

# RELEASE NOTES

Document revision: A

February 16, 2023

The information contained herein is the property of Mecademic Inc. and shall not be reproduced in whole or in part without prior written approval of Mecademic Inc. The information herein is subject to change without notice and should not be construed as a commitment by Mecademic Inc. This manual will be periodically reviewed and revised.

Make sure that the firmware of your robot is the one indicated on the cover of this manual, or else consult the manual corresponding to your robot's firmware. Ideally, always use the latest robot firmware.

If you have any technical questions, please use the technical support form on our web site (<http://mecademic.com/contact-technical-support>).

Mecademic Inc. assumes no responsibility for any errors or omissions in this document.

Copyright © 2023 by Mecademic Inc.

# Contents

Version 9.2.7	3
Version 9.2.6	3
Version 9.2.5	3
Version 9.2.4	3
Version 9.2.2	3
Version 9.2.1	4
Version 9.1.5	4
Version 9.1.4	4
Version 9.1.3	4
Version 9.1.2	4
Version 9.1.1	5
Version 9.1.0	5

## Version 9.2.7

### Fixed

- (ROBOT-2495) Better detection and resiliency for communication errors with external tool.

## Version 9.2.6

### Fixed

- (ROBOT-2515) Robot may be unresponsive after staying in error for long time.

## Version 9.2.5

### Fixed

- (ROBOT-2489) Fix gripper force after resetting a motion error.

## Version 9.2.4

### Fixed

- (ROBOT-2427) Robot performs joint move instead of linear move in rare case of extreme change of direction at very high speed.
- (ROBOT-2433) Syntax error in EDS file (EthernetIP).
- (ROBOT-2435) Blending of valve control command (SetValveState) with cartesian motion commands.

### Improvements

- (ROBOT-2450) Add optional argument to ActivateRobot to allow forcing a re-initialization.

## Version 9.2.2

### Fixed

- (ROBOT-2421) Brakes are not always engaged at full strength when drives are deactivated or brakes are re-engaged manually.

## Version 9.2.1

### Features

- (ROBOT-1063) Support for Meca500 revision 4 robots.
- (ROBOT-2271) Support for EStop without rebooting the robot (on Meca500 revision 4+ only).
- (ROBOT-2308) Homing the robot is now required only once after boot-up.
- (ROBOT-2372) Reduce velocity effects on gripper force.

## Version 9.1.5

### Features

- (ROBOT-2343) New robot API command 'GetExtToolFwVersion'.

### Fixed

- (ROBOT-2360) Prevent writing to permanent storage during bootup if not required.

- (ROBOT-2361) Potential boot failure after upgrading.

## **Version 9.1.4**

### **Fixed**

- (ROBOT-2291) Dynamic Data incorrectly described in EtherCAT XML file.
- (ROBOT-2299) Error in EtherNet/IP EDS file in description of dynamic array 0 data in input data assembly.

## **Version 9.1.3**

### **Fixed**

- (ROBOT-2280) Joint 5 may be off by 1.5 degrees after homing from specific positions.

## **Version 9.1.2**

### **Features**

- (ROBOT-1074) Profinet protocol support.

### **Fixed**

- (ROBOT-2224) When loop is enabled, using the step button runs the whole program.

## **Version 9.1.1**

### **Features**

- (ROBOT-1871) Improved precision of linear moves near singularities.
- (ROBOT-2133) Support starting offline programs using EtherCAT.

### **Fixed**

- (ROBOT-1939) Linear move may cause incorrect conf change near joint limits.
- (ROBOT-2157) All LEDs keep flashing in EtherCAT mode.

## Version 9.1.0

### Features

- (ROBOT-410) New EtherCAT and EtherNet/IP cyclic data to get all robot information (WRF, TRF, motion queue, real-time data...).
- (ROBOT-552) New robot API command 'MoveJointRel'.
- (ROBOT-775) New robot API command 'SetExtToolSim' to emulate gripper or valve box.
- (ROBOT-1049) New robot API command 'SetRobotName' / 'GetRobotName'.
- (ROBOT-1087) Support robot recovery mode.
- (ROBOT-1152) Pneumatic module independent valves control.
- (ROBOT-1464) New real-time events on monitoring port for WRF, TRF, checkpoint and gripper/valve-box status.
- (ROBOT-1564) New robot API commands 'SetCtrlPortMonitoring' and 'Sync'.
- (ROBOT-1614) Gripper Position Control.
- (ROBOT-1748) Cartesian moves are now possible from/to/through singularities in some cases.

IMPORTANT: The following behavior changes have been implemented in version 9. If you are upgrading from a previous version (ex. 8.4), this section will be of particular importance

- (ROBOT-410) EtherNet/IP and EtherCAT cyclic data format has changed. Some data, previously reported by the robot for every cycle, has been moved and is now available only through new 'Dynamic data'. This includes: Joint velocities, Joint torque ratios, Accelerometer, and Gripper status.
- (ROBOT-1732) Torque limit status (3028) is sent every time torque limit status changes (exceeded or not) for events severity different than 'no action'. Torque limit error (3029) is also sent if torque limit severity is set to 'error'. Responses and messages: 3028[0|1] Torque limit status (not detected, detected) 3029 Excessive torque error occurred causing the robot to enter error state.
- (ROBOT-1815) SetConf Behavior changes in version 9.0.5 related to 'SetConf' and 'SetConfTurn' In version 8, using 'MoveJoints' or 'MoveJointsVel' would override any value previously provided using 'SetConf' / 'SetConfTurn' In version 9, 'MoveJoints' and 'MoveJointsVel' will no longer override values provided using 'SetConf' / 'SetConfTurn'.

If previous behavior is required: use 'SetAutoConf(0)' / 'SetAutoConfTurn(0)' after 'MoveJoints' / 'MoveJointsVel' to update requested conf/turn from new joints position 'SetAutoConfTurn' is now enabled by default (it was disabled by default, forced to turn 0)

Behavior change in real-time "conf" ('GetRtTargetConf', 'GetRtConf', and corresponding real-time data codes 2208/2218): When the robot position is on a singularity, the conf reported will be 0 (it used to be arbitrary 1 or -1). This is useful for users to know the robot is on a singularity and that position may be considered valid in both conf (+1 or -1). Example, on Wrist singularity the conf could be reported as (1,1,0).

- (ROBOT-2169) The behavior of linear moves' 180 degrees protection has changed. Old behavior: The robot used to prevent linear moves that caused any joint to move by more than 180 degrees. This was blocking some valid linear moves from being performed. New behavior: The robot refuses a linear move if the initial and final orientations are 180 degrees from each other (in which case there is ambiguity about the direction along which the robot end-effector should be rotating).

- (ROBOT-912) Robot is now rebooted automatically after any firmware upgrades (including drives and external tools).

## Fixed

- (ROBOT-820) 'End of offline program' event inconsistent when running multiple programs.