

**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.	<a href="#">2489830000</a>
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	<a href="#">UL Website</a>
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	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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## Technical data

Inductive load (DC13)	0.2 Hz
Sensor connection	2-wire, 3-wire

## Connection data

Wire cross-section, finely stranded, max. AWG 16 (AWG)

Wire cross-section, finely stranded, min. AWG 26 (AWG)

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<sup>2</sup>

Wire cross-section, solid, min. 0.14 mm<sup>2</sup>

Wire connection cross section, finely stranded, max. 1.5 mm<sup>2</sup>

Wire connection cross section, finely stranded, min. 0.14 mm<sup>2</sup>

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 Isys, typ.	8 mA
Current consumption from external power supply	35 mA + load	Current consumption from IOU (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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[www.weidmueller.com](http://www.weidmueller.com)**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		

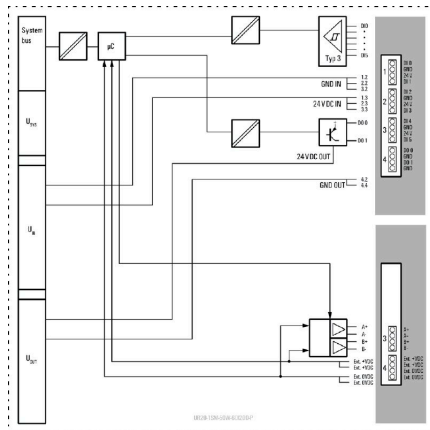
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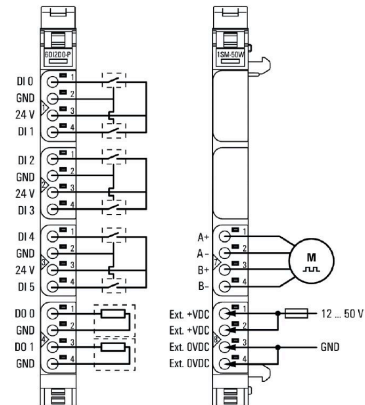
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## Drawings

### Block diagram

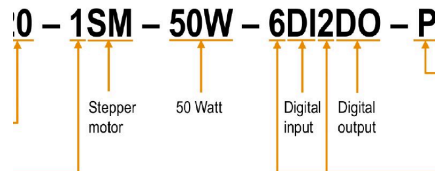


### Connection diagram



### Explanation of abbreviations

## Module



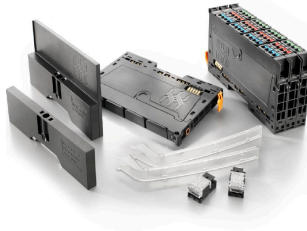
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## Accessories

### Accessories



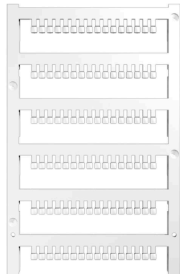
#### System accessory

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.	<a href="#">1346610000</a>	End bracket, ,
GTIN (EAN)	4050118151596	
Qty.	5 ST	
Type	UR20-SM-ACC	Version
Order No.	<a href="#">1339920000</a>	Cover, ,
GTIN (EAN)	4050118144727	
Qty.	20 ST	

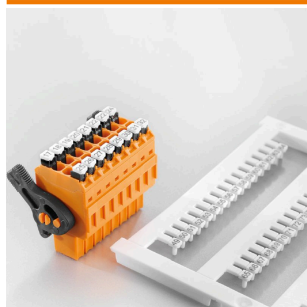
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### General ordering data

Type	PM 2.7/2.6 MC NE WS	Version
Order No.	<a href="#">1323710000</a>	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.	<a href="#">1323700000</a>	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.	<a href="#">1341610000</a>	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.	<a href="#">1341630000</a>	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.	<a href="#">0330800000</a>	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.	<a href="#">1747350000</a>	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.	<a href="#">0383400000</a>	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.	<a href="#">0514500000</a>	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.	<a href="#">0514510000</a>	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.	<a href="#">7915060000</a>	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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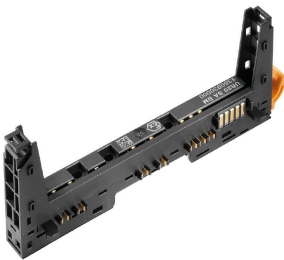
**Accessories****Crimping tools**

Crimping tools for wire end ferrules, with and without plastic collars

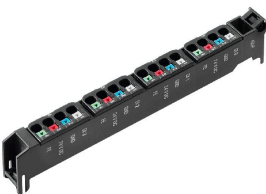
- Ratchet guarantees precise crimping
- Release option in the event of incorrect operation

**General ordering data**

Type	PZ 2.5 S	Version	
Order No.	<a href="#">2903690000</a>	0.14mm <sup>2</sup> , 2.5mm <sup>2</sup> , Trapezoidal crimp	
GTIN (EAN)	4099986027008		
Qty.	1 ST		

**Basic modules****General ordering data**

Type	UR20-BM-SP	Version	
Order No.	<a href="#">1350930000</a>	Replacement part , Flange-mounted housing	
GTIN (EAN)	4050118402735		
Qty.	5 ST		

**Plugkit****General ordering data**

Type	UR20-PK1-2489830000-SP	Version	
Order No.	<a href="#">2573750000</a>	Replacement part	
GTIN (EAN)	4050118583700		
Qty.	5 ST		

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## Accessories

Type	UR20-PK2-2489830000-SP	Version
Order No.	<a href="#">2585650000</a>	Replacement part
GTIN (EAN)	4050118594225	
Qty.	5 ST	