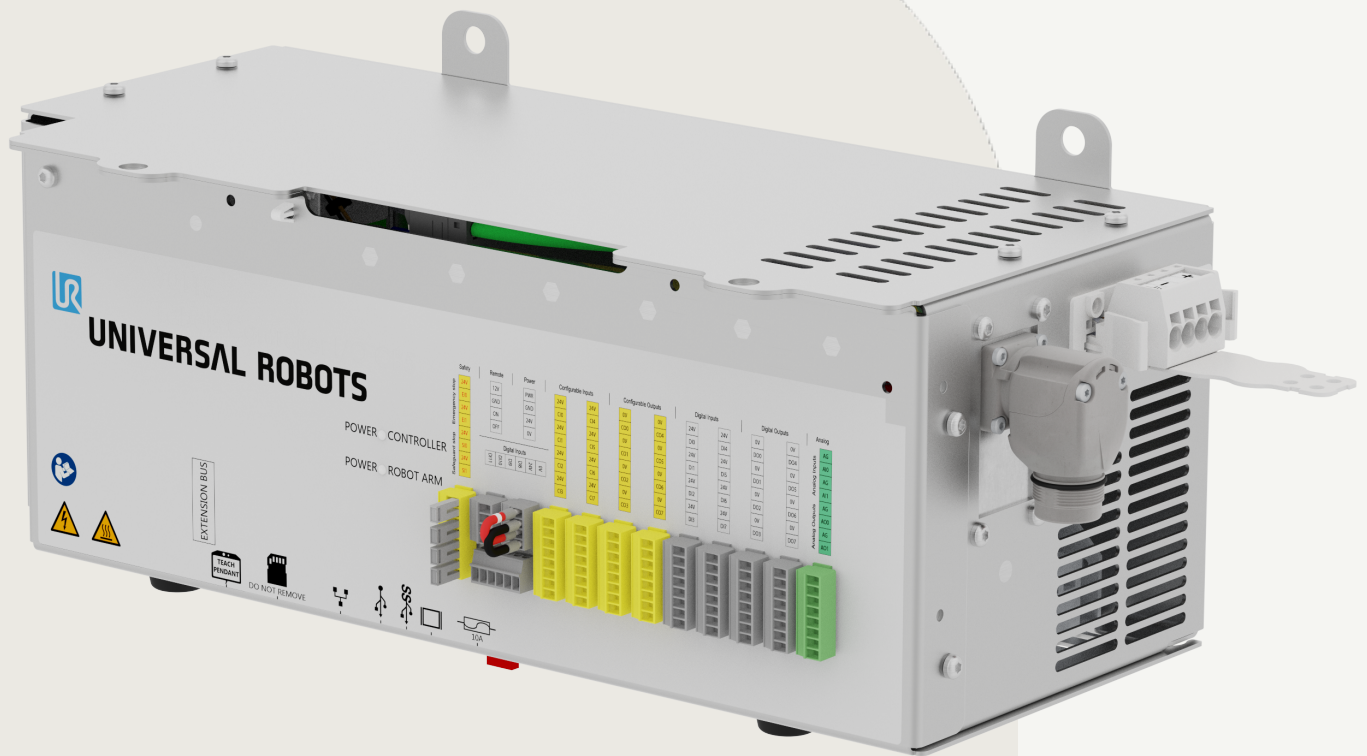




UNIVERSAL ROBOTS

# Installation Guide

## OEM Control Box





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# 1. Introduction

## 1.1. About this Document

This guide describes how to install an Universal Robots OEM Control Box with the following Universal Robots robot arm sizes: UR3e, UR5e, UR10e, UR16e, UR20 and UR30.

Installation for both the AC variant and the DC variant are described.



### NOTICE

Universal Robots disclaims any liability, even if all guidelines in this document are followed.

## 1.2. What the Box Contains

The box contains the following items:

- The OEM Control Box
- This document
- WAGO 831 four-pole female connector
- Cable strain relief bracket

## 1.3. Company Details

Universal Robots A/S

Energivej 51, 5260 Odense S, Denmark

+45 89 93 89 89

<https://www.universal-robots.com>



## 2. Cleaning Your Robot

### 2.1. Everyday Cleaning

You can wipe away any dust/dirt/oil observed on the robot arm and/or Teach Pendant using a cloth and one of the following cleaning agents: Water, 70% Isopropyl alcohol, 10% Ethanol alcohol or 10% Naphtha. In rare cases, very small amounts of grease can be visible from the joint. This does not affect the function, use, or lifetime of the joint.

#### 2.1.1. Additional Cleaning

Due to the added focus on cleaning your robot, Universal Robots recommends cleaning with 70% isopropyl alcohol (rubbing alcohol).

1. Wipe the robot with a hard twisted micro fiber cloth and 70% isopropyl alcohol (rubbing alcohol).
2. Let the 70% isopropyl alcohol dwell on the robot for 5 minutes, and then clean the robot using standard cleaning procedure.

**DO NOT USE BLEACH.** Do not use bleach in any diluted cleaning solution.

# 3. Safety

## 3.1. Safety Message Types

**Description**

Safety messages are used to emphasize important information. Read all the messages to help ensure safety and to prevent injury to personnel and product damage. The safety message types are defined below.


**WARNING**

Indicates a hazardous situation that, if not avoided, can result in death or serious injury.


**WARNING: ELECTRICITY**

Indicates a hazardous electrical situation that, if not avoided, can result in death or serious injury.


**WARNING: HOT SURFACE**

Indicates a hazardous hot surface where injury can result from contact and non-contact proximity.


**CAUTION**

Indicates a hazardous situation that, if not avoided, can result in injury.


**GROUND**

Indicates grounding.


**PROTECTIVE GROUND**

Indicates protective grounding.


**NOTICE**

Indicates the risk of damage to equipment and/or information to be noted.


**READ MANUAL**

Indicates more detailed information that should be consulted in the manual.

## 3.2. General Safety Precautions

Read the general safety messages below before installing, or operating the OEM Control Box. For more information on safety, refer to the Safety chapter in the Universal Robots User Manual.



### WARNING

Failure to verify and validate safeguarding and functionality can result in death or serious injury.

- Ensure all risk reduction works as intended and achieves the needed risk reduction.



### WARNING

Failure to perform a risk assessment before installation and operation can result in personnel injury or equipment damage.

- Perform a risk assessment before installation and operation.
- Read the UR User Manual and UR Service Manual.



### WARNING: ELECTRICITY

Performing installation or maintenance of equipment connected to a power source can lead to electric shock.

- Ensure the equipment is disconnected from the power source before performing installation or maintenance.



### CAUTION

Failure to perform installation or maintenance correctly can result in equipment damage or personnel injury.

- Only qualified personnel shall perform installation, start-up, and maintenance.
- Read the UR User Manual and the UR Service Manual.



### GROUND

Incorrect connection of the power source or ground wires can result in equipment damage or personnel injury.

Damage caused by invalid power source connection is not covered by warranty. Before starting the operation:

- Ensure that the power source wiring is correct.
- Ensure that the grounding is correct.

**NOTICE**

Electrostatic Discharge (ESD) can damage sensitive components in the OEM Control Box.

- Always wear an ESD wrist strap when working with the OEM Control Box electrical interfaces.

## 4. Electrical Installation: AC variant

This section describes how to connect the OEM Control Box to an AC power source.



**WARNING: ELECTRICITY**

Performing installation or maintenance of equipment connected to a power source can lead to electric shock.

- Ensure the equipment is disconnected from the power source before performing installation or maintenance.

For information on connecting the product to a DC power source, see [5 Electrical Installation: DC variant on page 14](#).

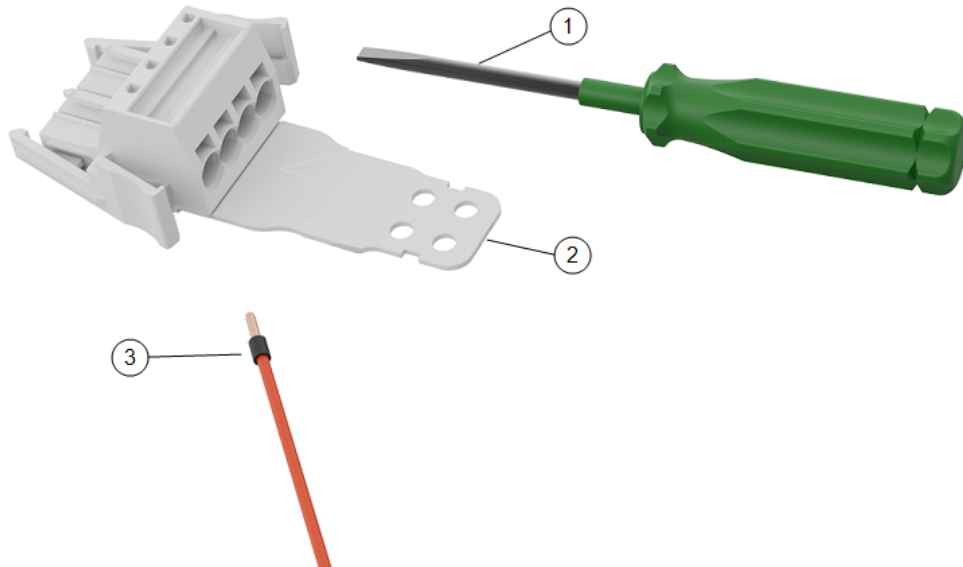
For information on electrical specifications, see section [8.1 Technical Specifications on page 25](#).

### 4.1. Required Items

You need the following items to connect the wires:

- The WAGO 831 four-pole female connector (included with the OEM Control Box).
- A flat-bladed screwdriver, blade 5.5 x 0.8 mm. For example: WAGO 210-721.
- Three wires with ferrules.

The illustration below shows the required items.

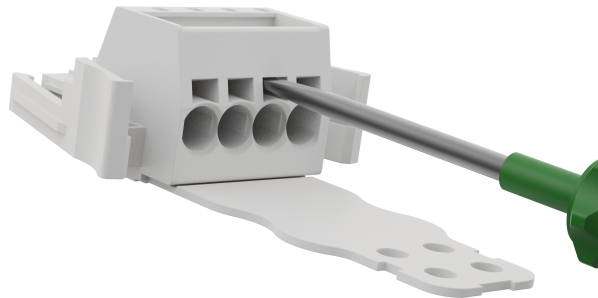


1	Flat bladed tool	2	WAGO female connector (AC depicted)
3	Wire with ferrule		

## 4.2. How to Connect Wires to the Connector

This section describes how to connect wires to a connector with locking levers:

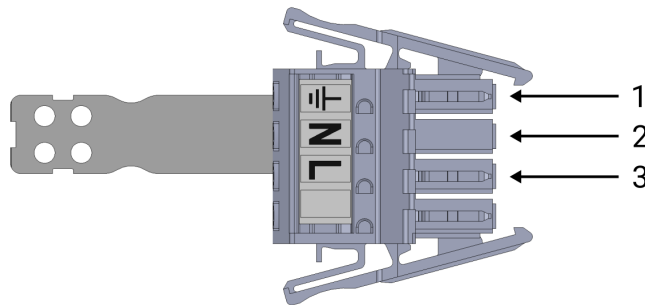
1. Insert the screwdriver into a flat slot next to a connector hole.
2. Push the screwdriver until the clamp inside the hole opens. Keep the screwdriver in the slot, as shown.



3. Insert the wire ferrule into the open hole.
4. Ensure that the wire ferrule is firmly placed, remove the screwdriver to close the hole.

## 4.3. Power Source Wiring: AC

Use the following scheme to attach wires to the connector.



1	Ground	2	Neutral
3	Line		

To connect the OEM Control Box to the power source:

1. Connect the following wires to the connector: Neutral, Line and Ground.
2. Connect the neutral, and line wires to main power supply. Connect the ground wire to the facility ground.
3. Plug the connector into the power source socket on the OEM Control Box.



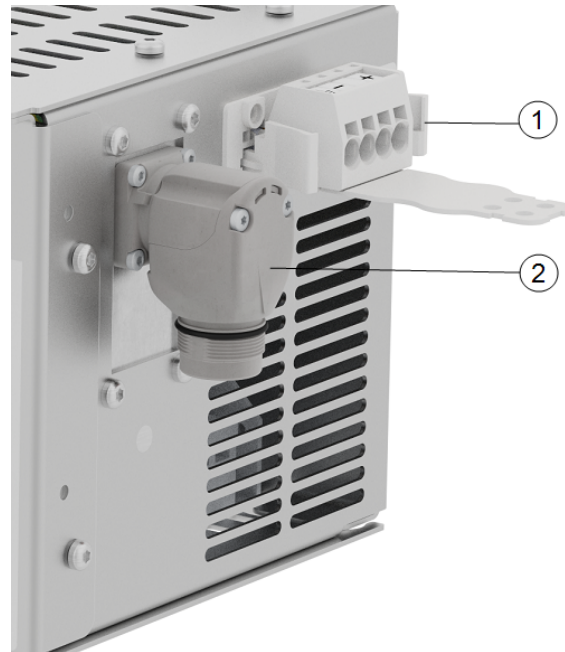
### NOTICE

Connecting wires to poles without labels can interfere with the operation of the robot.

- Do not connect wires to poles without labels.

## 4.4. Robot Connection

The robot arm connector, illustrated below, is next to the power supply connector. For details on connecting the robot arm cable, refer to the Universal Robots User Manual.

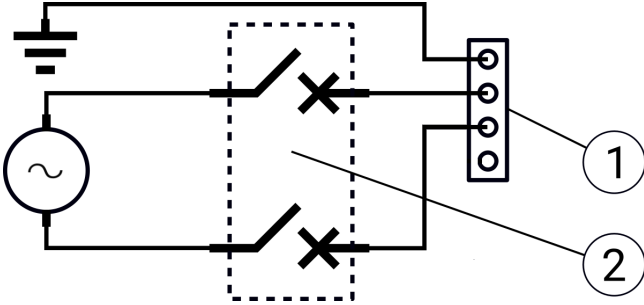


1	Robot arm connector	2	OEM CB connector
3	Robot arm connector (e-Series)	4	OEM CB connector (e-Series)

## 4.5. Circuit Breaker Installation

Use a double pole circuit breaker to protect the power input connector, as it can also be used as a switch. If a fuse is used, then a two-pole switch must be installed between the fuse and power input connector.

The following illustration shows the circuit breaker wiring scheme.



1	OEM power input	2	Circuit breaker
---	-----------------	---	-----------------



**CAUTION**

Failure to install appropriate fuses or circuit breakers can result in equipment damage or personnel injury.

- The installation shall comply with the standard IEC 60364.

## 5. Electrical Installation: DC variant

This section describes how to connect the OEM Control Box to a DC power source.



**WARNING: ELECTRICITY**

Performing installation or maintenance of equipment connected to a power source can lead to electric shock.

- Ensure the equipment is disconnected from the power source before performing installation or maintenance.

For information on connecting the product to an AC power source, see [4 Electrical Installation: AC variant on page 10](#).

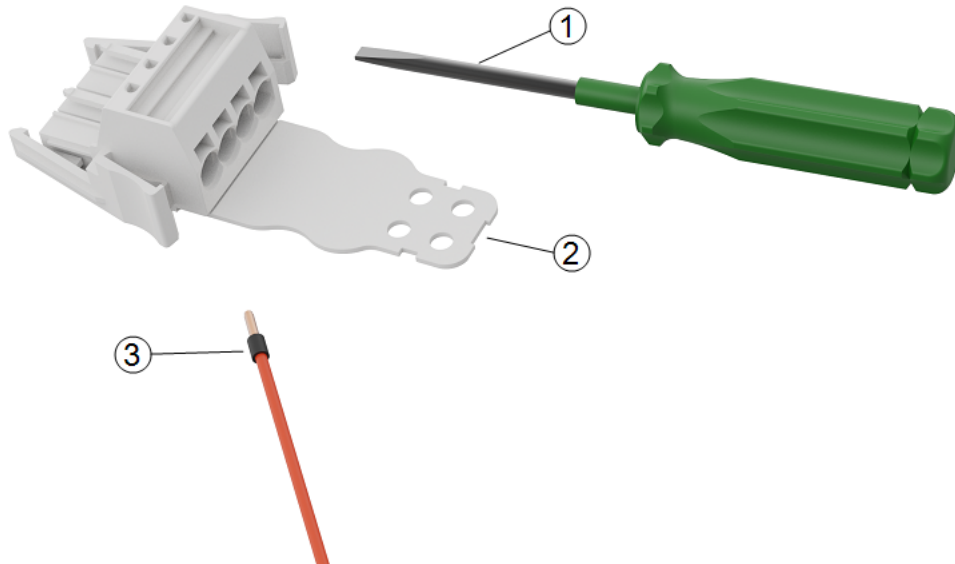
For information on electrical specifications, see section [8.1 Technical Specifications on page 25](#).

### 5.1. Required Items

You need the following items to connect the wires:

- The WAGO 831 four-pole female connector (included with the OEM Control Box).
- A flat-bladed screwdriver, blade 5.5 x 0.8 mm. For example: WAGO 210-721.
- Three wires with ferrules.

The illustration below shows the required items.

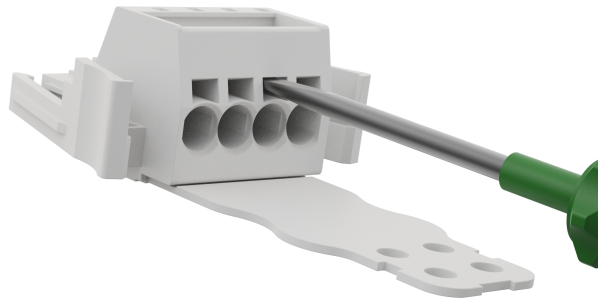


1	Flat bladed tool	2	WAGO female connector (DC depicted)
3	Wire with ferrule		

## 5.2. How to Connect Wires to the Connector

This section describes how to connect wires to a connector with locking levers:

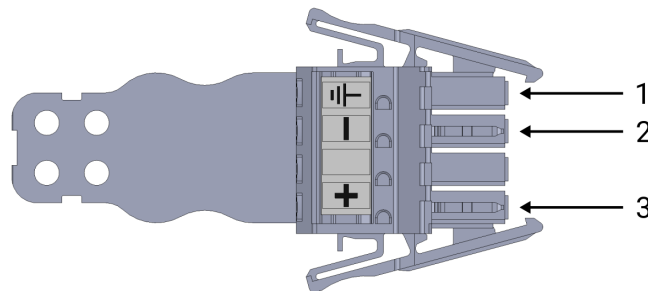
1. Insert the screwdriver into a flat slot next to a connector hole.
2. Push the screwdriver until the clamp inside the hole opens. Keep the screwdriver in the slot, as shown.



3. Insert the wire ferrule into the open hole.
4. Ensure that the wire ferrule is firmly placed, remove the screwdriver to close the hole.

## 5.3. Power Source Wiring: DC

Use the following scheme to attach wires to the connector.



1	Ground	2	Negative
3	Positive		



### NOTICE

Reversing the DC source polarity causes permanent damage to the OEM Control Box. Property damage caused by invalid power source connection is not covered by warranty.

- Ensure that the polarity is correct before connecting the power source.

To connect the OEM Control Box to the power source:

1. Connect the following wires to the connector: Neutral, Line and Ground (if supported).
2. Connect the ground wire to the facility ground if the application supports such connection. Connect the negative, and positive wires to the DC source. Ensure that the polarity is correct.
3. Plug the connector into the power source socket on the OEM Control Box.



#### NOTICE

Connecting wires to poles without labels can interfere with the operation of the robot.

- Do not connect wires to poles without labels.

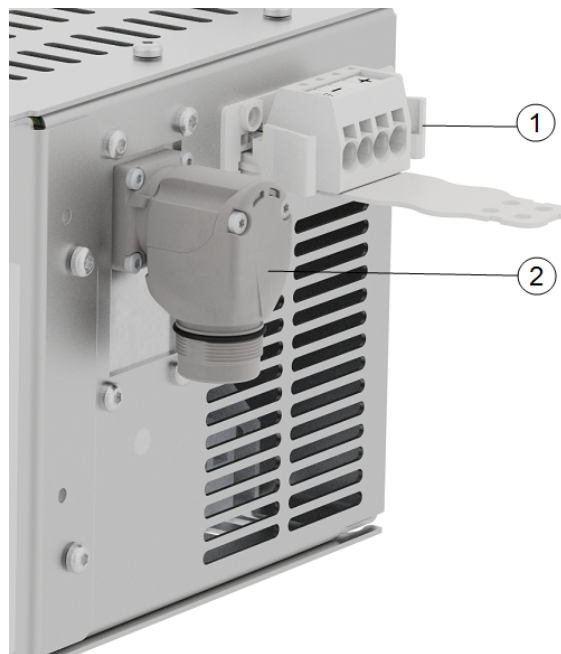
### 5.3.1. Soft start circuit

When the OEM Control Box is connected to a DC source, the inrush current can reach up to 400 A for 200  $\mu$ s. This can cause damage to the DC source or shut down other electronics connected to it.

- Install a soft start circuit when using a DC source.

## 5.4. Robot Connection

The robot arm connector, illustrated below, is next to the power supply connector. For details on connecting the robot arm cable, refer to the Universal Robots User Manual.

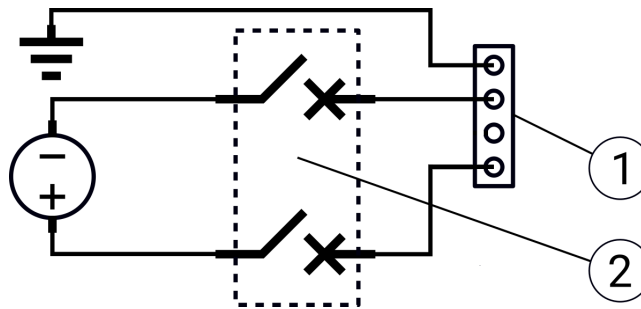


1	Robot arm connector	2	OEM CB connector
3	Robot arm connector (e-Series)	4	OEM CB connector (e-Series)

## 5.5. Circuit Breaker Installation

Use a double pole circuit breaker to protect the power input connector, as it can also be used as a switch. If a fuse is used, then a two-pole switch must be installed between the fuse and power input connector.

The following illustration shows the circuit breaker wiring scheme.



1	OEM power input	2	Circuit breaker
---	-----------------	---	-----------------



### CAUTION

Failure to install appropriate fuses or circuit breakers can result in equipment damage or personnel injury.

- The installation shall comply with the standard IEC 60364.

## 6. Mechanical Installation

### 6.1. Working environment guidelines

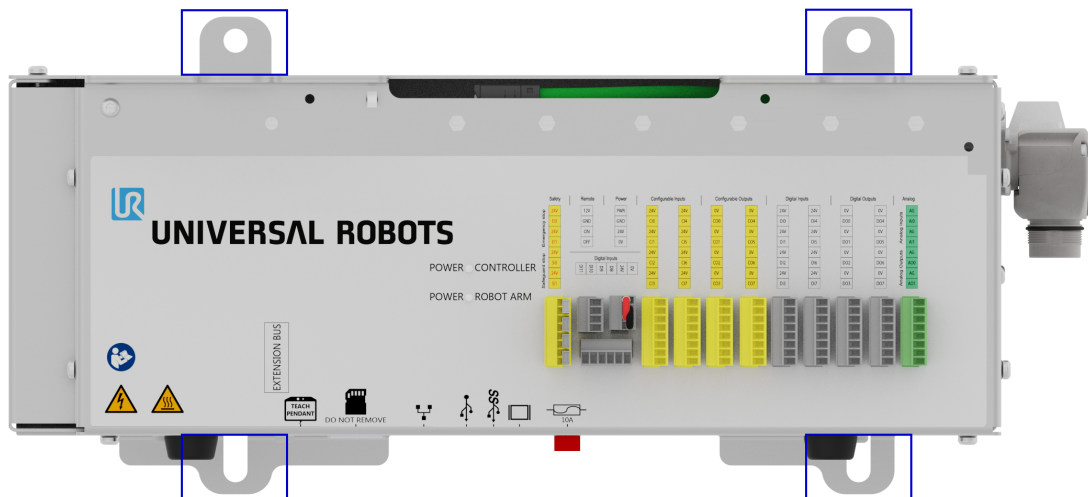
Follow these guidelines to ensure reliable operation of the OEM Control Box:

- Keep free from dust and dirt.
- Keep away from water, solvents, and chemicals.
- Keep ambient air temperatures flowing into the OEM Control Box within 0-50°C.
- Keep the aluminum controller frame temperature within 0-65°C.

### 6.2. Mounting the OEM Control Box

Use the mounting brackets, highlighted below, to mount the OEM Control Box. Depending on version, your OEM Control Box can appear slightly different to the illustration below.

Functionality is not affected by any external differences.



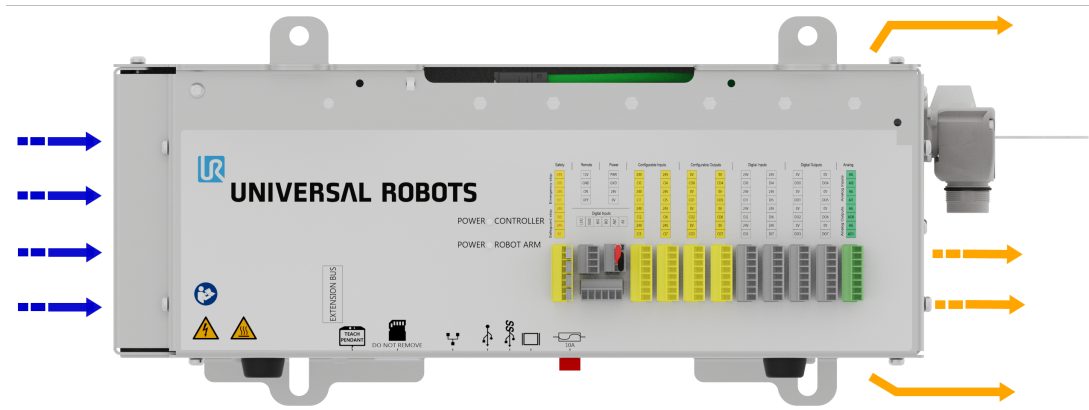
For the product dimensions, see section [8.1 Technical Specifications](#) on page 25.

For dimensional drawings, see section [8.4 Dimensional drawings \[mm\]](#) on page 26.

Ensure there is enough space for cables and sufficient air circulation around the Control Box.

A minimum of 50 mm space around the air intake and outlets is recommended, and consideration should be made to avoid re-circulating air.

For more information about the heat dissipation, see [8.3 Control Unit Heat Dissipation on page 25](#). The following illustration shows the airflow.



**WARNING: HOT SURFACE**

Insufficient airflow, or re-circulating warm air, can cause the OEM Control Box to overheat and shut down.

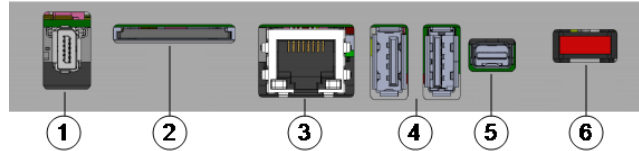
### 6.2.1. Grounding

The OEM Control Box casing is electrically connected to the ground pin of the power source connector. Any conductive mounting surface must also be connected to the ground.

# 7. Connecting External Devices

## 7.1. External Device Connection Ports

The bottom side of the OEM Control Box contains a bracket with ports for connecting external devices. The following illustration shows the bracket.



1	Teach Pendant port	2	SD card slot
3	Ethernet port	4	USB ports
5	Mini Displayport	6	10 A mini blade fuse

The following table describes the ports.

Port	Description
Teach Pendant	The port for connecting the Teach Pendant (Teach Pendant sold separately).
Ethernet	Connect external devices supporting MODBUS, Ethernet/IP, or PROFINET.
USB ports	Connect USB devices, for example a mouse, keyboard, a USB flash drive.
Mini Displayport	Connect a monitor. The output video stream shows the same as the display on the Teach Pendant. Supported connection types: <ul style="list-style-type: none"> <li>• DP (direct connection).</li> <li>• Active DVI (using an active DP to DVI converter).</li> <li>• Active HDMI (using an active DP to HDMI converter).</li> </ul>
10 A mini blade fuse	Connect a fuse. The fuse must be UL-marked and have a 10 A current rating.
SD card	The SD card is already in the SD card port.



**NOTICE**

Removing the SD card under operation can corrupt the system. Do not remove the SD card.

### 7.1.1. Connecting a Mouse, Keyboard, or Monitor

Use a USB port to connect a keyboard or a mouse.

Use the Mini Displayport to connect a monitor.

## 7.2. How to Connect a Teach Pendant

### 7.2.1. To connect a Teach Pendant



#### NOTICE

Do not connect or disconnect the Teach Pendant while Control Box is powered on. This can cause damage to Control Box.

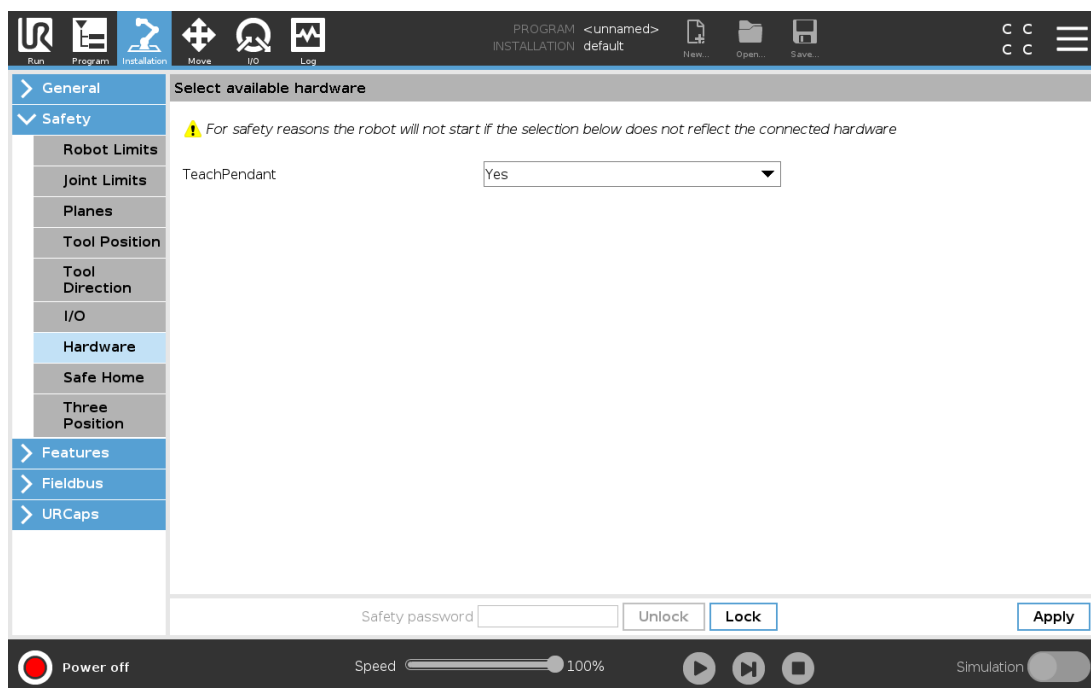


#### NOTICE

Excessive strain at the port on the OEM Control Box can cause damage to the Teach Pendant connector and affect the functionality of the Teach Pendant.

- Avoid pulling and/or exerting lateral forces on the Teach Pendant cable during installation.
- Avoid moving the Teach Pendant cable connector when it is connected to the Teach Pendant port.

1. Power down the Control Box. Connect the Teach Pendant cable connector to the Teach Pendant port.
2. The Teach Pendant powers on in a fault state and the Robot Arm brakes engage. Press **Re-Initialize** to clear the fault state.
3. When the Teach Pendant restarts, on PolyScope, exit the start-up screen.
4. On PolyScope, in the Header, tap **Installation** and select **Safety**.
5. Under Safety, tap **Hardware**.
6. In the Teach Pendant drop-down menu, select **Yes**.  
If you are prompted to use a password, type the **Safety Password** and tap **Unlock**.



## 7.3. How to Use Remote Control and Local Control

### 7.3.1. To Enable Remote Control

1. On PolyScope, in the Header, tap the **Hamburger Menu**.
2. Select **Settings**, tap **System** and select **Remote Control**.
3. On the Remote Control screen, select **Enable** to activate Remote Control.

To activate Local Control, in the **Header**, tap the Remote Control icon and select **Local Control**.

## 7.4. Enabling Devices

### 7.4.1. Connecting an Enabling Device



#### NOTICE

The 3PE Teach Pendant is not included with the purchase of the OEM Control Box, so enabling device functionality is not provided.

Using a UR20, or a UR30, requires an external enabling device or a 3PE Teach Pendant when programming, or teaching, within the reach of the robot application.

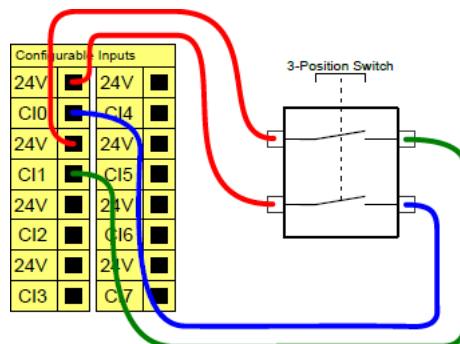
See ISO 10218-2.

The OEM Control Box safely supports the following enabling device configurations:

- 3PE Teach Pendant
- External Three-Position Enabling device
- External Three-Position Enabling device and 3PE Teach Pendant

The standard Teach Pendant is not supported by the UR20 and UR30 robots.

The illustration below shows how to connect a Three-Position Enabling device



Note: The two input channels for the Three-Position Enabling Device input have a disagreement tolerance of one second.

To connect an Enabling Device to a UR20/UR30:

- Connect a Three-Position Enabling Teach Pendant via the Control Box port (see 7.1 External Device Connection Ports on page 20).

or

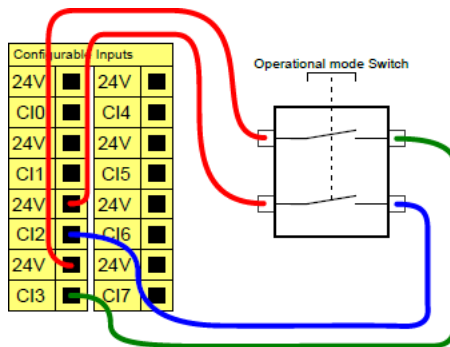
- Connect a Three-Position Enabling Device (see 7.1 External Device Connection Ports on page 20) and an Operational Mode Switch (see 7.1 External Device Connection Ports on page 20).

For complete, in depth information about the electrical configurations, see the Electrical Interface in the UR User Manual available for download at: [myur.universal-robots.com/manuals](http://myur.universal-robots.com/manuals)

### 7.4.2. Connecting an Operational Mode Switch

Using a Three-Position Enabling device requires the use of an Operational Mode switch.

The illustration below shows how to connect an Operational Mode switch.

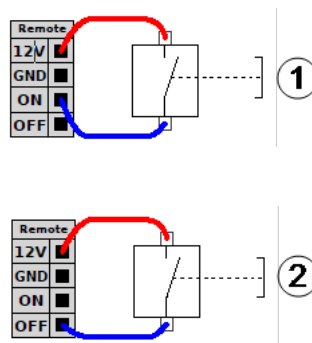


## 7.5. Remote ON/OFF Control and Emergency Stop

The OEM Control Box requires a remote ON/OFF control and an emergency stop push-button. The following sections describe how to install them using the I/O ports.

### 7.5.1. Connecting the ON/OFF control

The images below show how the remote ON/OFF control is connection.

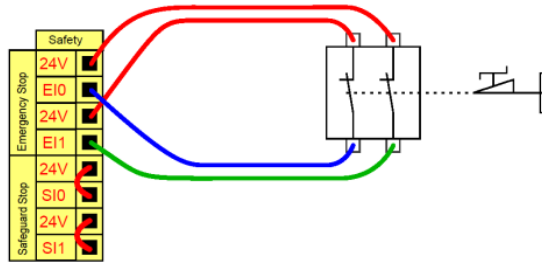


1	Status: On	2	Status: Off
---	------------	---	-------------

### 7.5.2. Connecting the Remote Emergency Stop

Install an external Emergency Stop (E-stop) if the Teach Pendant with the default Emergency Stop is not connected to the Control Box.

The following illustration shows the minimum required Emergency Stop installation.



## 8. OEM Control Box Specifications

### 8.1. Technical Specifications

OEM Control Box size (W x H x D)	451 mm x 150 mm x 168 mm
OEM Control Box weight	AC: 4.7 kg (10.4 lbs)
	DC: 4.3 kg (9.5 lbs)
OEM Control Box I/O ports	16 digital in, 16 digital out, 2 analog in, 2 analog out
OEM Control Box I/O power supply	24 V, max 2 A

### 8.2. Electrical Specifications

#### AC variant

Property	Min	Typical	Max	Unit
Input Voltage	90	100 - 240	264	VAC
External Mains Fuse (@ 90-200V)	15	-	16	A
External Mains Fuse (@ 200-265V)	8	-	16	A
Input Frequency	47	-	440	Hz
Stand-by Power	-	-	<1.5	W

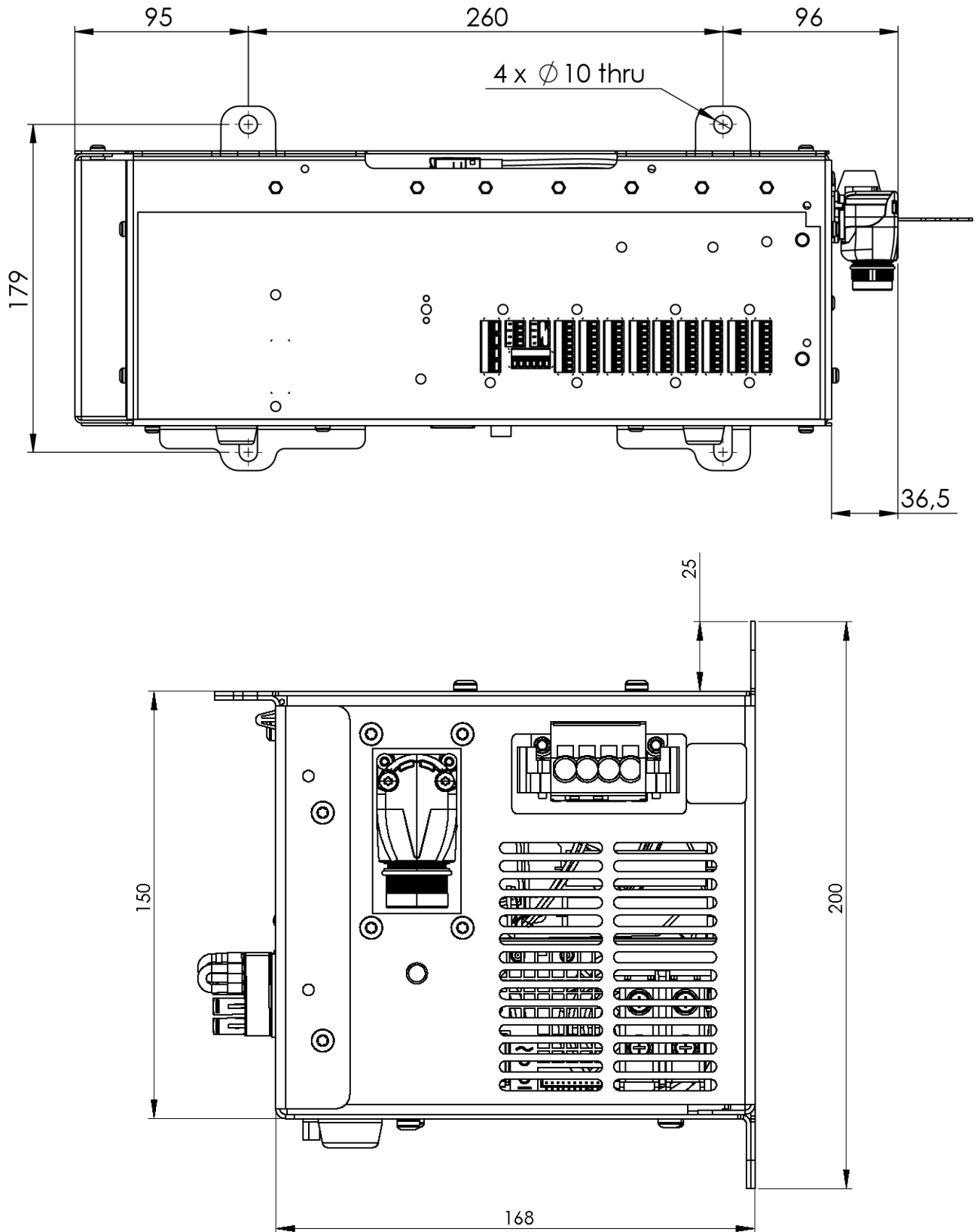
#### DC variant

Property	Min	Typical	Max	Unit
Input Voltage	19	24 - 48	72	VDC
Stand-by Power	-	-	<7	W
External fuse	-	-	100	A
Inrush current (200)	-	-	400	A

### 8.3. Control Unit Heat Dissipation

Robot Type	Max. Heat Dissipation
UR20 & UR30	350 W
UR16e & UR10e	130 W
UR5e & UR3e	100 W

## 8.4. Dimensional drawings [mm]



## 9. Troubleshooting

### 9.1. OEM Control Box AC variant

Symptom	Possible Solution
Control Box does not turn on.	Check that the power source is wired correctly (see <a href="#">4.3 Power Source Wiring: AC on page 11</a> ).
Control Box turns on for a few seconds then shuts down.	Pressing the Power ON button for more than 5 seconds shuts the Control Box down. Press the button for 1-2 seconds only.
Robot performance is unstable.	<ul style="list-style-type: none"> <li>• Check the input voltage is within specifications (see <a href="#">8.1 Technical Specifications on page 25</a>)</li> <li>• Check grounding (avoid ground-loops or loose screws).</li> </ul>

### 9.2. OEM Control Box DC variant

Symptom	Possible Solution
Control Box does not turn on.	<ul style="list-style-type: none"> <li>• Check that the power source is wired correctly (see <a href="#">5.3 Power Source Wiring: DC on page 15</a>).</li> <li>• Ensure the DC source connection polarity is correct. Reverse polarity causes permanent damage to the OEM Control Box.</li> </ul>
Control Box turns on for a few seconds then shuts down.	Pressing the Power ON button for more than 5 seconds shuts the Control Box down. Press the button for 1-2 seconds only.
Control Box does not turn on or the robot performance is unstable.	<ul style="list-style-type: none"> <li>• Check the DC input is within specifications in <a href="#">8.1 Technical Specifications on page 25</a>.</li> <li>• Check the DC supply has enough charge to supply the initial current to the system.</li> </ul>

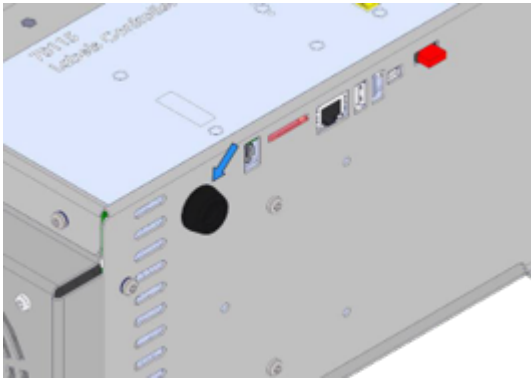
For complete, in depth information about the electrical configurations, see the Electrical Interface in the UR User Manual available for download at: [myur.universal-robots.com/manuals](https://myur.universal-robots.com/manuals)

# 10. Cable Strain Relief Bracket

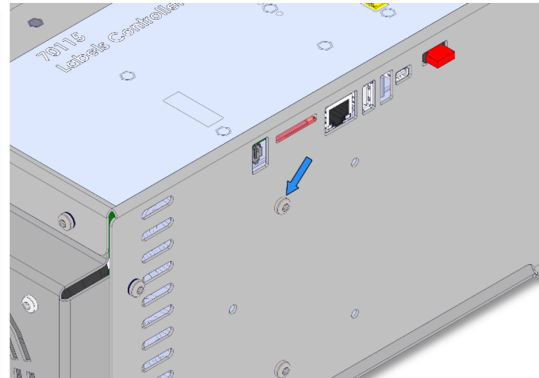
The bracket provides cable strain relief when the Teach Pendant is in use, under normal operation.

## 10.1. OEM Control Box AC

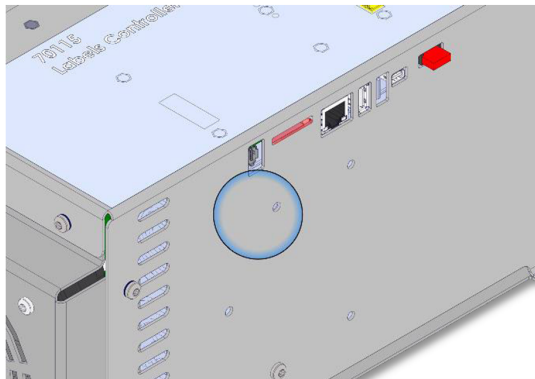
To install and use the cable strain relief bracket



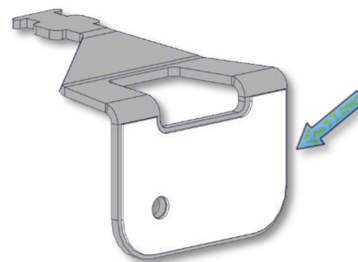
1. Remove grommet



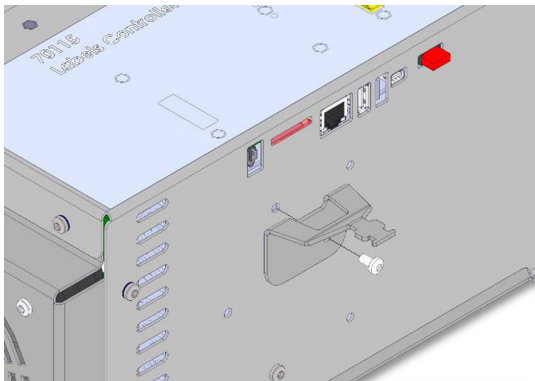
2. Remove screw



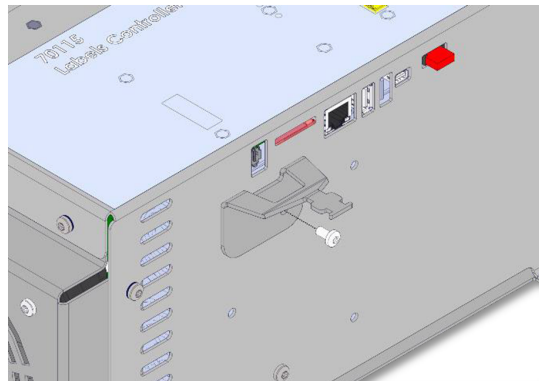
3. Clean area with alcohol solution and allow the alcohol to evaporate.



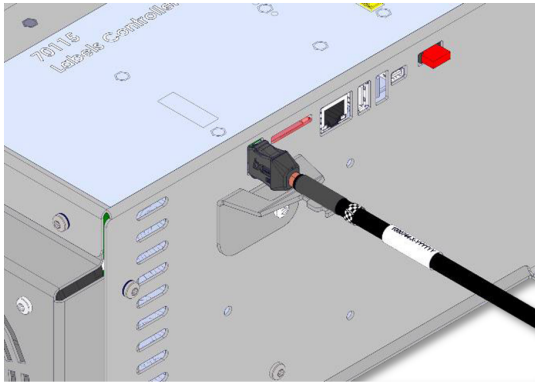
4. Remove protective film from adhesive patch



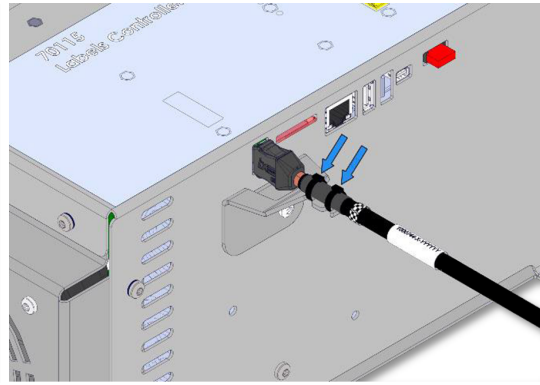
5. Align the bracket using the included screw



6. Tighten the included screw (Torque 1Nm)



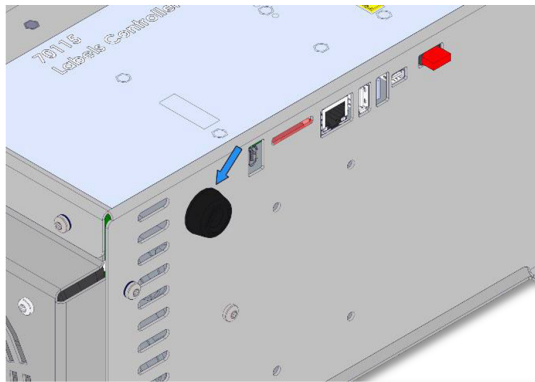
7. Connect TP cable



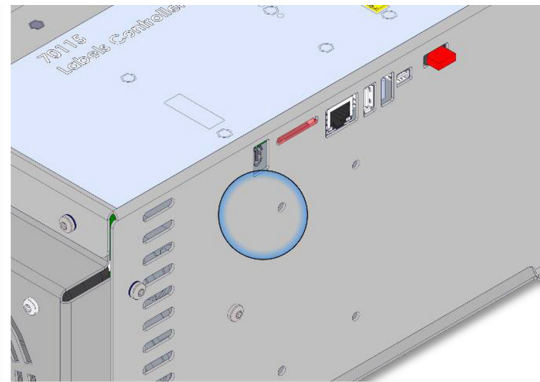
8. Secure the TP cable with the included zip ties

## 10.2. OEM Control Box DC

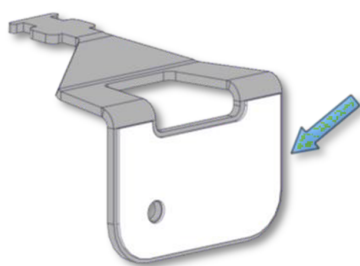
To install and use the cable strain relief bracket



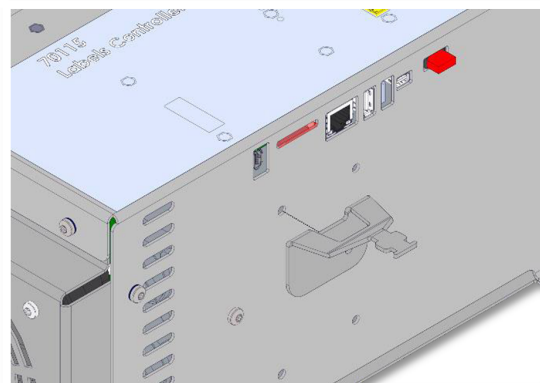
1. Remove grommet



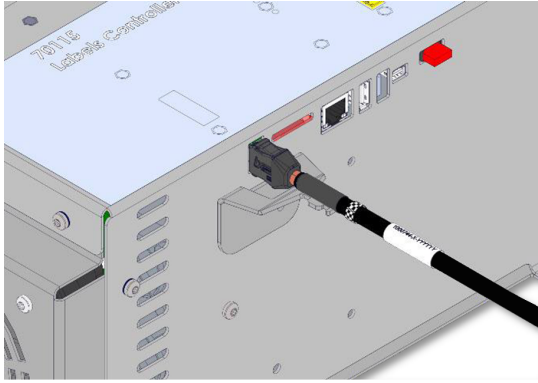
2. Clean area with alcohol solution and allow the alcohol to evaporate.



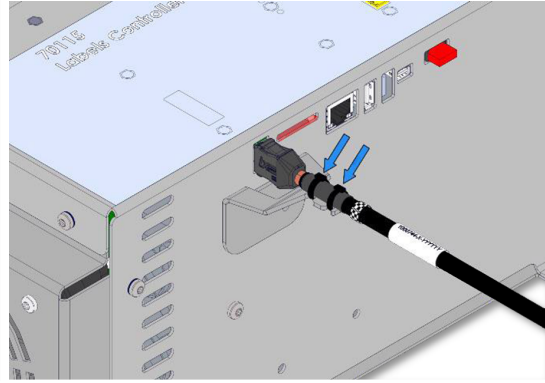
3. Remove protective film from adhesive patch



4. Align the bracket using the screw hole



5. Connect TP cable



6. Secure the TP cable with the included zip ties

# 11. Certifications

This section contains information about certificates and declarations valid for Universal Robots robots with OEM controllers.

## 11.1. Shipping materials

As stated by our suppliers, Universal Robots robots shipping materials comply with the ISPM-15 requirements for producing wood packaging material and are marked accordingly.

## 11.2. Certification of quality

Universal Robots robots undergo continuous internal testing and end-of-line test procedures. UR testing processes undergo continuous review and improvement.

## 11.3. Declarations according to EU directives

Universal Robots robots are certified according to the following directives.

- **2006/42/EC - Machinery Directive (MD)**  
According to the Machinery Directive 2006/42/EC, Universal Robots robots are partly completed machinery, and do not have a CE mark on them.  
The declaration of incorporation according to 2006/42/EC annex II 1.B. is in section [EU Declarations of Incorporation below](#) and [EU Declarations of Incorporation below](#).
- **2011/65/EU - Restriction of the use of certain Hazardous Substances (RoHS)**  
See section [China RoHS on page 38](#).
- **2012/19/EU - Waste of Electrical and Electronic Equipment (WEEE)**  
For information on disposal of electrical and electronic equipment waste, refer to chapter 7, Disposal and Environment in the robot user manual.

## EU Declarations of Incorporation



EU Declaration of Incorporation (DOI) (in accordance with 2006/42/EC Annex II B) original: EN	
Manufacturer:	Universal Robots A/S Energivej 51, DK-5260 Odense S Denmark
Person in the Community Authorized to Compile the Technical File:	David Brandt, Technology Officer, R&D Universal Robots A/S, Energivej 51, DK-5260 Odense S
Description and Identification of the Partly-Completed Machine(s):	
Product and Function:	Industrial robot multi-purpose, multi-axis manipulator with an OEM control box & with or without teach pendant (with or without 3PE). Function is determined by the completed machine (robot application or cell with end-effector, intended use and application program). Below cited documents and this declaration include: Effective October 2020: Teach Pendants with 3-Position Enabling (3PE TP) & standard Teach Pendants. Effective May 2021: UR10e specification improvement to 12.5kg maximum payload.
Model and Serial Number	e-Series robots with either AC or DC OEM controllers: UR3e OEM AC, UR5e OEM AC, UR7e OEM AC, UR10e OEM AC, UR12e OEM AC, UR16e OEM AC UR3e OEM DC, UR5e OEM DC, UR7e OEM DC, UR10e OEM DC, UR12e OEM DC, UR16e OEM DC Starting XY20215000000 and higher Factory Variantyear e-Series 3=UR3e, 5=UR5e, 7=UR7e, 0=UR10e, 1=UR12e, 2=UR10e (12kg payload), 6 = UR16e Sequential numbering, restarting at 0 each year
Incorporation:	Universal Robots e-Series OEM robots (UR3e, UR5e, UR10e and UR16e) shall only be put into service upon being integrated into a final complete machine (robot application or robot cell), which conforms with the provisions of the Machinery Directive and other applicable Directives.
It is declared that the above products fulfil, for what is supplied, the following directives as detailed below: When this partly completed machine is integrated and becomes a complete machine, the integrator is responsible for the completed machine fulfilling all applicable Directives, applying the CE mark and providing the Declaration of Conformity (DOC).	
I. Machinery Directive II. Low-voltage Directive 2014/35/EU	The following essential requirements have been fulfilled: 1.1.2, 1.1.3, 1.1.5, 1.2.4.3, 1.2.5, 1.2.6, 1.3.2, 1.3.4, 1.3.8.1, 1.3.9, 1.5.1, 1.5.5, 1.5.10, 1.7.2, 1.7.4, 4.1.2.3, 4.1.3, Annex VI. It is declared that the relevant technical documentation has been compiled in accordance with Part B of Annex VII of the Machinery Directive. Reference the LVD and the harmonized standards used below.
Reference to the harmonized standards used, as referred to in Article 7(2) of the MD & LV Directives and Article 6 of the EMC Directive:	
(I) EN ISO 13732-1:2008 as applicable, (I)(II) EN 60204-1:2018 as applicable, (II) EN 60664-1:2007, (II) EN 61140:2002/A1:2006	
Reference to other technical standards and technical specifications used:	
(I) ISO 9409-1:2004, (II) EN 60320-1:2021, IEC 61784-3:2010 [SIL2]	
The manufacturer, or his authorised representative, shall transmit relevant information about the partly completed machinery in response to a reasoned request by the national authorities. Approval of full quality assurance system by the notified body Bureau Veritas: ISO 9001 certificate #DK015892 and ISO 45001 certificate #DK015891.	

Odense Denmark, 25 September 2024



*Roberta Nelson Shea, Global Technical Compliance Officer*

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[www.universal-robots.com](http://www.universal-robots.com)



EU Declaration of Incorporation (DOI) (in accordance with 2006/42/EC Annex II B) original: EN	
Manufacturer:	Universal Robots A/S Energivej 51, DK-5260 Odense S Denmark
Person in the Community Authorized to Compile the Technical File:	David Brandt, Technology Officer, R&D Universal Robots A/S, Energivej 51, DK-5260 Odense S
Description and Identification of the Partly-Completed Machine(s):	
Product and Function:	Industrial robot multi-purpose, multi-axis manipulator with an OEM control box & with or without teach pendant (with or without 3PE). Function is determined by the completed machine (robot application or cell with end-effector, intended use and application program). Below cited documents and this declaration include: Effective October 2020: Teach Pendants with 3-Position Enabling (3PE TP) & standard Teach Pendants. Effective May 2021: UR10e specification improvement to 12.5kg maximum payload.
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Incorporation:	Universal Robots e-Series OEM robots (UR3e, UR5e, UR10e and UR16e) shall only be put into service upon being integrated into a final complete machine (robot application or robot cell), which conforms with the provisions of the Machinery Directive and other applicable Directives.
It is declared that the above products fulfil, for what is supplied, the following directives as detailed below: When this partly completed machine is integrated and becomes a complete machine, the integrator is responsible for the completed machine fulfilling all applicable Directives, applying the CE mark and providing the Declaration of Conformity (DOC).	
I. Machinery Directive II. Low-voltage Directive 2014/35/EU	The following essential requirements have been fulfilled: 1.1.2, 1.1.3, 1.1.5, 1.2.4.3, 1.2.5, 1.2.6, 1.3.2, 1.3.4, 1.3.8.1, 1.3.9, 1.5.1, 1.5.5, 1.5.10, 1.7.2, 1.7.4, 4.1.2.3, 4.1.3, Annex VI. It is declared that the relevant technical documentation has been compiled in accordance with Part B of Annex VII of the Machinery Directive. Reference the LVD and the harmonized standards used below.
Reference to the harmonized standards used, as referred to in Article 7(2) of the MD & LV Directives and Article 6 of the EMC Directive: (I) EN ISO 13732-1:2008 as applicable, (I)(II) EN 60204-1:2018 as applicable, (II) EN 60664-1:2007, (II) EN 61140:2002/A1:2006	
Reference to other technical standards and technical specifications used: (I) ISO 9409-1:2004, (II) EN 60320-1:2021, IEC 61784-3:2010 [SIL2]	
The manufacturer, or his authorised representative, shall transmit relevant information about the partly completed machinery in response to a reasoned request by the national authorities. Approval of full quality assurance system by the notified body Bureau Veritas: ISO 9001 certificate #DK015892 and ISO 45001 certificate #DK015891.	



Odense Denmark, 25 September 2024

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## China RoHS

### Management Methods for Controlling Pollution by Electronic Information Products Product Declaration Table For Toxic or Hazardous Substances

表1 有毒有害物质或元素名称及含量标识格式



Product/Part Name 产品/部件名称	Toxic and Hazardous Substances and Elements 有毒有害物质或元素					
	铅 Lead (Pb)	汞 Mercury (Hg)	镉 Cadmium (Cd)	六价 Hexavalent Chromium (Cr+6)	多溴联苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)
UR Robots 机器人：基本系统 UR3 / UR5 / UR10 / UR3e / UR5e / UR10e UR16e / UR20 / UR30	X	O	X	O	X	X

O: Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in SJ/T11363-2006.

O: 表示该有毒有害物质在该部件所有均质材料中的含量均在SJ/T 11363-2006规定的限量要求以下。

X: Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement in SJ/T11363-2006.

X: 表示该有毒有害物质至少在该部件的某一均质材料中的含量超出SJ/T 11363-2006规定的限量要求。

(企业可在此处，根据实际情况对上表中打“X”的技术原因进行进一步说明。)

Items below are wear-out items and therefore can have useful lives less than environmental use period:

下列项目是损耗品,因而它们的有用环境寿命可能短于基本系统和可选项目的使用时间:

Drives, Gaskets, Probes, Filters, Pins, Cables, Stiffener, Interfaces

电子驱动器, 垫圈, 探针, 过滤器, 别针, 缆绳, 加强筋, 接口

Refer to product manual for detailed conditions of use.

详细使用情况请阅读产品手册。

Universal Robots encourages that all Electronic Information Products be recycled but does not assume responsibility or liability.

Universal Robots 鼓励回收再利用所有的电子信息产品, 但 Universal Robots 不负任何责任或义务

To the maximum extent permitted by law, Customer shall be solely responsible for complying with, and shall otherwise assume all liabilities that may be imposed in connection with, any legal requirements adopted by any governmental authority related to the Management Methods for Controlling Pollution by Electronic Information Products (Ministry of Information Industry Order #39) of the Peoples Republic of China otherwise encouraging the recycle and use of electronic information products. Customer shall defend, indemnify and hold Universal Robots harmless from any damage, claim or liability relating thereto. At the time Customer desires to dispose of the Products, Customer shall refer to and comply with the specific waste management instructions and options set forth at [www.universal-robots.com/about-universal-robots/social-responsibility](http://www.universal-robots.com/about-universal-robots/social-responsibility) and [www.teradyne.com/company/corporate-social-responsibility](http://www.teradyne.com/company/corporate-social-responsibility), as the same may be amended by Teradyne or Universal Robots.



Software Name: PolyScope 5  
Software Version: 5.21  
Document Version: 10.10.10