



**Home of the clean stable**

## **ECU\_User Manual\_V1.0**

**JOZ b.v.**  
Industrieweg 5  
1617 KK Westwoud  
+ 31 228 566 500  
[www.joz.nl](http://www.joz.nl)



---

## Table of Contents

1. Introduction .....	1
2. Safety Information .....	2
3. Electrical Safety .....	3
4. Product Overview .....	4
5. Installation Instructions .....	5
6. Operation Instructions .....	6
7. Maintenance and Troubleshooting .....	7
8. Specifications .....	8
9. Regulatory Information .....	9
9.1. Class A Warnings .....	10
9.2. FCC/ ISED Regulatory Notices .....	10
9.3. RF Exposure Warnings .....	11
9.4. Appendix C1 - Modification statements .....	11
10. Warranties and Support .....	12



# 1. Introduction

Thank you for choosing our Electronic Control Unit (ECU). This manual is designed to provide detailed instructions for installation, operation, and maintenance of the ECU to ensure optimal performance and compliance with FCC and CE standards.



## 2. Safety Information

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Install in accordance with the manufacturer's instructions.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
10. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
11. Only use attachments/accessories specified by the manufacturer. This unit is designed for indoor use. Do not operate the system outdoors without proper protection against mist or rain.



### 3. Electrical Safety

- Only use the ECU with the specified voltage and current ratings.
- Do not expose the ECU to water or moisture.
- Ensure proper grounding of the ECU.



#### CAUTION

Maximum ambient temperature for charging mode is +50 degrees and for discharging mode +50 degrees.



#### CAUTION

These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so



## 4. Product Overview

### Description

The ECU is designed to manage and control various functions within robotic systems. It interfaces with sensors, actuators, and other electronic components to ensure seamless operation.

### Features

- High-performance processing capabilities
- Multiple input/output channels
- Robust and durable design
- Compliance with FCC and CE standards

### Package Contents

- ECU Unit
- Power Cable
- Communication Cables
- Mounting Hardware
- User Manual

Product and accessories Manufacturer:

JOZ B.V  
Industrieweg 5, 1617 KK Westwoud, The Netherlands.  
watts



# 5. Installation Instructions

### Pre-Installation Checklist

- Verify package contents.
- Ensure the ECU is compatible with your robotic system.
- Read the entire manual.

### Mounting the ECU

1. Choose an appropriate location within the robot
2. Secure the ECU using the provided mounting hardware.

### Connecting the ECU

1. Power Connection  
Connect the power cable to the ECU and the robot's power supply.
2. Input/Output Connections  
Connect sensors and actuators to the respective input/output channels.
3. Communication Setup  
Connect the ECU to the robot's communication network (e.g., CAN bus, Ethernet).

### Initial Power-Up

1. Verify all connections.
2. Power on the robot.
3. Check the ECU status indicators for normal operation.



# 6. Operation Instructions

### Basic Operation

1. Power on the robot and ECU.
2. Use the robot's control interface to configure the ECU settings.
3. Monitor ECU status through indicator LEDs or the control interface.

### Advanced Configuration

- Refer to the control interface's manual for detailed configuration options.
- Use provided software tools for firmware updates and diagnostics.



# 7. Maintenance and Troubleshooting

### Regular Maintenance

- Regular Maintenance.
- Ensure the ECU is free from dust and debris.

### Troubleshooting

- No Power: Verify power supply and connections.
- Communication Error: Check network cables and settings.
- Sensor/Actuator Issues: Verify connections and functionality of connected devices.



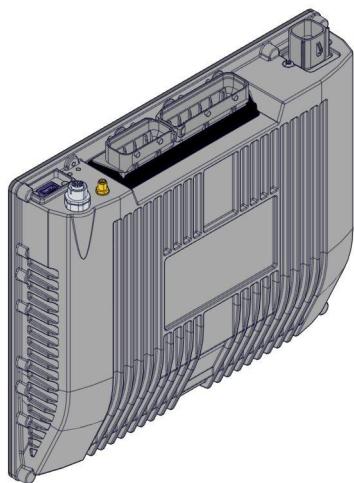
# 8. Specifications

### Electrical Specifications

- Input Voltage: 24V DC
- Current Consumption: 12A
- Communication Protocols: CAN
- IP Rating: Ip 65
- Operating Frequency: 2405 ~ 2475 MHz
- Maximum power: 7.28dBm (E.I.R.P.)

### Physical Specifications

- Dimensions: 30.8 x 27 x 6 cm
- Weight: 3.5Kg
- Operating Temperature: -10 to +50°C
- 2.4GHz 625 watts.





# 9. Regulatory Information

### Regulatory Information

We declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. This product can be used across EU member states.

Class A - Industrial use

#### The FCC Wants You to Know

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

#### RED Declaration

- We declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. This product can be used across EU member states.

#### IC STATEMENT

*This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:*

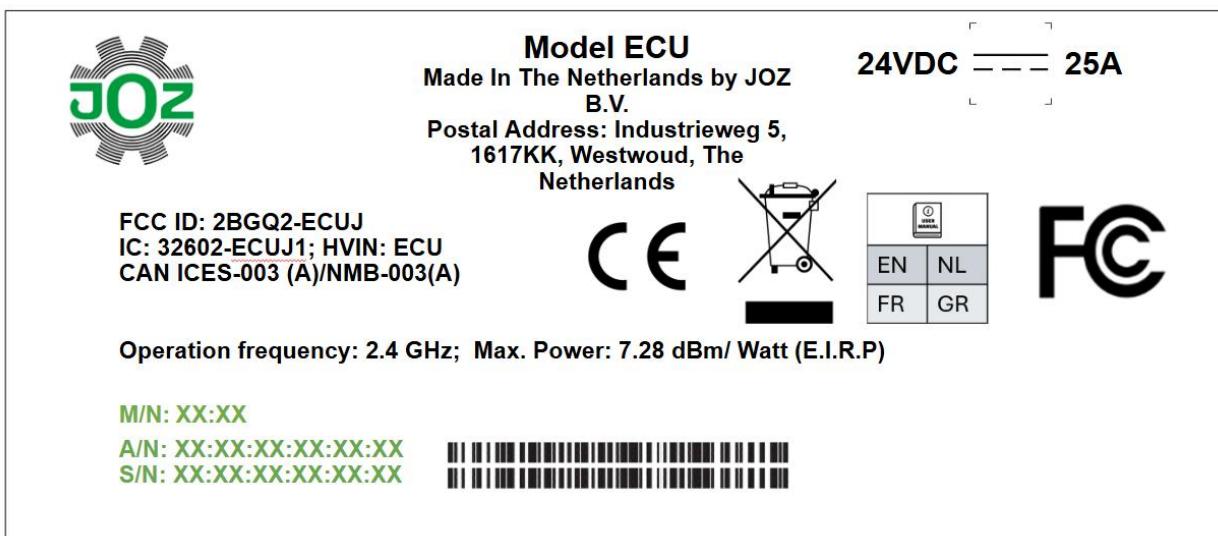
1. *This device may not cause interference.*
2. *This device must accept any interference, including interference that may cause undesired operation of the device.*

*L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :*

#### CAN ICES-3 (A) / NMB-3 (A)

**FCC ID: 2BGQ2-ECUJ**

**IC ID: 32602-ECUJ1**



### Class A Warnings

Class A - Industrial use

## 9.1. Class A Warnings

### Class A - Industrial use

#### The FCC Wants You to Know

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

## 9.2. FCC/ ISED Regulatory Notices

### Interference statement

This device complies with Part 15 of the FCC Rules and Industry Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

*Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.*

### Wireless notice

This device complies with FCC/ISED radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines and RSS-102 of the ISED radio frequency (RF) Exposure rules. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.



*Le présent appareil est conforme à l'exposition aux radiations FCC / ISED définies pour un environnement non contrôlé et répond aux directives d'exposition de la fréquence de la FCC radiofréquence (RF) et RSS-102 de la fréquence radio (RF) ISED règles d'exposition. L'émetteur ne doit pas être colocalisé ni fonctionner conjointement avec à autre antenne ou autre émetteur.*

### **FCC Warning (Modification statement)**

has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

### **ISED Warning (Modification statement)**

*n'approuve aucune modification apportée à l'appareil par l'utilisateur, quelle qu'en soit la nature. Tout changement ou modification peuvent annuler le droit d'utilisation de l'appareil par l'utilisateur.*

## **9.3. RF Exposure Warnings**

This device has been tested for compliance with FCC RF exposure limits in a portable configuration. At least 20 cm of separation distance between the Raptor device and the user's body must be maintained at all times. This device must not be used with any other antenna or transmitter that has not been approved to operate in conjunction with this device.

## **9.4. Appendix C1 - Modification statements**

### **FCC Warning (Modification statement)**

Joz has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

### **ISED Warning (Modification statement)**

Joz n'approuve aucune modification apportée à l'appareil par l'utilisateur, quelle qu'en soit la nature. Tout changement ou modification peuvent annuler le droit d'utilisation de l'appareil par l'utilisateur.

This radio transmitter [32602-ECUJ1] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device. Maximum antenna gain: 1.6dBi  
Impedance required by antenna: 50Ω  
Manufacture: JOZ B.V.



## 10. Warranties and Support

The manufacturer's warranty is 1 year from the date of purchase.

See the website <http://www.joz.com> for details.

Make sure to carefully follow the instructions for installation and calibration, or you may damage the product.

JOZ reserves all rights to this document and the information contained herein. Products, names, logos and designs described herein may in whole or in part be subject to intellectual property rights. The information contained herein is provided "as is". No warranty of any kind, either express or implied, is made in relation to the accuracy, reliability, fitness for a particular purpose or content of this document. This document may be revised by JOZ at any time. For most recent documents, please visit [www.joz.com](http://www.joz.com) Copyright © 2016, XXXXX