

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

**Weidmüller Interface GmbH & Co. KG**

Klingenbergstraße 26

D-32758 Detmold

Germany

[www.weidmueller.com](http://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 pc(s).
Replacement parts	<a href="#">1350930000</a> <a href="#">2573750000</a> <a href="#">2585650000</a>

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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
Width	23 mm	Width (inches)	0.906 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

REACH SVHC	Lead 7439-92-1	SCIP	82327f13-cd27-455a-ab5b-a62e1996dcf8
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## digital outputs

Actuator connection	2-wire		
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 Leiter	
	Short-circuit-proof	Yes	
Reactionless	Yes		
Feedback-free	Yes		
Individual channel diagnosis	No		
Inductive load (DC13)	0.2 Hz		
Lamp load (12 W)	1 kHz		
Max. response time, high	250 µs		
Max. response time, low	100 µs		
Module diagnosis	Yes		
Number	1		
Number of digital outputs	2		
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		
Resistive load (min. 47 Ω)	1 kHz		
Sensor connection	2-wire, 3-wire		
Short-circuit-proof	Yes		
Switch-off energy (inductive)	< 150 mJ / channel		

## Connection data

Number	1		
Stepper motor connections	Connection designation	A+, A-, B+, B-	
	Number of channels	1	
	Short-circuit-proof	Yes	
Type of connection	PUSH IN		
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>		
Wire cross-section, finely stranded, max. AWG 16 (AWG)			

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Catalogue status 09.09.2022 / We reserve the right to make technical changes.

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

Wire cross-section, solid, max. 1.5 mm<sup>2</sup>

Wire cross-section, solid, max. (AWG) AWG 16

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

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)  $\geq 795$  hPa (height  $\leq 2000$  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

Restricted area	Positive expansion	X coordinate	43 mm
		Y coordinate	160 mm
Restricted area	Negative expansion	Z coordinate	85 mm
		Z coordinate	0 mm
		Y coordinate	-40 mm
Type of restricted area		thermal	

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  $\leq f \leq 8.4$  Hz: 3.5-mm amplitude as per IEC 60068-2-6, 8.4 Hz  $\leq f \leq 150$  Hz: 1 g acceleration as per IEC 60068-2-6

## Power supply

Current consumption from I <sub>IN</sub> (the respective power segment)	27 mA + Sensor feed	Current consumption from I <sub>OUT</sub> (the respective power segment)	10 mA + load
Current consumption from I <sub>sys</sub> , typ.	8 mA	Current consumption from external power supply	35 mA + load
Reverse polarity protection	Yes	Voltage supply	24 V DC +20 %/ -15 %

## System data

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

## Classifications

ETIM 6.0	EC001601	ETIM 7.0	EC001601
ETIM 8.0	EC001601	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	ECLASS 12.0	27-24-26-05

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## Technical data

## Approvals

Approvals



ROHS	Conform
UL File Number Search	UL Website
Certificate no. (cULus)	E141197
Certificate no. (cULusEX)	E223527

## Downloads

Approval/Certificate/Document of Conformity	<a href="#">Declaration of Conformity</a> <a href="#">DEMKO15ATEX1525X</a> <a href="#">UKCA Declaration of Conformity - EN</a>
Engineering Data	<a href="#">CAD data – STEP</a> <a href="#">Compatibility information – Combinability of UR20</a>
Engineering Data	<a href="#">EPLAN</a>
Product Change Notification	<a href="#">Release-Notes - Firmware</a>
Software	<a href="#">Firmware – Current firmware UR20-1SM-50W-6DI2DO-P</a>
User Documentation	<a href="#">MANUAL - UR20 STEPPER MOTOR MODULE - EN</a> <a href="#">HANDBUCH - UR20 SCHRITTMOTORMODUL - DE</a>
Catalogues	<a href="#">Catalogues in PDF-format</a>

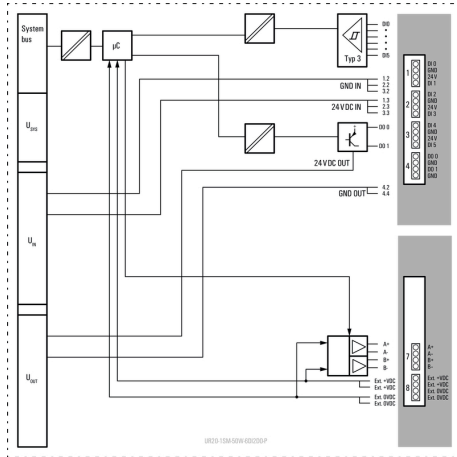
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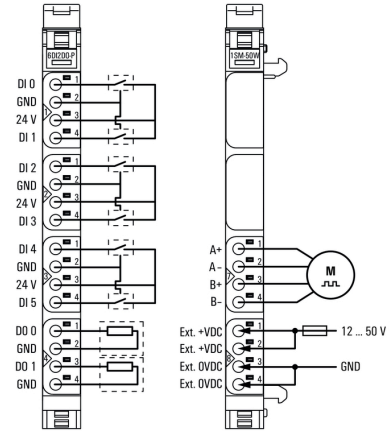
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**Drawings**

**Block diagram**



**Connection diagram**



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