

# SCARA-Robot DOBOT M1.

## Multiflexible industrial robot for pick and place.



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The DOBOT M1 industrial robot is fast, precise and reliable. Whether for pick and place, dispensing, separating or sorting in a laboratory, with its 4 axes it is used in a wide variety of applications. Compared to multi-axis robots, the kinematics calculation in space is much simpler. It is robust, fast, requires little space, has a high repeat accuracy and, in addition to simple operation, is probably the most cost-effective start in this robot classification. With its reduced amortization period, it offers small and medium-sized businesses in particular the possibility of cost-efficient automation.

We are available for you by mail and during our opening hours by phone.

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# DOBOT M1.

## Technical specifications.

<b>Number of Axis</b>	4
<b>Payload</b>	1.5 kg
<b>Reach</b>	max. 400 mm
<b>Repeatability</b>	+ - 0.02 mm
<b>Working Temperature</b>	5° C - 40° C
<b>Dimensions</b>	230 × 634 × 688 mm
<b>Software</b>	DobotStudio M1 (Windows) → Firmwareversion max. 0076 DobotStudio 2020 (Windows) → Firmwareversion at least 0086
<b>Control</b>	Integrated in Base
<b>Power Input</b>	100 V - 240 V 50/60 Hz - 48 V DC 10 A - 480 W max.

<b>Joint Range</b>	Z- axis screw	225 mm (max. 250 mm) Software limitation: 10-235 mm
	Arm 1	+ - 85° (max. + - 90°) Software limitation: + - 85°
	Arm 2	+ - 135°
	End-effector	+ - 360°
<b>Max. Speed</b>	Z- axis	Up to 1000 mm/sec
	X-/Y- Linear motion	Up to 2000 mm/sec
	Axis radial	180°/sec

<b>Base I/O Interface</b>	VCC (Voltage at the common collector)	24 V DC / 2 A
	Digital Input 0 V, 24 V / <100 mA	4
	Digital Output 0 V, 24 V / 2 mA	2
	Safety Stop 0 V, 24 V / <100 mA	4
	Interfaces	RS-232, Ethernet RJ45

<b>Base I/O Occupation</b>	Input	DIN_17 - DIN_20	Not occupied
	Output	DOUT_17 - DOUT_18	Not occupied

<b>Forearm I/O Interface</b>	Digital Input 0 V, 24 V / <100 mA	4
	Digital Output 0 V, 24 V / 2 mA	4
	Analogue-digital converter 0-10 V / 10 mA	2

<b>Forearm I/O Occupation</b>	Input	DIN_21 - DIN_24	Not occupied*
		AIN_5 - AIN_6	Not occupied*
	Output	DOUT_19 - DOUT_22	Not occupied*
	<b>Note</b> *When using the EGP-25 gripper kit or also in combination with the swivel axis of Variobotic GmbH, DOUT_19 (rotation of swivel axis) and DOUT_21 - DOUT_22 (opening/closing of gripper) are preassigned. DIN_21 - DIN_24, DOUT_20 and AIN_5 - AIN_6 can thus no longer be used.		

# External Expansion Interface.

## Technical specifications.

Expansion module I/O Expansion Kit (available separately)	Power supply for external devices	24 V DC / 3 A
	Digital Input 0 V, 24 V / <100 mA	16
	Digital Output 0 V, 24 V / 2 mA	16
	Analogue-digital converter 0-10 V / 10 mA	4

Input Occupation	DIN_1 - DIN_6	Not occupied
	DIN_7 - DIN_8	Safety stop contact (0 V door closed, 24 V door open or cable break)
	DIN_9	Acknowledgement door closed
	DIN_10	Reset offline mode
	DIN_11	Activate offline functions
	DIN_12	Continue program
	DIN_13	Pause program
	DIN_14	Offline mode stop
	DIN_15	Offline mode start/program start
	DIN_16	Not occupied

**Note**

To activate the functions, DIN\_11 must first be triggered to 0 V. Otherwise, inputs 10, 12, 13, 14 and 15 can be used normally for sensors. Never use input 11 except in offline mode via a PLC/external control.

Output Occupation	DOUT_1 - DOUT_6	Not occupied
	DOUT_7	Robot running
	DOUT_8	Status alarm
	DOUT_9	Switch relay 1
	DOUT_10	Switch relay 2
	DOUT_11 - DOUT_16	Not occupied

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