

UR5e technical details



Performance

Power consumption	Approx. 200 W using a typical program
Safety System	All 17 advanced adjustable safety functions incl. elbow monitoring certified to Cat.3, PL d. Remote Control according to ISO 10218

Certifications by TUV Nord	EN ISO 13849-1, Cat.3, PL d, and full EN ISO 10218-1
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F/T Sensor - Force, x-y-z

Range	50 N
Resolution	2.5 N
Accuracy	4.0 N

F/T Sensor - Torque, x-y-z

Range	10 Nm
Resolution	0.04 Nm
Accuracy	0.30 Nm

Specification

Payload	5 kg / 11 lbs
Reach	850 mm / 33.5 in
Degrees of freedom	6 rotating joints DOF
Programming	Polyscope graphical user interface on 12 inch touchscreen with mounting

Movement

Pose Repeatability	+/- 0.03 mm, with payload, per ISO 9283	
Axis movement robot arm	Working range	Maximum speed
Base	± 360°	± 180°/s
Shoulder	± 360°	± 180°/s
Elbow	± 360°	± 180°/s
Wrist 1	± 360°	± 180°/s
Wrist 2	± 360°	± 180°/s
Wrist 3	± 360°	± 180°/s
Typical TCP speed	1 m/s / 39.4 in/s	

Features

IP classification	IP54
ISO Class Cleanroom	6
Noise	Less than 65 dB(A)
Robot mounting	Any Orientation
I/O ports	Digital in 2 Digital out 2 Analog in 2 Tool communication RS-485

I/O power supply in tool	12V/24V 600mA continuous, 2A peak
Ambient temperature range	0-50°C*
Humidity	90%RH (non-condensing)

Physical

Footprint	Ø 149 mm
Materials	Aluminium, Plastic, Steel
Tool (end-effector) connector type	M8 M8 8-pin
Cable length robot arm	6 m / 236 in
Weight including cable	20.6 kg / 45.4 lbs

* The robot can work in a temperature range of 0-50°C. At high continuous joint speeds the maximum allowed ambient temperature is reduced.

Control box

Features

IP classification	IP44
ISO Class Cleanroom	6
Ambient temperature range	0-50°
I/O ports	Digital in 16 Digital out 16 Analog in 2 Analog out 2 500 Hz control, 4 separated high speed quadrature digital inputs
I/O power supply	24V 2A
Communication	Control frequency: 500 Hz ModbusTCP: 500 Hz signal frequency ProfiNet and EthernetIP: 500 Hz signal frequency USB ports: 1 USB 2.0, 1 USB 3.0
Power source	100-240VAC, 47-440Hz
Humidity	90%RH (non-condensing)

Physical

Control box size (WxHxD)	475 mm x 423 mm x 268 mm 18.7 in x 16.7 in x 10.6 in
Weight	Max 13.6 kg / 30.0 lbs
Materials	Steel

Teach pendant

Features

IP classification	IP54
Humidity	90%RH (non-condensing)
Display resolution	1280 x 800 pixels

Physical

Materials	Plastic
Weight including 1 m of TP cable	1.6 kg / 3.5 lbs
Cable length	4.5 m / 177.17 in



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