

UR12e

Technical Specification

Our most versatile robot, the UR12e delivers an impressive payload of 12.5 kg and 1300 mm reach, making it ideal for a wide range of applications.

Today, more than 100,000 UR collaborative industrial robots have been delivered to customers across industries and around the world. The e-Series of cobots brings incredible flexibility and unparalleled ease of use to your application.

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UR12e

Specification

|                                    |                                                                                           |
|------------------------------------|-------------------------------------------------------------------------------------------|
| Payload                            | 12.5 kg (27.5 lbs)                                                                        |
| Reach                              | 1300 mm (51.2 in)                                                                         |
| Degrees of freedom                 | 6 rotating joints                                                                         |
| Programming                        | 12 inch touchscreen with PolyScope graphical user interface                               |
| <b>Power consumption (average)</b> |                                                                                           |
| Maximum power                      | 615 W                                                                                     |
| Moderate operating settings        | 350 W                                                                                     |
| Operating temperature range        | Ambient temperature:<br>0-50°C (32-122°F)                                                 |
| <b>Safety functions</b>            |                                                                                           |
| In compliance with                 | 17 configurable safety functions<br>EN ISO 13849-1 (PLd Category 3)<br>and EN ISO 10218-1 |

Performance

| Force sensing, tool flange/torque sensor | Force, x-y-z | Torque, x-y-z |
|------------------------------------------|--------------|---------------|
| Range                                    | ± 100.0 N    | ± 10.0 Nm     |
| Precision                                | ± 5.0 N      | ± 0.2 Nm      |
| Accuracy                                 | ± 5.5 N      | ± 0.5 Nm      |

Movement

|                                 |                      |                      |
|---------------------------------|----------------------|----------------------|
| Max TCP speed                   | 4 m/s                |                      |
| Pose Repeatability per ISO 9283 | ± 0.05 mm            |                      |
| <b>Axis movement</b>            | <b>Working range</b> | <b>Maximum speed</b> |
| Base                            | ± 360°               | ± 120°/s             |
| Shoulder                        | ± 360°               | ± 120°/s             |
| Elbow                           | ± 360°               | ± 180°/s             |
| Wrist 1                         | ± 360°               | ± 180°/s             |
| Wrist 2                         | ± 360°               | ± 180°/s             |
| Wrist 3                         | ± 360°               | ± 180°/s             |

Features

|                               |                                 |
|-------------------------------|---------------------------------|
| IP classification             | IP54                            |
| Cleanroom classification      | Pending                         |
| Noise                         | < 65 dB(A)                      |
| Robot mounting                | Any orientation                 |
| <b>I/O Ports</b>              |                                 |
| Digital In                    | 2                               |
| Digital Out                   | 2                               |
| Analog In                     | 2                               |
| Tool I/O power supply voltage | 12/24 V                         |
| Tool I/O power supply         | 2 A (Dual pin) 1 A (Single pin) |

Physical

|                          |                                           |
|--------------------------|-------------------------------------------|
| Footprint                | Ø 190 mm                                  |
| Materials                | Aluminum, plastic, steel                  |
| Tool flange interface    | M8 8-pin female,<br>EN ISO-9409-1-50-4-M6 |
| Connector type           | M8 8-pin female                           |
| Cable length (robot arm) | 6 m (236 in)                              |
| Weight including cable   | 33.5 kg (73.9 lbs)                        |
| Humidity                 | ≤ 90% RH (non-condensing)                 |

Contact

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Teach Pendant

Features

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

Physical

|                                |                                                            |
|--------------------------------|------------------------------------------------------------|
| Materials                      | Plastic                                                    |
| Teach Pendant size (W x H x D) | 300 mm x 231 mm x 50 mm<br>(11.8 in x 9.1 in x 1.97 in)    |
| Weight                         | 1,8 kg (3.961 lbs)<br>including 1 m of teach pendant cable |
| Cable length                   | 4,5 m (177.17 in)                                          |

Control Box

Features

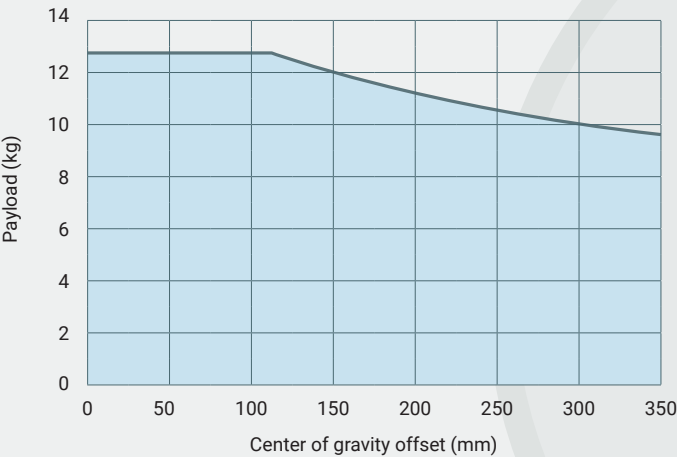
|                                                                |                                                                                           |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| IP Classification                                              | IP44                                                                                      |
| Operating temperature range                                    | Ambient temperature:<br>0-50°C (32-122°F)                                                 |
| Humidity                                                       | ≤ 90% RH (non-condensing)                                                                 |
| <b>I/O Ports</b>                                               |                                                                                           |
| Digital In                                                     | 16                                                                                        |
| Digital Out                                                    | 16                                                                                        |
| Analog In                                                      | 2                                                                                         |
| Analog Out                                                     | 2                                                                                         |
| Quadrature Digital Inputs                                      | 4                                                                                         |
| I/O Power Supply                                               | 24V, 2A                                                                                   |
| Industrial Protocols                                           | Modbus-TCP (Client/Sever)<br>Ethernet/IP Adapter<br>PROFINET device/PROFIsafe<br>ROS/ROS2 |
| <b>Hardware Interfaces</b>                                     |                                                                                           |
| Ethernet                                                       | 1 Gb/s                                                                                    |
| USB                                                            | 2.0, USB 3.0                                                                              |
| Mini DisplayPort                                               |                                                                                           |
| Injection Moulding Machine Interface (SPI AN-146 & Euromap-67) |                                                                                           |
| Power Source                                                   | 100-240 VAC, 47-440 Hz                                                                    |

Physical

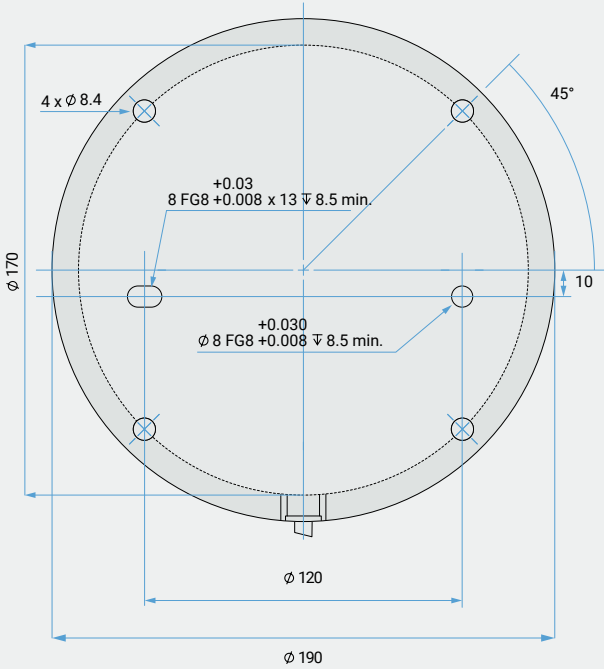
|                              |                                                         |
|------------------------------|---------------------------------------------------------|
| Control Box Size (W x H x D) | 460 mm x 449 mm x 254 mm<br>(18.2 in x 17.6 in x 10 in) |
| Weight                       | 12 kg (26.5 lbs)                                        |
| Materials                    | Powder coated steel                                     |

The control box is also available in an OEM version

UR12e payload curve



Interface for UR12e base flange



Tool flange for UR12e

