

UR Series

Robot Arm Specification



UR8 Long



UR15



UR18



UR20



UR30

Payload	8 kg (17.6 lbs) 10 kg (22 lbs) with boundary conditions according to the manual.	15 kg (33.1 lbs) 17.5 kg (38.58 lbs) with boundary conditions according to manual.	18 kg (39.7 lbs)	20 kg (44.1 lbs) 25 kg (55.1 lbs) with boundary conditions according to manual.	30 kg (66.1 lbs) 35 kg (77.1 lbs) with boundary conditions according to manual.
Reach	1750 mm (68.9 in)	1300 mm (51.18 in)	950 mm (37.4 in)	1750 mm (68.9 in)	1300 mm (51.18 in)
Degrees of freedom	6 rotating joints				
Programming	12 inch touchscreen with PolyScope graphical user interface				
Power consumption (average)					
Maximum power	615 W	550 W	570 W	750 W	750 W
Moderate operating settings	350 W	350 W	350 W	500 W	300 W
Operating temperature range	Ambient temperature: 0-50 °C (32-122 °F)				
Safety functions	20 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	Force, x-y-z	Torque, x-y-z
Range	± 150.0 N	± 10.0 Nm	± 150.0 N	± 10.0 Nm	± 150.0 N	± 10.0 Nm	± 200.0 N	± 20.0 Nm	± 200.0 N	± 20.0 Nm
Precision	± 7.5 N	± 0.2 Nm	± 7.5 N	± 0.2 Nm	± 7.5 N	± 0.2 Nm	± 5.5 N	± 0.2 Nm	± 5.5 N	± 0.2 Nm
Accuracy	± 8.3 N	± 0.5 Nm	± 8.3 N	± 0.5 Nm	± 8.3 N	± 0.5 Nm	± 10.0 N	± 0.1 Nm	± 10.0 N	± 1.0 Nm

Movement

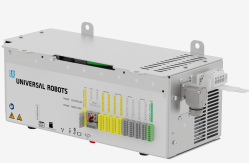
Maximum TCP speed	5 m/s		5 m/s		4 m/s		5 m/s		4 m/s	
Pose Repeatability per ISO 9283	± 0.08 mm		± 0.05 mm		± 0.05 mm		± 0.1 mm		± 0.1 mm	
Axis movement	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed	Working range	Maximum speed
Base	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 120°/s	± 360°	± 120°/s
Shoulder	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 180°/s	± 360°	± 120°/s	± 360°	± 120°/s
Elbow	± 360°	± 240°/s	± 360°	± 240°/s	± 360°	± 240°/s	± 360°	± 150°/s	± 360°	± 150°/s
Wrist 1	± 360°	± 300°/s	± 360°	± 300°/s	± 360°	± 300°/s	± 360°	± 210°/s	± 360°	± 210°/s
Wrist 2	± 360°	± 300°/s	± 360°	± 300°/s	± 360°	± 300°/s	± 360°	± 210°/s	± 360°	± 210°/s
Wrist 3	± 360°	± 300°/s	± 360°	± 300°/s	± 360°	± 300°/s	± 360°	± 210°/s	± 360°	± 210°/s

Features

IP Classification			IP65		
Noise	< 67 dB(A)	< 67 dB(A)	< 67 dB(A)	< 65 dB(A)	< 65 dB(A)
Arm mounting	Any orientation				
I/O Ports					
Digital In	2	2	2	2	2
Digital Out	2	2	2	2	2
Analog In / Communication	2 or 1 RS-485	2 or 1 RS-485	2 or 1 RS-4852	2 or 1 RS-4852	2 or 1 RS-485
Tool I/O power supply voltage	12/24V				
Tool I/O power supply	2 A (Dual pin)	2 A (Dual pin)	2 A (Dual pin)	2 A (Dual pin)	2 A (Dual pin)
	1 A (Single pin)	1 A (Single pin)	1 A (Single pin)	1 A (Single pin)	1 A (Single pin)

Physical

Footprint	Ø204 mm	Ø204 mm	Ø204 mm	Ø245 mm	Ø245 mm
Materials	Aluminium, plastic, steel				
Tool flange interface	EN ISO-9409-1-50-4-M6	EN ISO-9409-1-50-4-M6	EN ISO-9409-1-50-4-M6	EN ISO-9409-1-80-6-M8	EN ISO-9409-1-80-6-M8
Connector type	M8 8-pin female				
Cable length (robot arm)	6 m (236 in)				
Weight without cable	44.7 kg (98.5 lb)	40.7 kg (89.73 lbs)	39,2 kg (86.42 lbs)	64 kg (141.1 lbs)	63.5 kg (139.9 lbs)
Humidity	≤ 90% RH (non-condensing)				



Control Box Specification Features

CB 5.6 (PolyScope X)

OEM 5.6 (PolyScope X)

Robot types	UR Series	UR Series
Software compatibility	PolyScope X	PolyScope X
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

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

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