-50W-6DI2DO-P

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

www.weidmueller.com

Product image



Pulse width modulation and stepper motor modules As part of the u-remote system, Weidmüller offers a specialised solution for controlling small motors with a current requirement of 0.5 A to 2 A, which can also be used to control valve flaps. The pulse width modulation modules can be adjusted within the switching frequencies up to 40 kHz and the modules can also be switched in the motor control with the aid of push/pull output stages, e.g. to change the direction of rotation. Weidmüller's stepper motor module is efficient and flexible for use in the automation of robots, handling systems or placement machines with stepper motors. Variably adjustable operating parameters as well as a wide range supply from 12 V DC to 50 V DC make the module flexibly applicable for various target applications. Six integrated, parameterizable encoder or digital inputs and two digital outputs with 0.5 A make the control module a complete solution in the smallest of spaces. As with all modules of the u-remote system, the features are convincing - from the modular design and exchangeable electronics to the removable and pluggable terminal strip. The module electronics supplies the connected actuators from the output current path (UOUT)

General ordering data

Version	Remote I/O module, IP20, Digital signals, Special module
Order No.	2489830000
Type	UR20-1SM-50W-6DI2DO-P
GTIN (EAN)	4050118499810
Qty.	1 items

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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	23 mm	Width (inches)	0.9055 inch
Mounting dimension - height	128 mm	Net weight	173 g

Temperatures

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

digital outputs

Short-circuit-proof	Yes																
Number	1																
Number of digital outputs	2																
Feedback-free	Yes																
Max. response time, low	100 µs																
Resistive load (min. 47 Ω)	1 kHz																
Digital outputs	<table border="1"> <tr> <td>Connection designation</td> <td>DO 0, DO 1</td> </tr> <tr> <td>Number of channels</td> <td>2</td> </tr> <tr> <td>Response time high-low, max.</td> <td>250 µs</td> </tr> <tr> <td>Response time low-high, max.</td> <td>100 µs</td> </tr> <tr> <td>Output current per channel, max.</td> <td>0.5 A</td> </tr> <tr> <td>Number of wires</td> <td>2</td> </tr> <tr> <td>Short-circuit-proof</td> <td>Yes</td> </tr> <tr> <td>Reactionless</td> <td>Yes</td> </tr> </table>	Connection designation	DO 0, DO 1	Number of channels	2	Response time high-low, max.	250 µs	Response time low-high, max.	100 µs	Output current per channel, max.	0.5 A	Number of wires	2	Short-circuit-proof	Yes	Reactionless	Yes
Connection designation	DO 0, DO 1																
Number of channels	2																
Response time high-low, max.	250 µs																
Response time low-high, max.	100 µs																
Output current per channel, max.	0.5 A																
Number of wires	2																
Short-circuit-proof	Yes																
Reactionless	Yes																
Outputs (as per IEC 61131-2)	2 digital outputs, 0.5 A, P-switching																
Protective circuit	Constant current with thermal switch-off and automatic restart																
Module diagnosis	Yes																
Individual channel diagnosis	No																
Max. response time, high	250 µs																
Switch-off energy (inductive)	<150 mJ / channel																
Actuator connection	2-wire																
Lamp load (12 W)	1 kHz																

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Inductive load (DC13)	0.2 Hz
Sensor connection	2-wire, 3-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	1	
Wire cross-section, solid, max.	1.5 mm ²	
Wire cross-section, solid, min.	0.14 mm ²	
Wire connection cross section, finely stranded, max.	1.5 mm ²	
Wire connection cross section, finely stranded, min.	0.14 mm ²	
Stepper motor connections	Connection designation	A+, A-, B+, B-
	Number of channels	1
	Short-circuit-proof	Yes

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 %
Current consumption from IIN (the respective power segment)	27 mA + Sensor feed	Current consumption from I _{sys} , typ.	8 mA
Current consumption from external power supply	35 mA + load	Current consumption from IO _{UT} (the respective power segment)	10 mA + load

System data

Module type	Functional module	Interface	u-remote system bus
Galvanic isolation	500 V DC between the current paths	Connection type	4-wire
Field bus protocol	PROFINET IRT, PROFINET RT, PROFIBUS DP-V1, EtherCAT, Modbus/TCP,	Transmission speed of system bus, max.	48 Mbit/s

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Technical data

EtherNet/IP, CANopen,
DeviceNet, POWERLINK,
CC-Link, CC-Link IE TSN

Classifications

ETIM 8.0	EC001601	ETIM 9.0	EC001601
ETIM 10.0	EC001601	ECLASS 14.0	27-24-26-05
ECLASS 15.0	27-24-26-05		

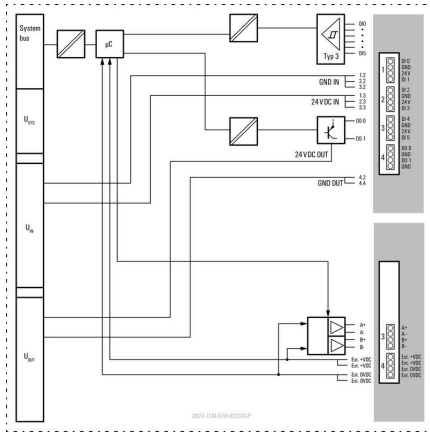
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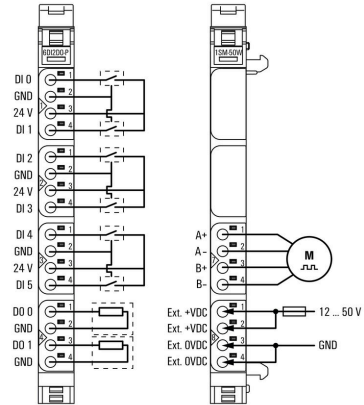
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Drawings

Block diagram

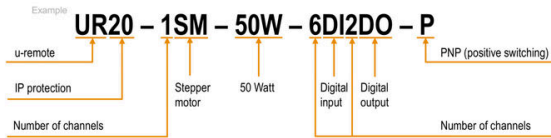


Connection diagram



Explanation of abbreviations

Stepper motor module



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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 in mm (P): 3.50 Weidmueller, To customer specification	
GTIN (EAN)	4050118126761		
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 Weidmueller, To customer specification	
GTIN (EAN)	4050118146059		
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 Weidmueller, white	
GTIN (EAN)	4050118145946		
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, Height: 35 mm, Depth: 7.5 mm	
GTIN (EAN)	4008190100650		
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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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		0.14mm ² , 2.5mm ² , 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		

Electronic modules



General ordering data

Type	UR20-EM-2489830000-SP	Version	
Order No.	2585660000		Replacement part
GTIN (EAN)	4050118594232		
Qty.	1 ST		

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Accessories

Plugkit



General ordering data

Type	UR20-PK1-2489830000-SP	Version	
Order No.	2573750000	Replacement part	
GTIN (EAN)	4050118583700		
Qty.	5 ST		
Type	UR20-PK2-2489830000-SP	Version	
Order No.	2585650000	Replacement part	
GTIN (EAN)	4050118594225		
Qty.	5 ST		