

e-Series

Robot Arm Specification



UR3e



UR7e



UR12e



UR16e

Payload	3 kg (6.6 lbs)	7.5 kg (16.5 lbs)	12.5 kg (27.5 lbs)	16 kg (35.3 lbs)
Reach	500 mm (19.7 in)	850 mm (33.5 in)	1300 mm (51.2 in)	900 mm (35.4 in)
Degrees of freedom	6 rotating joints			
Programming	12 inch touchscreen with PolyScope graphical user interface			
Power consumption (average)				
Maximum power	300 W	570 W	615 W	585 W
Moderate operating settings	150 W	250 W	350 W	350 W
Operating temperature range	Ambient temperature: 0-50 °C (32-122 °F)			
Safety functions	17 configurable safety functions			
In compliance with	EN ISO 13849-1 (PLd category 3) and EN ISO 10218-1			

Performance

Force sensing, tool flange/torque sensor	Force, x-y-z	Torque, x-y-z	Force, x-y-z	Torque, x-y-z	Force, x-y-z	Torque, x-y-z	Force, x-y-z	Torque, x-y-z
Range	± 30.0 N	± 10.0 Nm	± 50.0 N	± 10.0 Nm	± 100.0 N	± 10.0 Nm	± 160.0 N	± 10.0 Nm
Precision	± 2.0 N	± 0.1 Nm	± 3.5 N	± 0.2 Nm	± 5.0 N	± 0.2 Nm	± 5.0 N	± 0.2 Nm
Accuracy	± 3.5 N	± 0.1 Nm	± 4.0 N	± 0.3 Nm	± 5.5 N	± 0.5 Nm	± 5.5 N	± 0.5 Nm

Movement

Maximum TCP speed	3 m/s		4 m/s		4 m/s		3 m/s	
Pose Repeatability per ISO 9283	± 0.03 mm		± 0.03 mm		± 0.05 mm		± 0.05 mm	
Axis movement	Working range	Medium speed	Working range	Medium speed	Working range	Medium speed	Working range	Medium speed
Base	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 120°/s	± 360°	± 120°/s
Shoulder	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 120°/s	± 360°	± 120°/s
Elbow	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 180°/s
Wrist 1	± 360°	± 360°/s	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 180°/s
Wrist 2	± 360°	± 360°/s	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 180°/s
Wrist 3	Infinite	± 360°/s	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 180°/s

Features

IP Classification	IP54			
Noise	< 60 dB(A)	< 65 dB(A)	< 65 dB(A)	< 65 dB(A)
Arm mounting	Any orientation			
I/O Ports				
Digital In	2	2	2	2
Digital Out	2	2	2	2
Analog In	2	2	2	2
Tool I/O power supply voltage	12/24V			
Tool I/O power supply	600 mA	1.5 A (Dual pin) 1 A (Single pin)	2 A (Dual pin) 1 A (Single pin)	2 A (Dual pin) 1 A (Single pin)

Physical

Footprint	Ø128 mm	Ø151 mm	<Ø190 mm	Ø190 mm
Materials	Aluminium, plastic, steel			
Tool flange interface	M8 8-pin female, EN ISO-9409-1-50-4-M6			
Connector type	M8 8-pin female			
Cable length (robot arm)	6 m (236 in)			
Weight including cable	11.2 kg (24.7 lbs)	20.6 kg (45.4 lbs)	33.5 kg (73.9 lbs)	33.1 kg (73 lbs)
Humidity	≤ 90% RH (non-condensing)			



Control Box Specification Features

CB 5.5 / CB 5.6

OEM 5.5 / OEM 5.6

Robot types	e-Series, UR Series	e-Series, UR Series
Software compatibility	PolyScope X, PolyScope 5	PolyScope X, PolyScope 5
IP Classification	IP44	IP20
Cleanroom classification ISO 14644-1	6	6
Operating temperature range	0-50 °C (32-122 °F)	0-50 °C (32-122 °F)
I/O Ports		
Digital In	16	16
Digital Out	16	16
Analog In	2	2
Analog Out	2	2
Quadrature Digital inputs	4	4
I/O Power supply	24V, 2A	24V, 2A
Industrial protocols	Modbus TCP (Client/Server)	Modbus TCP (Client/Server)
	Ethernet/IP Adapter	Ethernet/IP Adapter
Hardware interfaces	PROFINET device/PROFIsafe	PROFINET device/PROFIsafe
	ROS/ROS2	ROS/ROS2
	Ethernet 1 Gb/s	Ethernet 1 Gb/s
	USB 2.0, USB 3.0	USB 2.0, USB 3.0
	Mini DisplayPort	Mini DisplayPort
	Injection Molding Machine Interface (SPI AN-146 & Euromap-67)	Injection Molding Machine Interface (SPI AN-146 & Euromap-67)

Physical

Control Box size (W x H x D)	460 mm x 449 mm x 254 mm (18.2 in x 17.6 in x 10 in)	451 mm x 168 mm x 150 mm (17.6 in x 6.6 in x 5.9 in)
Weight	12 kg (26.5 lbs)	AC model: 4.7 kg (10.4 lbs) DC model: 4.3 kg (9.48 lbs)
Power supply output	1500 W	1500 W
Materials	Powder coated steel	Aluminium
Humidity	≤ 90% RH (non-condensing) ≤	≤ 90% RH (non-condensing) ≤



Standard



3PE

Teach Pendant Specification Features

Robot types	e-Series (standard)	e-Series (optional), UR Series (standard)
IP Classification	EN ISO 10218-1 EN ISO 13849-1	EN ISO 10218-1 EN ISO 13849-1
Humidity	≤ 90% RH (non-condensing)	≤ 90% RH (non-condensing)
Display resolution	1280 x 800 pixels	1280 x 800 pixels
Freedrive	1 button	2 buttons to support for ambidextrous operation

Physical

Materials	Plastic (PC/ASA)	Plastic (PC/ASA)
Teach Pendant size (W x H x D)	300 mm x 231 mm x 50 mm (11.8 in x 9.1 in x 1.97 in)	300 mm x 231 mm x 50 mm (11.8 in x 9.1 in x 1.97 in)
Weight (including 1 m Teach Pendant cable)	1.6 kg (3.5 lbs)	1.8 kg (3.961 lbs)
Cable length (Teach Pendant)	4.5 m (177.17 in)	4.5 m (177.17 in)

Long and short cable options

Standard Robot Cable

High Flex Robot Cable



Power cable	Material	Color	Length	Diameter	Gross Weight	e-Series	UR Series
700-3xx-xx	PVC	Black	6 m (236.22 in)	Country specific	0,75 kg (1.7 lbs)	●	●

Standard Robot Cable

200145	PVC	Black	1 m (39.37 in)	12.1 mm (0,84 in)	0.4 kg (1 lbs)	○	○
200146	PVC	Black	2 m (78.74 in)	12.1 mm (0,84 in)	0.6 kg (1.3 lbs)	○	○
165100	PVC	Black	6 m (236.22 in)	12.1 mm (0,84 in)	2 kg (4.4 lbs)	●	-
165101	PVC	Black	12 m (472.44 in)	12.1 mm (0,84 in)	3.25 kg (7.16 lbs)	○	-

High Flex Robot Cable

166100	PVC	Blue	6 m (236.22 in)	13.4 mm (0.53 in)	2.3 kg (5.07 lbs)	○	-
166101	PVC	Blue	12 m (472.44 in)	13.4 mm (0.53 in)	4.5 kg (9.92 lbs)	○	-
200113	PVC	Blue	6 m (236.22 in)	14.6 mm (0.57 in)	2.3 kg (5.07 lbs)	-	●
200114	PVC	Blue	12 m (472.44 in)	14.6 mm (0.57 in)	4.5 kg (9.92 lbs)	-	○

● Standard ○ Optional - Not applicable

What's in the box?

Select the setup that fits you

Solution			☐ Standard ☐ OEM
Robot	UR Series ☐ UR8 Long ☐ UR15 ☐ UR18 ☐ UR20 ☐ UR30 e-Series ☐ UR3e ☐ UR7e ☐ UR12e ☐ UR16e	Teach Pendant	☐ Standard ☐ 3PE
Software	☐ PolyScope X ☐ PolyScope 5	Cable	☐ 1 m ☐ 6 m ☐ 12 m
Control Box		☐ CB 5.5 ☐ CB 5.6 ☐ OEM CB 5.5 ☐ OEM CB 5.6	UR Care Service Plan ☐ UR Care Plus ☐ UR Care Premium ☐ UR Care Customized

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