

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	200 W	350 W	350 W
Operating temperature range	Ambient temperature: 0-50 °C (32-122 °F)			
Safety functions	21 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	Maximum speed	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum 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

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
	PROFINET device/PROFIsafe	PROFINET device/PROFIsafe
	ROS/ROS2	ROS/ROS2
Hardware interfaces	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)



CB 5.5 (PolyScope 5)
CB 5.6 (PolyScope X)



CB 5.5 (PolyScope 5)
CB 5.6 (PolyScope X)

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

Contact

Universal Robots A/S
Energivej 51
5260 Odense
Denmark

+45 89 93 89 89
sales@universal-robots.com
universal-robots.com