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CV-003271-TC, Revision 1



**COVVI ROBOTICS**

# Operation Manual

# Contents

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**Anything Is  
Possible**

## Foreword

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With over 75 years of combined experience in prosthetic design; COVVI's dedicated team has been working since 2017 to create a world-leading, multi-articulated hand that is both highly functional and accessible.

COVVI Robotics brings the ground-breaking COVVI Hand, a state-of-the-art multi-articulated hand with the ability to complete complex manipulation tasks, to the robotics sector. Our clients are at the heart of everything we do and we're passionate about delivering a first-class customer experience.

This Operation Manual provides the most up to date knowledge at the time of publication. Please note that we reserve the right to make changes to allow for technical improvement. COVVI does not assume any responsibility for document errors or damages to product or persons as a result of the use of this document.

For the latest version of this document please check our website: [www.covvi-robotics.com](http://www.covvi-robotics.com)

Please read the operating manual in full and keep available to product user.



# 1.0 General

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## 1.1 About This Manual

This manual contains the information required for the safe operation of this product.

This manual must be accessible for all operating and maintenance personnel.

Prior to starting work with the product personnel should fully read and understand the operation manual, observing all safety instructions.

## 1.2 Symbols & Definitions

	Caution	Identifies information that can help you identify and avoid hazards. Non-observance can cause critical product damages or major injuries.
	Warning	Identifies information that can help you identify and avoid hazards. Non-observance can cause product damages or minor injuries.
	Info	Additional information and notes.
	Tips	Helpful product information and tips.
	Tool	Tool type used.

The term “product” replaces the product name on the title page in this manual.

## 1.3 Documentation

**General:** <https://www.covvi-robotics.com/>

**User Guides Hub:** <https://www.covvi-robotics.com/user-guides/>

**Software Downloads:** <https://www.covvi-robotics.com/software-downloads/>

**Python API Repository:** <https://pypi.org/project/covvi-eci/>

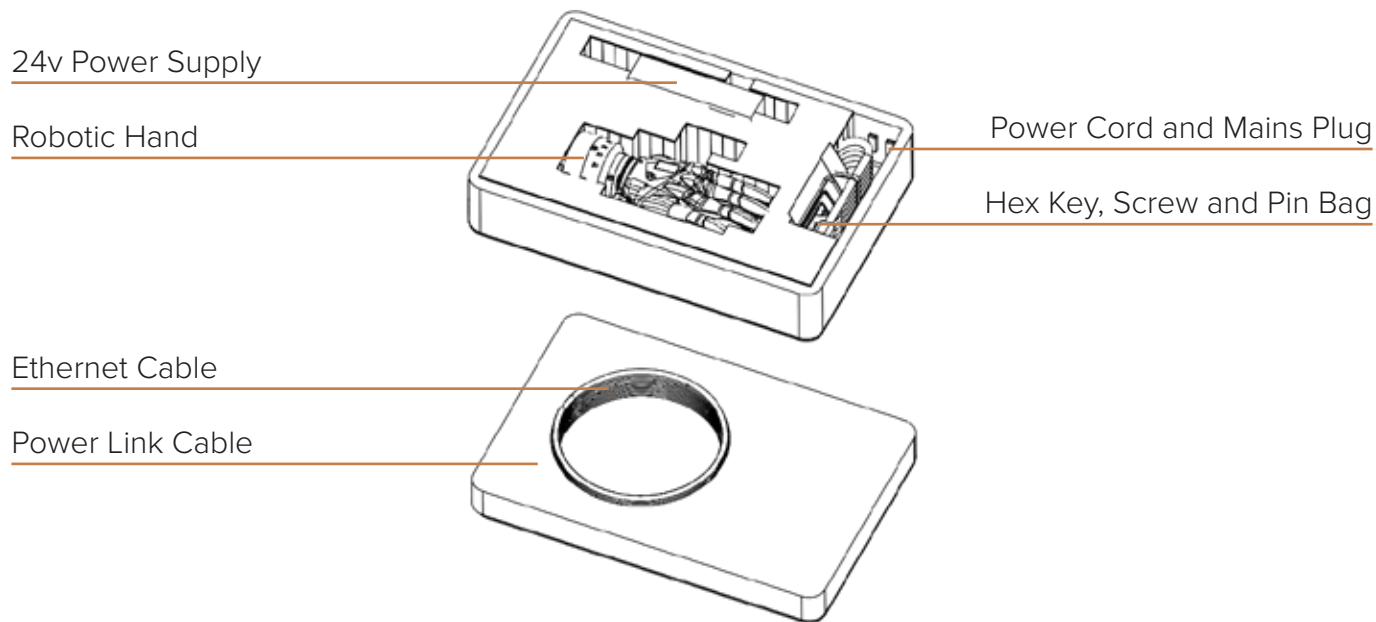
**ROS 2 Repository:** [https://github.com/COVVI-Robotics/eci\\_ros](https://github.com/COVVI-Robotics/eci_ros)

**URDF Viewer:** <https://covvi-robotics.github.io/urdf-loaders/javascript/example/bundle/>

**Technical Support:** [customerservice@covvi-robotics.com](mailto:customerservice@covvi-robotics.com)

# 1.0 General

## 1.4 Product Contents



Component	Quantity
COVVI Robotic Hand	1
Quick Start Guide	1
24V Power Supply	1
Power Cord and Mains Plug	1
Power Link Cable	1
Ethernet Cable (3m)	1
5mm Hex Key	1
3mm Hex Key	1
2mm Hex Key	1
M6 x 18mm Full Thread Cap Head Screws	4
M6x10mm Grounding Pin	1



**For product integration into a robotic system, only the tools supplied within the product contents should be used.**

## 2.0 Safety

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### 2.1 Intended Use

The COVVI Robotic Hand is a five-digit, six-degree-of-freedom mechanical gripper designed for research and industrial applications. It is intended to be mounted on collaborative and industrial robots featuring ISO-9409-1-50-4-M6 flanges, with optional adapter plates for non-standard mounting. The device when mounted is capable of securely grasping objects up to 10 kg, facilitating tasks such as and not limited to material handling, assembly, research experimentation, and precision operations. Its design ensures compatibility with robotic systems operating in collaborative and dynamic environments.

The COVVI Robotic Hand is an end effector and relies on the robotic system for safety controls, including signals and warnings for start-up, emergency stops, and motion-related hazards. Integrators must ensure compliance with ISO 10218 and IEC 60204-1.

### 2.2 Impact of Inappropriate Use

In the event of inappropriate use of the product the safety of the product cannot be guaranteed.

Actions completed that are not compliant with the instructions in this operating manual can cause permanent product damage and degradation of safety as a result of a single inappropriate use.

### 2.3 Storage and Operating Conditions

The product should be stored in the product packaging case when not in use.

<b>Operating Temperature Range</b>	-20°C and +40°C
<b>Operating Humidity Range</b>	Up to 80% humidity (non-condensing)
<b>Storage Temperature Range</b>	-10°C to 30°C
<b>Storage Humidity Range</b>	Up to 70% humidity (non-condensing)
<b>Pressure</b>	101.3 kPa / 14.7 psi



## 2.0 Safety

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### 2.4 Product Safety

COVVI Ltd. have the right to void the warranty of all products that have any type of modification or damage caused by any unauthorised or untrained personnel.

The following warnings highlight conditions and scenarios in which the COVVI Robotic Hand must not be used to ensure safe and intended operation:

- Do **NOT** use the product without the integrated glove as will result in reduced ingress protection and potentially lead to damage to the product.
- Maintain extra caution when handling sharp or sharp-edged objects. Impact with them may damage the product.
- Do **NOT** use the product if a failure occurs as it could cause further damage to the product.
- Do **NOT** use an additional glove with the product this may result in reduced grip strength and an increased internal temperature.
- This product uses semiconductors that can be damaged by electrostatic discharge (ESD).
- Do **NOT** operate beyond operational and environmental limits specified. Operation outside of these limits may result in product damage and loss of product functionality.
- This product has not been designed for use within radioactive environments or for handling of radioactive materials.
- Individuals who are exposed to hazardous environments that contain flammable liquid or gas should **NOT** operate the product when in those environments.
- Do **NOT** subject the product to intentional excessive impacts. Any damage caused by intentional harm or neglect will not be covered under the warranty.
- Do **NOT** submerge the product in water. Any damage caused by intentional submersion in water will not be covered under the warranty.
- Do **NOT** expose the product to an open flame or use to handle volatile or flammable substances.
- PPE is not required for normal operation of the COVVI Robotic Hand. For installation, maintenance, or tasks involving external hazards, appropriate PPE (e.g., gloves, eye protection) may be required based on task-specific risk assessment.
- Do **NOT** expose the product to chemicals such as solvents, acids, alkalis, corrosive substances, detergents, and similar chemicals as this could damage the components in the hand. If the hand needs cleaning, mild soap and a soft damp cloth should be used. Abrasive cleaners and cleaning cloths will scratch the covers.
- Do **NOT** use the product to operate a firearm.

## 2.0 Safety

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### 2.5 Environmental Safety

Please check your local regulations prior to disposing any items to avoid having a detrimental impact on health and the environment. Observe national registration requirements for importers according to EU WEEE Directive 2012/19/EU

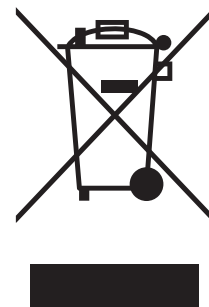
All the components of this product and articles contained within have been chosen and evaluated in accordance with compliance for the EU RoHS directive 2011/65/ EU: The products are produced with restricted use of hazardous substances to protect the environment.

All the components of this product and articles contained within have been chosen and evaluated in accordance with compliance for the Regulation (EC) 1907/2006 of the European Parliament, "Registration, Evaluation, and Authorization of Chemicals (REACH): The product and articles contained within **DO NOT CONTAIN** any of the 241 REACH SVHCs as updated by ECHA on June 27, 2024.

For the full declaration of conformity statements, please use the links below view the documents:

**RoHS:** [www.covvi-robotics.com/wp-content/uploads/documents/Robotics-RoHS-Statement.pdf](http://www.covvi-robotics.com/wp-content/uploads/documents/Robotics-RoHS-Statement.pdf)

**REACH:** [www.covvi-robotics.com/wp-content/uploads/documents/Robotics-Reach-Statement.pdf](http://www.covvi-robotics.com/wp-content/uploads/documents/Robotics-Reach-Statement.pdf)



### 2.6 Integration Safety

It is the responsibility of the integrator to carry out a full risk assessment of the system prior to product integration. The product operator is responsible for ensuring the operational safety of this equipment.

The integrator is responsible for integrating the HRC robot system with a category 0 emergency stop pursuant to IEC 60204-1, which also disables the product and performing functional and behaviour verification and validation to ensure compliance with IEC 60204-1 and ISO 10218-1.

The digits of the COVVI Robotic Hand are not manually back-driveable, however the thumb can be manually rotated out of position in the event of a failure of the power supply, this will not damage the mechanism.

The product should be correctly grounded. Use the earthing pin provided with the hand to create a continuous path through the robot arm or connect an external earthing cable via an earthing lug secured under a M5 x 10mm screw in the robotic wrist base. This must be done before attaching the power cable. Failure to do so could result in electrical shock hazard or disruption to the control signals.

The integrator must ensure proper alignment with the ISO-9409-1-50-4-M6 flange during installation. Misalignment can result in uneven stress on mechanical joints and loss of operational precision and stability.

## 2.0 Safety

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The COVVI Robotic Hand does not support manual high-speed operation. Any restricted spaces required for such operations must be designed and implemented by the machine integrator as part of the overall system safety design.

Operators must ensure sufficient operational clearance to avoid collisions with hard surfaces or obstacles. Collisions can lead to permanent misalignment, mechanical damage, or safety hazards.

Integrators and operators must ensure the robotic arm and system maintain loads within the specified range.

Integrators must ensure mounting surfaces are stable, capable of supporting the loading requirements for the operating system and free of excessive vibrations. Prior to installing the device with the stated torque and alignment during installation, to minimize operational noise and vibration. Integrators must ensure mounting surfaces are stable, capable of supporting the loading requirements for the operating system and free of excessive vibrations.

The COVVI Robotic Hand does not include built-in mechanical limiting devices. Integrators are responsible for evaluating the need for external mechanical limiting devices to constrain motion within the operational boundaries specified in Product Safety and Technical Data.

### Train operators on the following prior to device use:

- Function and Integration Checks (refer to Section 5.5).
- Basic controls (refer to Section 6.0, Software).
- Emergency stop procedures.
- Troubleshooting basics (refer to Section 7.0, FAQs).

## 2.7 Residual Risks and Safety Measures

Unexpected Movements	<p><b>Residual Risk:</b> Sudden movements due to power surges, software errors, or communication failures.</p> <p><b>Measure:</b></p> <ul style="list-style-type: none"><li>• Ensure proper grounding as described in Section 5.1.</li><li>• Perform regular communication integrity tests outlined in Section 6.0 to prevent unexpected movements.</li></ul>
Collision Risks	<p><b>Residual Risk:</b> Collisions during operation may misalign or damage mechanical components, especially during high-speed movements.</p> <p><b>Measure:</b></p> <ul style="list-style-type: none"><li>• Maintain sufficient operational clearance as outlined in Section 2.6.</li><li>• Ensure stable mounting and perform collision detection tests during integration.</li></ul>

## 2.0 Safety

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Pinching or  
Crushing  
Injuries

**Residual Risk:**

Pinching or crushing injuries during hand movements, particularly while closing digits or gripping operations.

**Measure:**

- Train operators on safe operational practices, as detailed in Section 2.6.
- Maintain a safe distance during operation and implement proximity detection features when possible.

Overloading

**Residual Risk:**

Exceeding the 10 kg load capacity can compromise system stability and mechanical integrity.

**Measure:**

- Operate within the specified load limits.
- Conduct stability checks during integration and ensure the operating load complies with the guidelines in Section 3.2.

Electrical  
Hazards

**Residual Risk:**

Electrical faults during operation.

**Measure:**

- Follow emergency stop procedures as described in Section 2.6.
- Ensure uninterrupted power supply and verify grounding integrity before operation.

Mechanical  
Wear and  
Damage

**Residual Risk:**

Wear on joints, actuators, or other mechanical components can lead to performance degradation or failure.

**Measure:**

- Follow the recommended inspection and maintenance schedules in Section 8.0.
- Contact COVI at [customerservice@cov-robotics.com](mailto:customerservice@cov-robotics.com) for replacement damaged components if required.

## 2.0 Safety

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### 2.8 Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility, or EMC, refers to the ability of a device to function properly in its electromagnetic (EM) environment without causing or experiencing interference. The COVVI Robotic Hand is designed to ensure that it does not emit levels of electromagnetic energy that would cause interference with other nearby electronic devices, nor does it allow electromagnetic interference (EMI) from other devices to affect its performance. International standards and regulatory guidelines help minimise the risk of interference between electronic industrial devices.

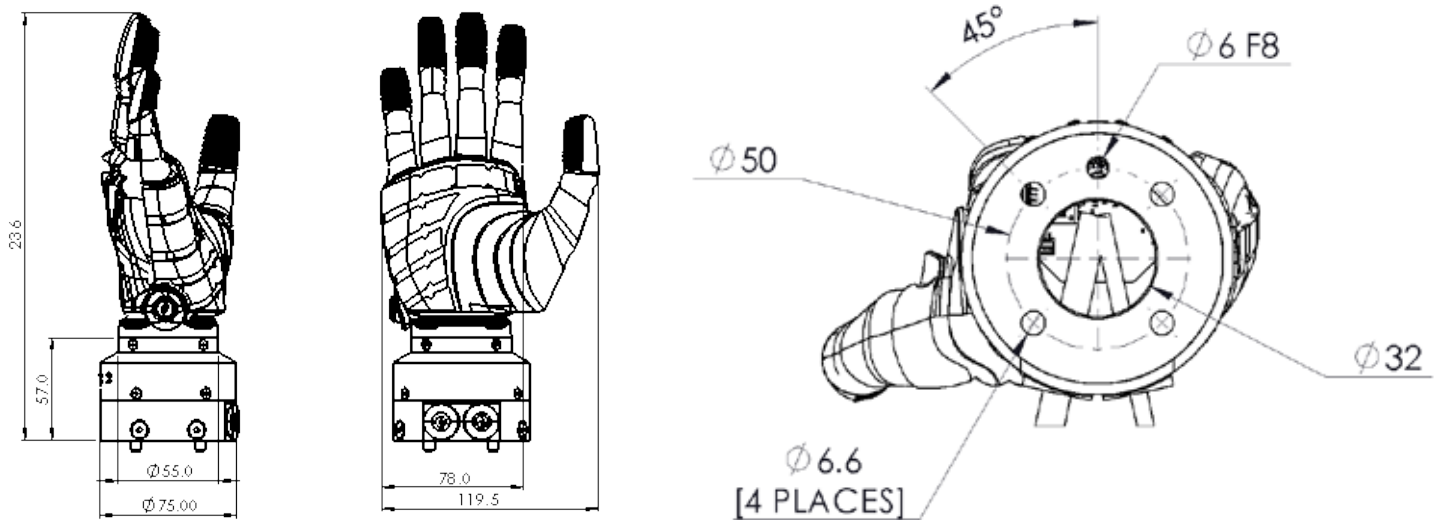
The COVVI Hand complies with the EN61000-6-2, EN61000-6-4 and FCC ANSI C63.4 standards, which outlines the requirements for industrial electrical equipment in terms of basic safety and essential performance in relation to electromagnetic disturbances. This standard ensures that the device meets the necessary criteria for electromagnetic emissions and immunity to interference.

**Please Note:** The emission characteristics of the COVVI Robotic Hand make it suitable for use in commercial, industrial and business environments, according to Class A standards. This ensures that the device provides adequate protection against interference with radio communication services. In the unlikely event that interference does occur with nearby radio communication equipment, the user may need to take simple corrective actions, such as relocating or reorienting the device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

## 3.0 Technical Data

### 3.1 Dimensions



Dimensions	Height	Width	Weight
<b>COVVI Robotic Hand</b>	179mm	75mm	650 grams (+/- 5g)
<b>Wrist Adapter</b>	57mm	75mm	380 grams (+/- 5g)
<b>Total System</b>	236mm*	75mm	1.03 kg (+/- 10g)

\*Base of adapter to top of fingertip

## 3.0 Technical Data

### 3.2 Data

Classification	Specification
Degrees of Freedom	6: Individual digit flexion, thumb rotation and flexion
Forces	Power Grip: 213N Tripod Grip: 35N Key Grip: 22N
Speed	Finger Close: 0.6s Tripod Grip: 0.4s Power Grip: 0.8s
Payload	Maximum carrying capacity (power grip across fingers lifting directly upwards): 30kg Carrying capacity in all robot orientations (power grip): 10kg
Digit Payload	16kg
IP Rating	IP44
Noise	< 78dB
Voltage input	24V
Max Power Draw	60W peak, for a duration of 100ms.
Continuous Power Draw	45W continuous power for 5 seconds, while gripping at max strength
Communication Interface	Ethernet
Control	Python API, ROS 2 Driver

## 3.0 Technical Data

### 3.3 Pre-Programmed Grips

As well as the individual digit control the product is preprogrammed with 14 standard functional grips modelled after the most common human grip patterns. These grip applications have been thoroughly tested through the prosthetic product line in helping replicate human hand function in day-to-day tasks; then adapted to the robotic product.

Grips: Power, Precision Closed, Precision Open, Tripod, Trigger, Glove, Tripod Open, Grab, Finger Point, Tap, Relaxed, Cylinder, Column and Key.

The following table describes and illustrates the standard grips with application examples:



#### Power Grip

Secure grasp for heavier object lifting and manipulation.



#### Precision Closed Grip

Small object grasping.



#### Precision Open Grip

Small object grasping.



#### Tripod Grip

General grasping function.



#### Trigger Grip

Operating trigger mechanisms.



#### Glove Grip

Fitting the product through openings.  
Changing the product glove.



#### Tripod Open Grip

Tripod position where the ring and little finger remain open.



#### Grab Grip

A full grasp, where the thumb drives to the close position prior to the fingers.



## 3.0 Technical Data

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### Finger Point Grip

Interaction with buttons and touch screens.



### Tap Grip

Interaction with buttons and touch screens.



### Relaxed Grip

Pushing items.



### Cylinder Grip

Larger object grasping.



### Column Grip

Operation of switches.



### Key/Card Grip

Secure grasp of thin objects.



**If grips are required outside of the standard grip library there is an extended library of additional user grips available. We may evaluate other custom grips for customers; for customisation requests, please contact our customer service team.**

## 4.0 Description and Variants

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### 4.1 General

The COVVI Robotic Hand is a five-finger end effector with six degrees of freedom. Adapted from the COVVI Prosthetic Hand, the COVVI Robotic Hand mimics human hand functionality, capable of completing a wide range of actions using 14 pre-programmed grips and individual digit control. The COVVI Robotic Hand is capable of replacing a human hand in a large range of robotic operational environments.

### 4.2 Variants

- Left and Right configurations.
- Straight wrist and 20-degree angled wrist.
- Cover colour variations: Carbon, White and Titan Grey.
- Mechanical flange adapters for non-standard ISO 9409-1 robot flanges.
- Internal communications wiring control - Kinova Gen 3.



**We may evaluate other custom variants for customers; for customisation requests, please contact our customer service team.**

## 4.0 Description and Variants

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### 4.3 Key Features

<b>Low Energy Consumption</b>	24V power consumption.
<b>Individual Digit Control</b>	All digits can be driven individually, both thumb flexion and rotation can be separately controlled.
<b>Pre-Programmed Grips</b>	The software contains 14 pre-programmed grips modelled after the most used human grip patterns.
<b>Non-Back Driveable Digits</b>	Digits are non-back driveable.
<b>Digit Compliance</b>	Digits are compliant in the close direction.
<b>Compact Design</b>	The COVVI Robotic Hand has been created considering average human hand dimensions. Resulting in a compact and lightweight robotic hand package.
<b>Supports Internal and External Wiring</b>	Both power and ethernet connections can be connected internally through the robotic arm or externally through the wrist adapter connectors.
<b>ISO 9409-1 Compatible Mechanical Interface</b>	Ensures the exchangeability and keeps the orientation of the hand-mounted end effectors.
<b>IP44 Protective Glove</b>	The protective glove helps protect the COVVI Robotic Hand from liquid and debris ingress.
<b>Anti-Slip Fingertip Design</b>	The silicone glove fingertips have been designed to provide secure grip throughout a series of grip patterns.
<b>Integrated Sensing</b>	Force Sensitive Resistors integrated into the fingertips of the COVVI Robotic Hand provide feedback to the user.
<b>Touch Screen Compatibility</b>	The product has a touch screen compatible index fingertip.

## 5.0 Installation

### 5.1 Mounting

The product can be mounted on any robot equipped with an ISO-9409-1-50-4-M6 flange.

**Use only the screws provided.**

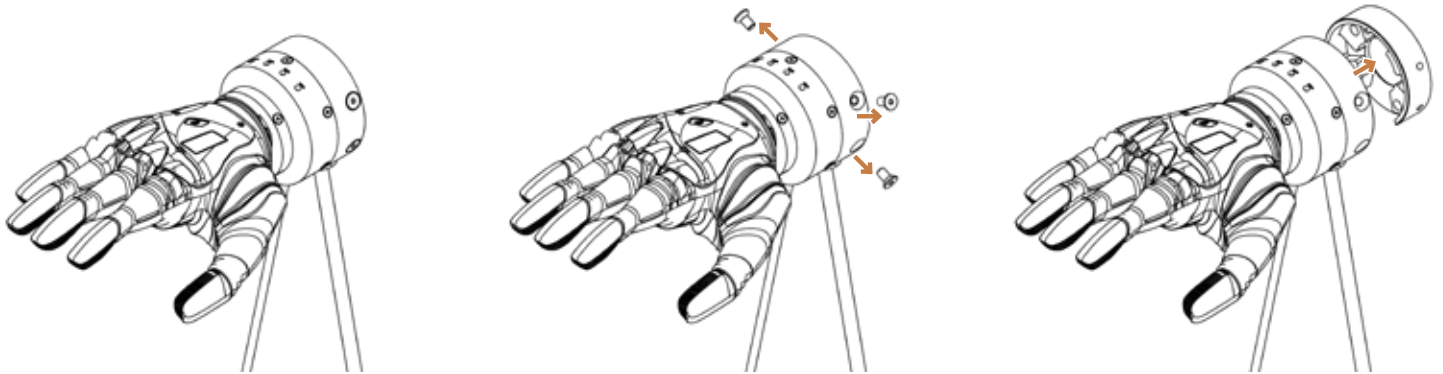
**Use of longer or incorrect screws could damage the product or robot.**



**Disconnect the power supply before installation operations.**

**Verify that the mounting flange and grounding connections meet ISO-9409-1 standards and no components for visible damage or wear before starting installation.**

To assemble the hand on the robot arm, please follow the following instructions:



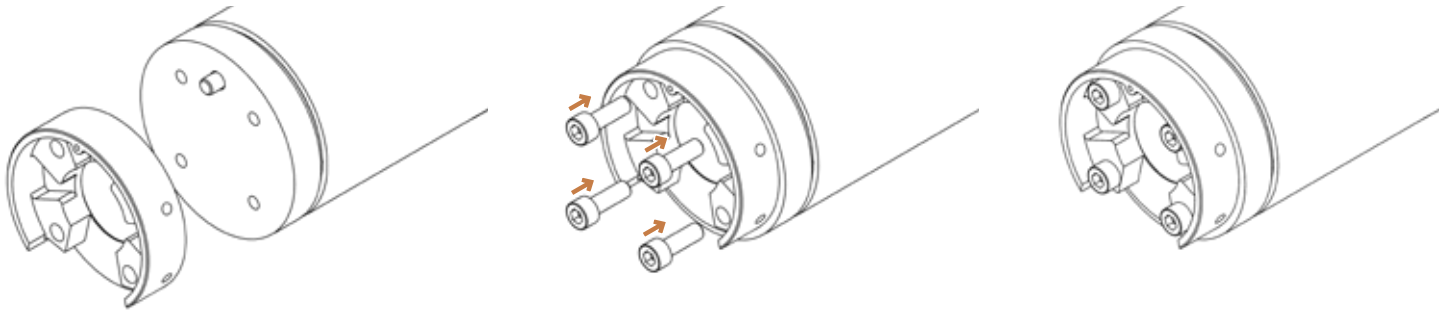
**Tool Required:** 3mm Hex Key

01

Remove the four M5 x 10mm Screws from the base of the product. Once the screws are removed, remove the Adaptor Base Plate from the bottom of the product.

Keep the screws as they will be required later.

## 5.0 Installation



**Tool Required:** 5mm Hex Key



**Warning:**

Ensure the robotic hand is properly grounded to avoid electrical faults that may compromise control signals or safety features.

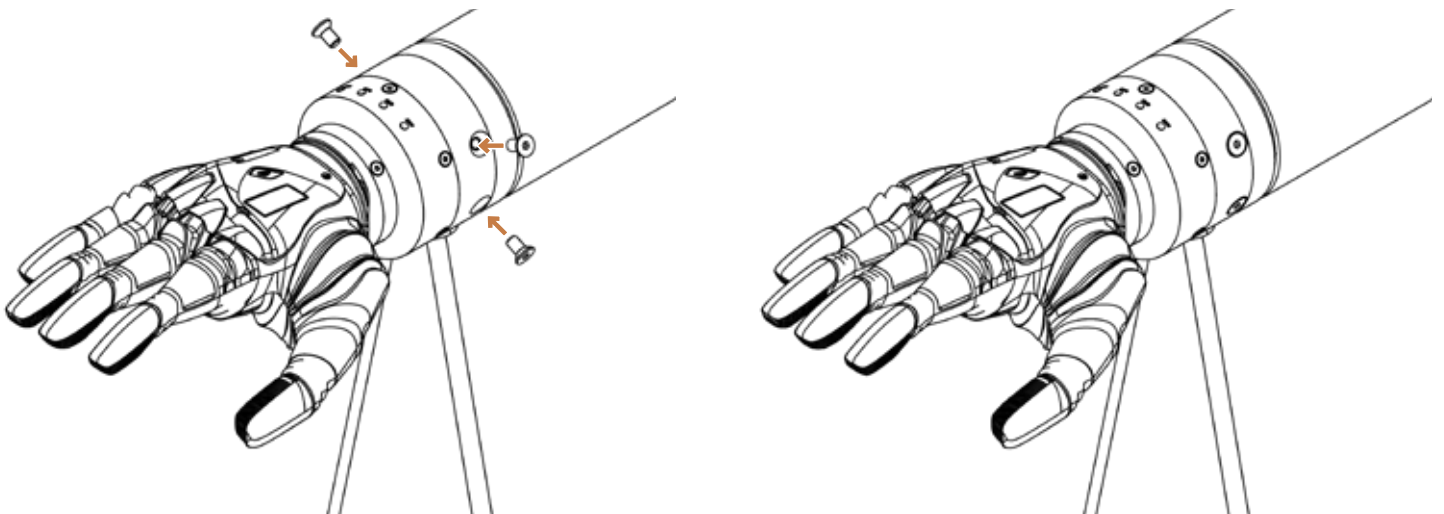
02

Fit the Adaptor Base Plate to the ISO-9409-1-50-4-M6 flange using the four M6 x 18mm Screws supplied in the product packaging.

Add grounding pin 6x10 provided, if one is not already fit to the end of the robotic arm.

If grounding using the pin is not possible connect an external earthing cable via an earthing lug secured under a M5 x 10mm screw in the robotic wrist base.

All screws should be hand tightened using the Hex Key provided. Maximum Tightening Torque = 10 Nm.



**Tool Required:** 3mm Hex Key



**Tip:** Align the Adaptor Base Plate pin and product pin hole before fitting.

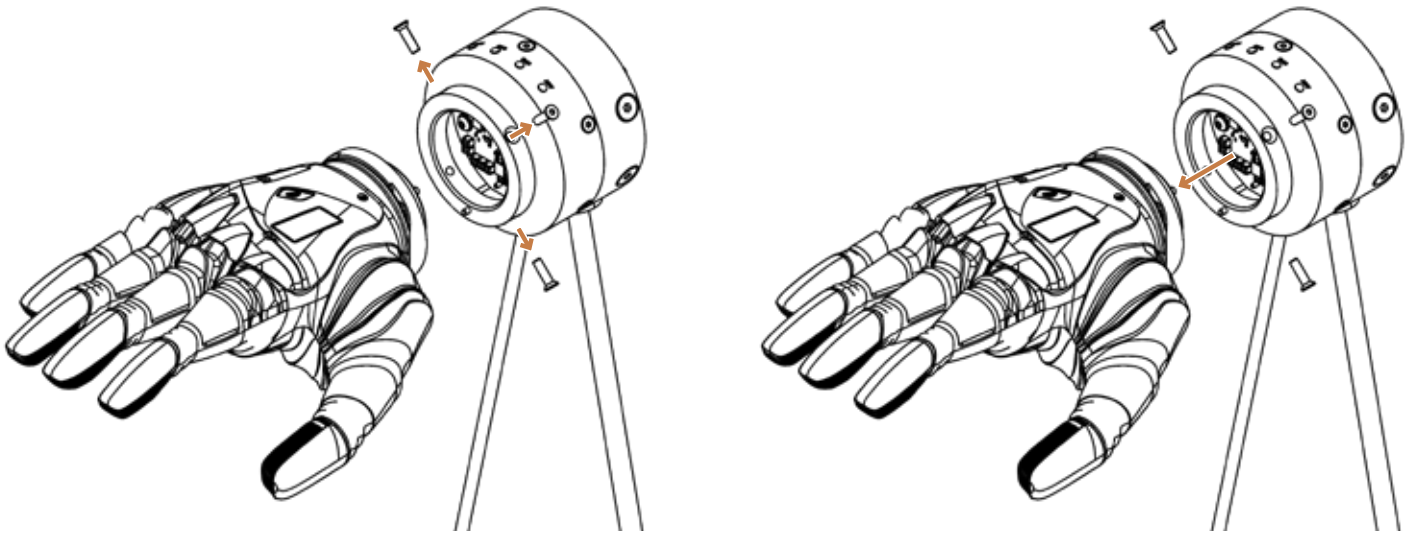
03

Fit the product to the Adaptor Base Plate and secure using the four M5 x 10mm Screws that were previously removed from the base of the product.

All screws should be hand tightened using the Hex Key provided. Maximum Tightening Torque = 1 Nm.

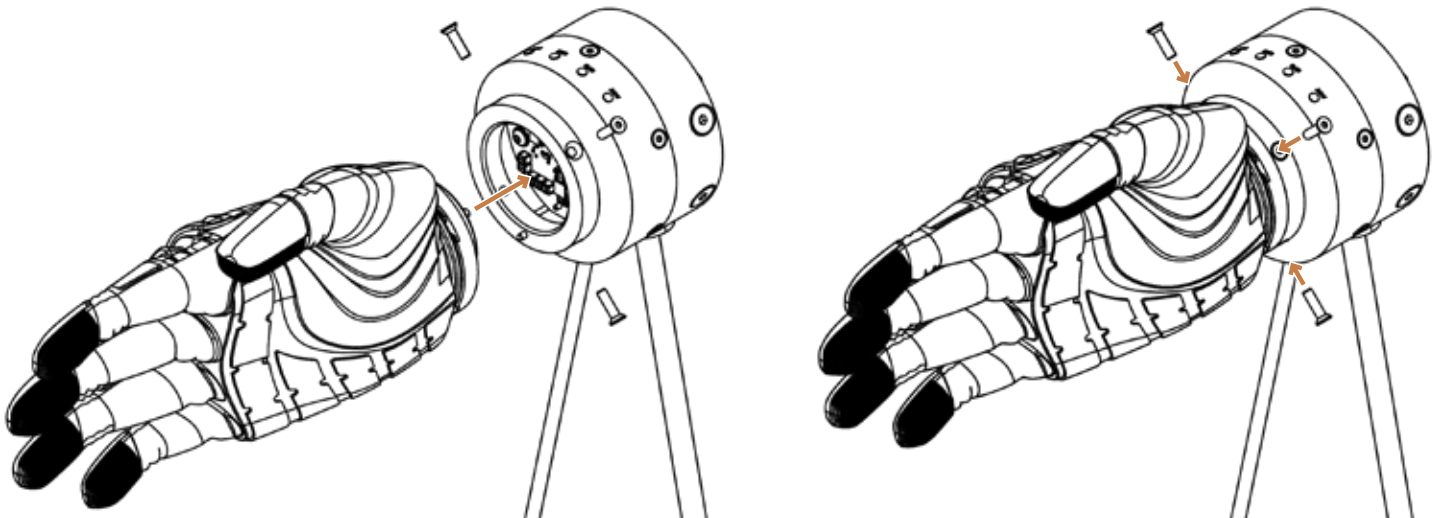
## 5.0 Installation

### 5.2 Hand Orientation Adjustment



**Tool Required:** 2mm Hex Key

- 01 Remove the four screws from the top of the wrist assembly and remove the hand from the wrist. Keep the screws as they will be required later.



**Tool Required:** 2mm Hex Key



**Tip:** Align the Adaptor Base Plate pin and product pin hole before fitting.



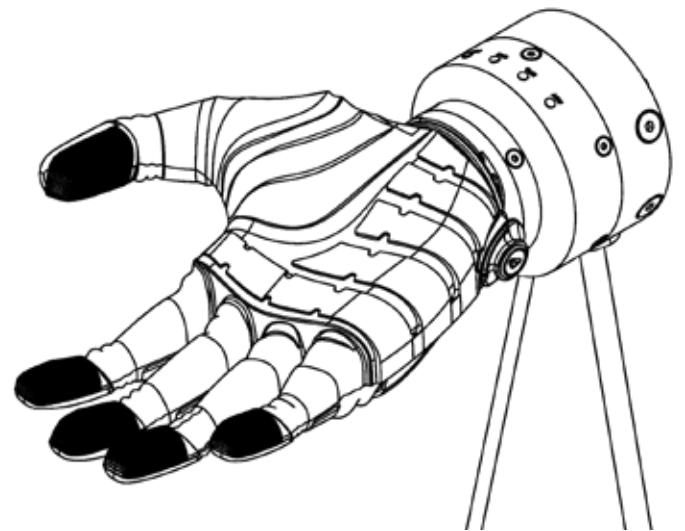
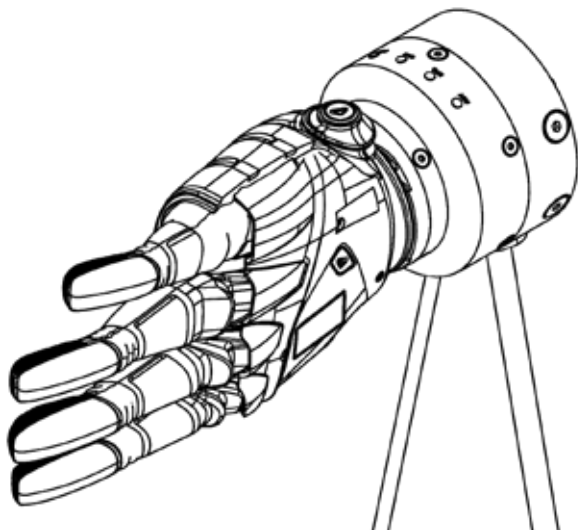
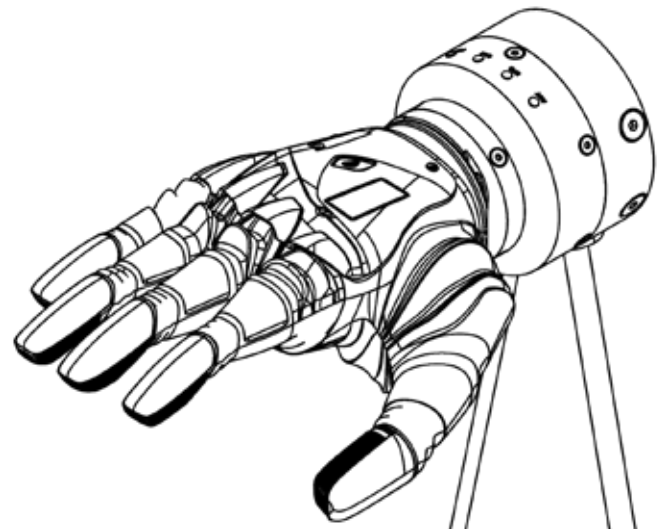
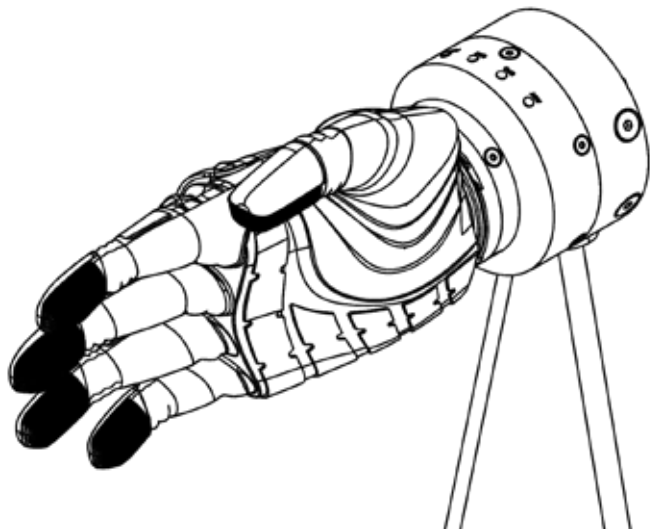
**Warning:** Check internal cables have not disconnected.

- 02 Move the hand to the desired orientation. Refit the hand into the wrist. Refit the four screws.

All screws should be hand tightened using the Hex Key provided. Maximum Tightening Torque = 1 Nm.

## 5.0 Installation

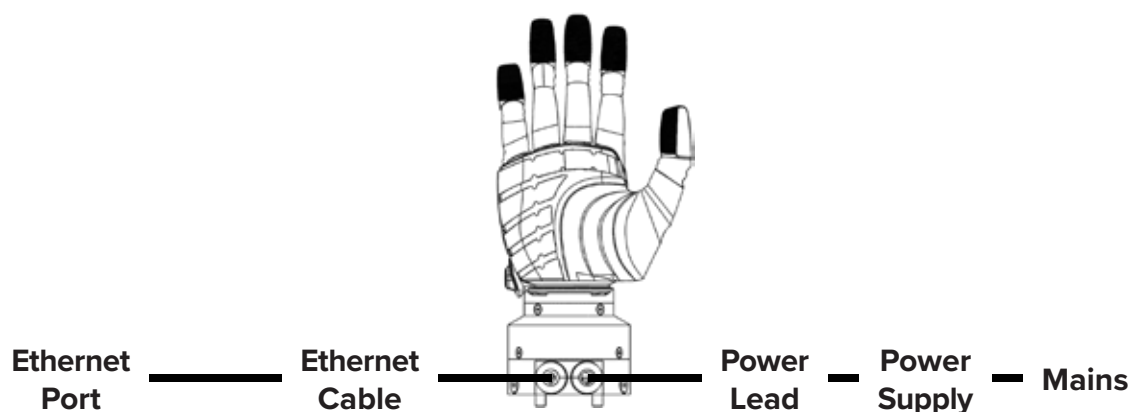
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03 | The robotic hand can be configured in the four orientations shown.

## 5.0 Installation

### 5.3 Cable Connections



#### Ethernet Connections: Hand to Ethernet Cable



#### Power Connections: Hand to Power Lead



Ensure the securing clip is fixed over the power lead connector.



#### Power Connections: Power Lead to Power Supply



### 5.4 Cable Indicators

**ACT:** Green flashing light indicates successful ethernet activity.

**SPD:** Yellow light indicates high speed connection, 100Mb/s.  
Yellow flashing light indicates 10Mb/s speed.

**CAN:** Blue light indicates successful communication with product.

**PWR:** Red flashing light indicates successful power connection.





## 5.0 Installation

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### 5.5 Function and Integration Checks

The integrator is responsible for ensuring proper mounting alignment, operational stability, and verification of communication with external systems during installation, please complete the following checks before proceeding with device operation to ensure successful integration:

#### Mounting Alignment

- Ensure the robotic hand is securely mounted to the robot arm flange using the provided ISO-9409-1-50-4-M6 standard interface or compatible mechanical adapters.
- Mounting screws must be tightened to the specified levels.

#### Visual Inspection

- Check for visible damage to cables, connectors, and the glove.
- Ensure no debris obstructs mechanical movement.
- Verify that the ACT, SPD and PWR status indicators are illuminated upon powering the hand (refer to Section 5.4).

#### Mechanical Stability

- Manually press down each digit to ensure full range of motion.
- Manually rotate the thumb as part of power-failure functionality.
- Check platforms must be capable of supporting the loading requirements for the operating system, accounting for dynamic forces during operation.
- Ensure minimal vibration or displacement during use by performing stability checks after assembly.

#### Grounding

- Verify grounding path is completed using the earthing pin provided or an external earthing cable through the robotic wrist base.
- Perform continuity tests to ensure a stable grounding path.

## 5.0 Installation

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### Functionality

- Complete functional check setup to confirm hand is connected correctly and operating correctly, before proceeding with more complex operations.
- Run code as described in the README of Section 6.0 to confirm proper installation and integration.
  - Confirm successful connection and communication with the robotic hand.
  - Observe the hand during a full open/close cycle to detect any delays or abnormal noises.
  - Validate that all joints move smoothly without resistance.
- Test each digit and thumb for full-range motion and responsiveness.
- Validate reduced-speed operation by setting the robotic hand to reduced-speed mode.
- Confirm no error indicators are displayed.
- If the hand exhibits abnormal behaviour during installation and functionality testing (e.g., unresponsive digits, unexpected movements), please contact [customerservice@covvi-robotics.com](mailto:customerservice@covvi-robotics.com). Do not attempt disassembly or repairs.
- Prior to the HRC robot system is placed into production, it is the integrators responsibility to ensure the emergency stop system and safety measures, such as collision prevention systems, are operational.

### 5.6 Dynamic Force Handling Requirements

The integrator must evaluate load conditions, including dynamic forces (acceleration, deceleration, payload handling), to confirm the COVVI Robotic Hand operates safely within its mechanical limits:

#### Load and Force Limits

- Ensure robotic arm movements, such as acceleration, deceleration, and payload handling, remain within the COVVI Robotic Hand's mechanical limits.
- Validate load stability under varying operating conditions and speeds to prevent instability.

#### Force Management Recommendations

- Limit robotic arm operating speeds and forces during initial system setup.
- Perform simulated dynamic tests to verify stability and positional accuracy

#### Ongoing Assessment

- Regularly assess dynamic force conditions during operation, including joint movements, payloads, and environmental factors.

## 6.0 Software

---

All software code and full software documentation can be found at:

- <https://pypi.org/project/covi-eci>
- [https://github.com/COVVI-Robotics/eci\\_ros](https://github.com/COVVI-Robotics/eci_ros)

Please read online software documentation before proceeding with product setup.

### 6.1 PC Drivers and Requirements

**Linux Ubuntu:** Ubuntu 22.04 and above are supported.

**Microsoft Windows:** Windows 10 version and above are supported.

**Python:** Python 3.8 and above are supported.

### 6.2 Python API

This README is a reduced version of the COVVI Robotic Hand Wiki, and it is supplied only for offline documentation. Please refer to the online wiki for full information: <https://pypi.org/project/covi-eci>



**Complete base setup to confirm hand is connected correctly and operating correctly, before proceeding with more complex operations.**



**The COVVI Robotic Hand incorporates non-mechanical limiting features to ensure safe and controlled operation. During commissioning, check the following software-based limits:**

- **Speed limits configured for high and low speed operations.**

## Getting Started

---

To get started, simply install the wheel from the 'dist' folder and then follow the code snippets below. Enable logging debug mode if you wish to see debug messages.

```
import logging
logging.getLogger().setLevel(logging.DEBUG)
```



Return logging to warning mode if you wish to hide the debug messages.

```
import logging
logging.getLogger().setLevel(logging.WARNING)
```



## 6.0 Software

### Discovering the interface

Below is an example code snippet for programmatically discovering the interface. In this example, the IP address of the network interface to discover on is: `192.168.1.1`. You can listen on multiple interfaces at the same time with

```
DiscoveryInterface('addr1', 'addr2', ..., 'addrN').
```

```
from eci import DiscoveryInterface
with DiscoveryInterface() as interface:
    for msg, addr in interface.forever_get_eci_list():
        print(msg)
        break
HOST = msg.ip
print(f'The HOST has been set to: {HOST}')
```

Or set the IP address manually:

```
HOST = '192.168.1.5'
```

### Setting the discovery information

To change the discovery information of the ECI, send a `DiscoveryConfigMsg` via the `DiscoveryInterface`. Only the `ip`, `subnet_mask`, `gateway`, `hostname`, and `dhcp` can be changed. The rest of the attributes must match those of the `DiscoveryResponseMsg`.

```
from eci import DiscoveryInterface, DiscoveryConfigMsg, DeviceClassType, Manufacturer, ManufacturerID,
with DiscoveryInterface('192.168.1.1') as interface:
    interface.send_config(DiscoveryConfigMsg(
        discovery_version      = 2, # cannot be changed
        device_serial_number   = 1008, # cannot be changed
        mac                    = 'D8:47:8F:3F:63:F0', # cannot be changed
        device_class_type      = DeviceClassType.RCI, # cannot be changed
        manufacturer_id        = Manufacturer(ManufacturerID.COVVI), # cannot be changed
        product_id             = Product(ProductID.REMOTE), # cannot be changed
        ip                     = '192.168.1.6', # can be changed
        subnet_mask            = '255.255.255.0', # can be changed
        gateway                 = '192.168.1.1', # can be changed
        dns                     = '192.168.1.1', # can be changed
        hostname                = 'covvi-robot3', # can be changed
        dhcp                    = False, # can be changed
        hand_comms              = False, # cannot be changed
        hand_power              = False, # cannot be changed
        client_connected        = False, # cannot be changed
        client_address          = '0.0.0.0', # cannot be changed
        request_source_address = '192.168.1.1', # cannot be changed
    ), '192.168.1.5')
```

## 6.0 Software

---

### Hand Power

---

#### setHandPowerOn() - Turn the power on to the hand

```
from eci import CovviInterface
with CovviInterface(HOST) as eci:
    print(eci.setHandPowerOn())
```



#### setHandPowerOff() - Turn the power off to the hand

```
from eci import CovviInterface
with CovviInterface(HOST) as eci:
    print(eci.setHandPowerOff())
```



Subsequent code snippets assume that `setHandPowerOn()` has already been called and that the power to the hand is on.

### Connecting/Disconnecting the interface

All interactions with the ECI occur through the context manager: `CovviInterface`. It opens and closes the interface:

```
from eci import CovviInterface
with CovviInterface(HOST) as eci:
    ...
```



If the 'with' clause is a problem in your application, then you can always use the `start` and `stop` functions to start and stop the COVVI Interface. Using `start` and `stop` is preferable when your application uses multiple threads and callback functions.

```
from eci import CovviInterface
eci = CovviInterface(HOST).start()
...
eci.stop()
```



## 6.0 Software

---

### Discovery and device messages

---

#### Hello

getHello() - Get a simple 'hello' response from the ECI

```
from eci import CovviInterface
with CovviInterface(HOST) as eci:
    print(eci.getHello())
```



#### DirectControl

setDirectControlClose() - Close the whole hand

```
from eci import CovviInterface
with CovviInterface(HOST) as eci:
    eci.setDirectControlClose(speed=100)
```



setDirectControlOpen() - Open the whole hand

```
from eci import CovviInterface
with CovviInterface(HOST) as eci:
    eci.setDirectControlOpen(speed=100)
```



## 6.0 Software

---

### 6.3 ROS 2

Please refer to the online wiki for full information: [https://github.com/COVVI-Robotics/eci\\_ros](https://github.com/COVVI-Robotics/eci_ros)

Download the ROS 2 packages here: <https://github.com/orgs/COVVI-Robotics/packages>

### 6.4 Support, Bugs and Contribution

If you require the need for any software support relating to the utilisation of our code for your use case or have any questions please ask using our forum: <https://github.com/orgs/COVVI-Robotics/discussions>

If the product is exhibiting unexpected behaviour or your questions cannot be answered via the forum, we apologise for any inconvenience. Please contact us at: [customerservice@covvi-robotics.com](mailto:customerservice@covvi-robotics.com).

### 6.5 Testing After Software Changes

To ensure continued safety and proper functionality of the COVVI Robotic Hand after software updates or configuration changes:

- Ensure the software update is successfully installed without errors.
- Confirm that all newly configured parameters or features are compatible with the robotic hand's existing hardware
- Follow the functionality checks in Section 5.5.



**All hardware changes, replacements, or upgrades must be performed exclusively at COVVI's facility.**

## 7.0 FAQs and Troubleshooting

---

### 7.1 Network Settings

**Issue:** Communication via Ethernet is interrupted.

**Solution:** Check network cables and connectors. Check you have run the code to discover the interface as per instruction in section 6.1.

### 7.2 Hand Angle

**Issue:** Hand is not installed at angle required for operational activities.

**Solution:** Follow the steps of section 5.2 to adjust hand orientation.

### 7.3 Hand is Not Responding or Stops Moving

**Issue:** Power supply or communication is not operating correctly.

**Solution:** Check the power supply and cables in the system to ensure no components are damaged.

### 7.4 The Hand Does Not Reopen Correctly

**Issue:** The hand does not reopen correctly.

**Solution:** Press the back button on the hand or run the code to attempt to send the hand to the open position. If this does not work, the digits are not manually back-driveable, however the thumb can be manually rotated out of position if you would like the hand to release an object it is grasping, this will not damage the mechanism.



## 7.0 FAQs and Troubleshooting

---

### 7.5 Glove Replacement

**Issue:** The glove has maintained damage through use. The glove is a replaceable component of the COVVI Robotic Hand and will be replaced during service and planned maintenance intervals. However, the glove may maintain damage between these intervals.



**Interaction with the sharp objects and the glove should be avoided during operation to reduce the likelihood of glove damage.**

**Solution:** Please contact us at [customerservice@covvi-robotics.com](mailto:customerservice@covvi-robotics.com), we will send you out a replacement glove kit with instructions on how to safely swap this component or the hand can be returned to us to have the gloved swapped by our internal team.

### 7.6 Hand Not Fully Completing Grips When Sent Open/Close Commands

**Issue:** Hand is not fully completing open/close actions when an open/close command is sent for a set grip.

**Solution:** Check that sleep commands of 1-2 seconds are present after open/close commands. By default, a hand will not wait until a grip is completed before attempting to complete the next command.

If the product is exhibiting unexpected behaviour or your questions cannot be answered via this FAQ, we apologise for any inconvenience. Please contact us at: [customerservice@covvi-robotics.com](mailto:customerservice@covvi-robotics.com)

## 8.0 Maintenance and Warranty

---

### 8.1 COVVI Maintenance

Recommended maintenance period of the product is annually. Non observance of recommended maintenance may result in product degradation.

To return your product for yearly maintenance please contact via: [customerservice@covvi-robotics.com](mailto:customerservice@covvi-robotics.com)

### 8.2 User Preventative Maintenance

To ensure the optimal performance and longevity of the COVVI Robotic Hand, follow the guidelines below for preventive maintenance and user-performed adjustments:

#### Routine Preventive Maintenance

Inspect the robotic hand monthly for:

- **Joint Functionality:** Ensure smooth and unrestricted movement of all digits and the thumb.
- **Cables and Connectors:** Check for visible damage, misalignment, or wear.
- **Glove Condition:** Look for tears, abrasions, or punctures that may expose internal mechanisms.
- Clean the robotic hand as per instructions in Section 8.3.

#### User-Adjustable Operations

- **Tightening Screws:** Check and tighten all external screws (e.g., mounting screws) to specified torque values using the provided installation guide.
- **Thumb Positioning:** Manually rotate the thumb to verify correct movement as part of power-failure functionality.

#### Calibration and Testing

- Perform functional tests after any adjustment (refer to Functionality checks Section 5.5):
- Test the full range of motion for each digit and the thumb.
- Verify the accuracy of joint positioning through a robotic controller.
- Ensure no unusual noises or vibrations during operation.

#### Preventive Measures for Wear and Tear

- Replace the glove during regular maintenance intervals or as soon as visible damage is detected.
- Contact COVVI for replacement parts (e.g., cables, mounting screws) if wear is observed.

## 8.0 Maintenance and Warranty

---

### 8.3 Cleaning



**Disconnect the power supply before cleaning operations.**

Clean with a mild soap and a soft damp cloth.

- Do not use abrasive cleaners and cleaning cloths as they will scratch the covers.
- Do not allow ingress of cleaning products into the functional electromechanical assembly.

### 8.4 Repair

Product repairs can only be completed by COVVI, otherwise there is a risk of further damage to the product.

For repair and replacement contact COVVI via: [customerservice@covvi-robotics.com](mailto:customerservice@covvi-robotics.com)

### 8.5 Warranty

Please read these Warranty Terms and Conditions carefully before using all COVVI products and services. We may modify these Terms, for any reason at any time, by posting a new version on our website; these changes do not affect rights and obligations that were defined prior to such changes. There are various limited warranties that apply to manufactured products and goods purchased from COVVI.

#### 24-Month Manufacturer's Warranty

The COVVI Hand has a 24-month manufacturer's warranty included with the purchases of the hand which takes effect from the date of invoice. Products are subject to be evaluated for warranty. COVVI is not responsible for normal wear, and/or damage caused by excessive force, and/or excessive usage beyond the technical design and/or beyond its reasonable means. COVVI warrants its products against defects in material and workmanship within the warranty period.

Limitation in those instances where changes, alterations or modifications are made in materials at the request or instruction of the customer, the customer agrees not to claim or commence suit against COVVI based on any such disclaimed warranties. Our obligation is limited only to the repair or replacement of defective parts within the warranty period or, at the sole discretion of COVVI, to refund the purchase price of a full refund, partial refund, or no refund, depending on the condition of the return. The possible refund will be given subject to our Quality Department.

Our obligation is limited only to the repair or replacement of defective parts within the warranty period. The original warranty period resumes when the defective part is replaced.

## 8.0 Maintenance and Warranty

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### 8.6 Transport, Handling, and Storage

To ensure safe transport, handling, and storage of the COVVI Robotic Hand and its components, follow the guidelines below:

#### Transport Guidelines

- For transport, secure the robotic hand in its original packaging to prevent mechanical damage or misalignment.
- Avoid stacking heavy objects on the packaging to minimize deformation or stress on internal components.

#### Individual Component Transport

- **Gloves:** Ensure gloves are packaged separately in sealed bags to avoid contamination or damage during transit.
- **Power Supply and Cables:** Wrap and secure cables to prevent bending or stress points. Use cable ties or clips for organized storage.

#### Handling Precautions

- Always handle the robotic hand by its mounting base or around the palm. Avoid applying force to moving parts such as digits or the thumb mechanism.

#### Storage Instructions

- Store the COVVI Robotic Hand in its original packaging in a clean, dry environment with a temperature range of -20°C to +40°C and humidity below 80% (non-condensing).

## 9.0 Compliance and Applied Standards

This section outlines all harmonized standards applied during the design and production of the COVVI Robotic Hand. Where applicable, relevant standards are adhered to, while some provisions may not be applicable based on the specific design and intended use of the product. Compliance with these standards ensures adherence to normal safety and performance requirements for similar products and supports industry best practices.



**The product's compliance is guaranteed only when all instructions in this manual are strictly followed. This includes adhering to the installation guidelines, implementing prescribed safety measures, and ensuring proper usage according to the intended purpose.**

<b>Quality</b>	ISO 9001:2015	Quality management systems — Requirements
<b>General Machinery Safety, Maintenance and Instruction</b>	BS EN ISO 12100:2010	Safety of machinery – General principles for design – Risk assessment and risk reduction.
<b>Industrial Robots, Maintenance and Instruction</b>	BS EN ISO 10218-1:2011	Robots and robotic devices – Safety requirements for industrial robots – Part 1: Robots
	BS EN ISO 10218-2:2011	Robots and robotic devices – Safety requirements for industrial robots – Part 2: Robot systems and integration
	PD ISO/TR 20218-1:2018	Robotics – Safety design for industrial robot systems – Part 1: End-effectors
	PD ISO/TS 15066:2016	Robots and robotic devices – Collaborative robots
<b>Mechanical Interfaces and Design</b>	BS EN ISO 9409-1:2004	Mechanical interfaces for robots and end-effectors – Part 1: Flange for manipulators and end-effectors
	BS EN ISO 14539:2001	Manipulating industrial robots – Object handling with grasp-type grippers – Vocabulary and presentation of characteristics
<b>Electromagnetic Compatibility (EMC)</b>	BS EN IEC 61000-6-2:2019	Electromagnetic compatibility (EMC) – Immunity for industrial environments
	BS EN IEC 61000-6-4:2019	Electromagnetic compatibility (EMC) – Emission standard for industrial environments
	JIS C 61000-3-2:2019	Electromagnetic compatibility (EMC) — Part 3-2: Limits — Limits for harmonic current emissions (equipment input current ≤ 20 A per phase)

## 9.0 Compliance and Applied Standards

<b>Electrical Safety</b>	BS EN IEC 60204-1	Safety of machinery – Electrical equipment of machines – Part 1: General requirements (24/30498532 DC)
	BS EN 60529:1992+A2:2013	Degrees of protection provided by enclosures (IP Code)
<b>Functional Safety</b>	BS EN ISO 13849-1:2023	Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design
	BS EN ISO 13849-2:2012	Safety of machinery – Safety-related parts of control systems – Part 2: Validation
	IEC 61508-1:2010	Functional safety of electrical/electronic/programmable electronic safety-related systems
<b>RoHS Compliance</b>	EN 50581:2012 EN IEC 63000:2018	Technical documentation for the assessment of electrical and electronic products with respect to RoHS.
<b>WEEE Compliance</b>	BS EN 50419:2022	Marking of electrical and electronic equipment in accordance with WEEE Directive.
<b>Labelling</b>	ISO 7000:2019	Graphical symbols for use on equipment — Registered symbols
	IEC 60417:2024	Graphical symbols for use on equipment

### 9.1 Certification

#### Electromagnetic Compatibility (EMC)

The COVVI Robotic Hand has been tested and certified by Eurofins E&E UK to meet the following EMC standards:

#### Emissions Compliance

- **EN 61000-6-4:2019** — Generic standard for emission requirements.
- **ANSI C63.4:2014** — Methods of measurements of radio noise emissions from low voltage electrical and electronic equipment in the range 9 kHz to 40 GHz.

#### Immunity Compliance

- **EN 61000-6-2:2019** — Generic standard for immunity requirements for industrial environments.

## 9.0 Compliance and Applied Standards

---

### Certification Details

#### 1. Certificate Numbers

- 15742TC1 (EN standards).
- 15740TC1 (FCC standards).

#### 2. Testing Facility

- Eurofins E&E UK, Castleford Laboratory, accredited by UKAS and registered with the FCC.

#### 3. Tested Performance

- Conducted and radiated emissions within Class A limits.
- Immunity to electrostatic discharge, radiated RF fields, and power disturbances.

### 9.2 Ingress Protection Certificate

The COVVI Robotic Hand has been tested and certified by Eurofins E&E UK to meet the following Ingress Protection Rating:

#### Compliance Standard

- EN 60529:1991 + A2:2013
- IEC 60529:1989 + A2:2013

#### Ingress Protection Code

- IP44

### Certification Details

#### 1. Certificate Numbers

- CML-IPTC-18072-B

#### 2. Testing Facility

- Eurofins E&E UK, Ellesmere Port Laboratory, accredited by UKAS

### 9.3 Environmental Testing Certificate

The COVVI Robotic Hand has been tested and certified by Alphatech Ltd to meet the following Environmental Test Standards:

#### Compliance Standard

- BS EN 60068-2-1: 2007
- BS EN 60068-2-2: 2007
- BS EN 60068-2-78: 2013

### Certification Details

#### 1. Certificate Numbers

- 105266

#### 2. Testing Facility

- Alphatech Ltd, Green House, Homefield Road Ind Est, CB9 8QP

## 9.0 Compliance and Applied Standards

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### 9.4 Symbols Used



Indicates that the product conforms with the essential EU safety, health or environmental requirements.



Indicates that the user should refer to the Operations Manual or consult the instructions for use before operating the device. It directs the user to read the accompanying documentation for safety, operational, or maintenance instructions.



Identifies the entity responsible for the design, production, packaging, and labelling of the device.



Indicates that the device must be protected from water or moisture exposure, which could damage the internal components.



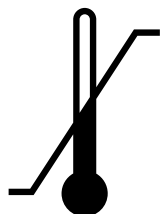
Indicates that the device should not be disposed of with regular household waste and must comply with WEEE regulations for proper electronic waste disposal.



A unique identifier assigned to each device that differentiates it from others. Used for tracking and recalls.



Indicates that the device is a specific product from the manufacturer's catalogue, and the accompanying number identifies that particular product for reordering or reference purposes.



Specifies the temperature range within which the device can be safely stored or operated.



## 9.0 Compliance and Applied Standards

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Indicates the name and address of the Authorised Representative in the European Community (EC) for the device. The authorised representative acts on behalf of the manufacturer in ensuring that the manufacturer meets regulatory requirements in Europe, especially for non-EU manufacturers.



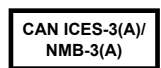
Indicates that the electromagnetic radiation from the device is below the limits specified by the Federal Communications Commission and the manufacturer has followed the requirements of the Supplier's Declaration of Conformity authorization procedures.



The UKCA marking is the conformity marking used for products being placed on the market in Great Britain.



Indicates product meets conformity standards to be placed on the market in Japan.



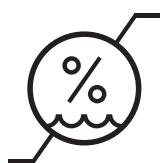
Indicates product meets EMC conformity standards to be placed on the market in Canada.



Indicates power supply specifications.



Indicates a device that needs protection from heat and radioactive sources.



Indicates the range of humidity to which the device can be stored or operated.

## 9.0 Compliance and Applied Standards

### 9.5 Machinery Directive

#### Declaration of Incorporation for:

The COVVI Robotic Hand (UK)

We herewith declare, under the manufacturer's sole responsibility, that the products described in this document are in conformity with the relevant requirements of **Supply of Machinery (Safety) Regulations 2008** and are manufactured and released according to the provision of the quality management system in force on the date of issue of this declaration.

<b>Partly Completed Machinery Name:</b>	COVVI Robotic Hand
<b>Product Type:</b>	Partly Completed Machinery
<b>Model/Batch/Serial Number:</b>	COVRB
<b>Legal Manufacturer:</b>	<b>COVVI LTD</b> , Unit 4 (Direct House), Quayside Business Park, George Mann Road, Leeds, LS10 1DJ, United Kingdom
<b>Applicable Legislations And Standards</b>	As per Appendix I - Applicable Legislations and Standards
<b>Variants:</b>	As per Appendix II - Product Listing/Schedule
<b>Function:</b>	COVVI Robotic Hand is a five-digit, six-degree-of-freedom mechanical gripper designed for research and industrial applications.  The COVVI Robotic Hand is an end effector and relies on the robotic system for safety controls, including signals and warnings for start-up, emergency stops, and motion-related hazards. Integrators must ensure compliance with ISO 10218 and IEC 60204-1.
<b>Statement Of Service:</b>	The partly completed machinery, COVVI Robotic hand shall not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with this Regulation.
<b>Statement Of Undertaking Communication To Relevant Authorities</b>	In the event that the national authorities request information on the partly completed machinery, COVVI Ltd will provide all the requested information without prejudice to the intellectual property rights of the manufacturer of the partly completed machinery via electronic mail or registered post or any other method as directed by the requesting authority.
<b>Essential Requirements Statement:</b>	This machinery complies with the relevant essential health and safety requirements of the Supply of Machinery (Safety) Regulations 2008, and the technical documentation has been compiled in accordance with part B of Annex VII.

#### Full Declaration of Incorporation Document

Please click the following link to view the full COVVI Robotic Hand Declaration of Incorporation:

[www.covvi-robotics.com/wp-content/uploads/documents/Robotics-Declaration-Of-Incorporation-UK.pdf](http://www.covvi-robotics.com/wp-content/uploads/documents/Robotics-Declaration-Of-Incorporation-UK.pdf)

## 9.0 Compliance and Applied Standards

### Declaration of Incorporation for:

The COVVI Robotic Hand (EU)

We herewith declare, under the manufacturer's sole responsibility, that the products described in this document are in conformity with the relevant requirements of **DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast) and REGULATION (EU) 2023/1230 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 14 June 2023 on machinery and repealing Directive 2006/42/EC of the European Parliament and of the Council and Council Directive 73/361/EEC** and are manufactured and released according to the provision of the quality management system in force on the date of issue of this declaration.

<b>Partly Completed Machinery Name:</b>	COVVI Robotic Hand
<b>Product Type:</b>	Partly Completed Machinery
<b>Model/Batch/Serial Number:</b>	COVRB
<b>Legal Manufacturer:</b>	<b>COVVI LTD</b> , Unit 4 (Direct House), Quayside Business Park, George Mann Road, Leeds, LS10 1DJ, United Kingdom
<b>Applicable Legislations And Standards</b>	As per Appendix I - Applicable Legislations and Standards
<b>Variants:</b>	As per Appendix II - Product Listing/Schedule
<b>Function:</b>	COVVI Robotic Hand is a five-digit, six-degree-of-freedom mechanical gripper designed for research and industrial applications.  The COVVI Robotic Hand is an end effector and relies on the robotic system for safety controls, including signals and warnings for start-up, emergency stops, and motion-related hazards. Integrators must ensure compliance with ISO 10218 and IEC 60204-1.
<b>Statement Of Service:</b>	The partly completed machinery, COVVI Robotic hand shall not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with this Regulation.
<b>Statement Of Undertaking Communication To Relevant Authorities</b>	In the event that the national authorities request information on the partly completed machinery, COVVI Ltd will provide all the requested information without prejudice to the intellectual property rights of the manufacturer of the partly completed machinery via electronic mail or registered post or any other method as directed by the requesting authority.
<b>EU Authorised Representative:</b>	<b>Advena Limited</b> , Tower Business Centre, 2nd Flr., Tower Street, Swatar, BKR 4013, Malta
<b>Essential Requirements Statement:</b>	The essential requirements of this Directive listed on Annex I are applied and fulfilled and that the relevant technical documentation is compiled in accordance with part B of Annex VII.

### Full Declaration of Incorporation Document

Please click the following link to view the full COVVI Robotic Hand Declaration of Incorporation:

[www.covvi-robotics.com/wp-content/uploads/documents/Robotics-Declaration-Of-Incorporation-EU.pdf](http://www.covvi-robotics.com/wp-content/uploads/documents/Robotics-Declaration-Of-Incorporation-EU.pdf)

## 9.0 Compliance and Applied Standards

### Declaration of Conformity for:

The COVVI Robotic Hand (UK, UKCA Marking)

We herewith declare, under the manufacturer's sole responsibility, that the products described in this document comply with the relevant requirements of **The Electromagnetic Compatibility Regulations 2016 (SI 2016 No. 1091)**. The product has been assessed for compliance with relevant designated standards, and the UKCA Mark may be affixed.

<b>Product Name:</b>	COVVI Robotic Hand
<b>Product Type:</b>	Partly Completed Machinery
<b>Model/Batch/Serial Number:</b>	COVRB
<b>Legal Manufacturer:</b>	<b>COVVI LTD</b> , Unit 4 (Direct House), Quayside Business Park, George Mann Road, Leeds, LS10 1DJ, United Kingdom
<b>Applicable Legislations And Standards</b>	As per Appendix I - Applicable Legislations and Standards
<b>Configurations &amp; Variants:</b>	As per Appendix II - Product Listing/Schedule
<b>Function:</b>	COVVI Robotic Hand is a five-digit, six-degree-of-freedom mechanical gripper designed for research and industrial applications.  The COVVI Robotic Hand is an end effector and relies on the robotic system for safety controls, including signals and warnings for start-up, emergency stops, and motion-related hazards. Integrators must ensure compliance with ISO 10218 and IEC 60204-1.
<b>Conformity Assessment Route:</b>	Module A: Internal Production Control

### Full Declaration of Conformity Document

Please click the following link to view the full COVVI Robotic Hand Declaration of Conformity:

[www.covvi-robotics.com/wp-content/uploads/documents/Robotics-Declaration-Of-Conformity-UK-UKCA-Marking.pdf](http://www.covvi-robotics.com/wp-content/uploads/documents/Robotics-Declaration-Of-Conformity-UK-UKCA-Marking.pdf)

## 9.0 Compliance and Applied Standards

### Declaration of Conformity for:

The COVVI Robotic Hand (EU, CE Marking)

We herewith declare, under the manufacturer's sole responsibility, that the products described in this document are in conformity with the relevant requirements of **Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility (recast)** and are manufactured and released according to the provision of the quality management system in force on the date of issue of this declaration and the CE Mark may be affixed.

<b>Product Name:</b>	COVVI Robotic Hand
<b>Product Type:</b>	Partly Completed Machinery
<b>Model/Batch/Serial Number:</b>	COVRB
<b>Legal Manufacturer:</b>	<b>COVVI LTD</b> , Unit 4 (Direct House), Quayside Business Park, George Mann Road, Leeds, LS10 1DJ, United Kingdom
<b>Applicable Legislations And Standards</b>	As per Appendix I - Applicable Legislations and Standards
<b>Configurations &amp; Variants:</b>	As per Appendix II - Product Listing/Schedule
<b>Function:</b>	COVVI Robotic Hand is a five-digit, six-degree-of-freedom mechanical gripper designed for research and industrial applications.  The COVVI Robotic Hand is an end effector and relies on the robotic system for safety controls, including signals and warnings for start-up, emergency stops, and motion-related hazards. Integrators must ensure compliance with ISO 10218 and IEC 60204-1.
<b>EU Authorised Representative:</b>	<b>Advena Limited</b> , Tower Business Centre, 2nd Flr., Tower Street, Swatar, BKR 4013, Malta
<b>Conformity Assessment Route:</b>	Module A: Internal Production Control

### Full Declaration of Conformity Document

Please click the following link to view the full COVVI Robotic Hand Declaration of Conformity:

[www.covvi-robotics.com/wp-content/uploads/documents/Robotics-Declaration-Of-Conformity-EU-CE-Marking.pdf](http://www.covvi-robotics.com/wp-content/uploads/documents/Robotics-Declaration-Of-Conformity-EU-CE-Marking.pdf)



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