

# RELEASE NOTES

Firmware: 8

October 1, 2020

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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.

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## Version 8.1.8

### Fixes

- (ROBOT-826) The web portal does not return the actual network configuration in the setting menu.
- (ROBOT-595) SpaceMouse and 3-axis joystick are now supported and update the icon files.
- (ROBOT-829) Joint position is offset by one motor turn after doing homing from some positions.
- (ROBOT-845) SetMotionOptions triggers 'Robot is not activated' response.

## Version 8.1.7

### Fixes

- (ROBOT-752) The motion profile of the robot could have an overshoot during acceleration and deceleration if the acceleration is not initialized.
- (ROBOT-766) The robot positions reported in EtherCAT oscillate between the desired and actual position.
- (ROBOT-776) For some motion sequences, the robot stops moving for about 60 seconds once every 71 minutes.

## Version 8.1.6

### Fixes

- (ROBOT-734) Web interface sends a velocity command (with speed 0) when the window is losing focus.
- (ROBOT-744) Robot persistent storage can be corrupted if power is interrupted while the robot was logging an activity trace.

## Version 8.1.5



### **WARNING:**

This is the first public release of firmware 8. If you are upgrading from firmware 7, please ask us for the migration guide, as there are major changes.

### Fixes

- (ROBOT-697) Incorrect SetGripperForce parameter range in the web interface.

## Version 8.1.4

### Fixes

- (ROBOT-666) A raw TCP/IP connection was wrongfully detected as a WebSocket connection.

### Changes

- (ROBOT-667) Gripper commands were executed with preceding Cartesian-space motion commands. They are now executed only when the movement is completed, as in firmware 7.
- (ROBOT-668) Modifications were made to the robot joint mode acceleration. Acceleration can now be set at up to 150%.
- (ROBOT-675) Restored the same default acceleration (100%) as in firmware 7.

## Version 8.1.3-rc

### Fixes

- (ROBOT-650) Upload of update image to robot's web interface was blocked.
- (ROBOT-652) Monitoring connections from the web interface were not closed correctly.
- (ROBOT-659) Looping in web interface was not working when using commands that don't make the robot move.

## Version 8.1.2-rc

### New Features

- (ROBOT-392) Support for the protective stop 2 (Stop Category 2) in the robot controller.

## Version 8.1.1-rc

### New Features

- (ROBOT-495) Cartesian-space movements that require joint rotations of more than 180° are now blocked. This limit can be bypassed with a special command.
- A Jogging toggle button was added in the web interface to switch between jogging and program execution modes.
- (ROBOT-67) Added motion commands allowing velocity-mode control. You can now feed the desired Cartesian or joint velocity to the robot every 2 ms.
- (ROBOT-66) Jogging can now be done using 3Dconnexion's SpaceMouse from the new Joystick tab in the web interface.
- (ROBOT-548) Added the command SetNetworkOptions for setting network parameters.
- (ROBOT-496) Added the command GetFwVersion for obtaining the firmware version.
- (ROBOT-540) Added FIFO Cleared status bit to report when a ClearMotion command has been executed in EtherCAT.
- (ROBOT-403) Added SDO 0x8010 to disable/enable the brakes (when the robot is deactivated) in EtherCAT.
- The message [2007][as,hs,sm,es,pm,eob,eom] is now also sent over port 10,001, but automatically and as soon as the robot status changes.

- Added the command SetCheckpoint.
- (ROBOT-64) Added the command SetMonitoringInterval that changes the refresh interval on port 10,001.
- A program can now be saved even if the robot is activated and homed.
- Added Request Log tab in the web interface where virtually all commands sent to the robot are now displayed.
- (ROBOT-167) 0G button works in EtherCAT mode as well as when the robot is connected to a computer via the web interface.
- Angular velocity (1A04h), Torque Ratio (1A05h), Accelerometer (1A06h), Gripper Status (1A07h) and Configuration (1A08h) are now available as PDOs in EtherCAT.
- New movement control (Move ID 6015h:1) added in EtherCAT.

## Fixes

- (ROBOT-435) In the web interface, the loop option could cause the program to be sent more than once, even if looping was disabled.
- (ROBOT-600) A Delay command sent immediately after a MoveLin command could generate a longer delay than requested.
- (ROBOT-210) When executing one of the velocity-mode commands with an argument that exceeded its maximum, the robot controller simply replaced the argument with its maximum value instead of generating an error.
- (ROBOT-395) When homing with a joint being close to one of its limits, the robot fell in error mode or the resulting joint position was incorrect.
- (ROBOT-424) Motion commands were sometimes ignored when the cycle time was set to 2 ms in EtherCAT.
- (ROBOT-456-509) The sub-indices EOB, EOM and Paused was always kept high in EtherCAT.
- (ROBOT-450) The command SetOfflineProgramLoop did not return an error message if sent while no program was being saved.
- (ROBOT-480) The TRF and WRF frames were not reset on robot activation.
- (ROBOT-493) Changed the TCP keep-alive timeout from 1 second to 10 seconds to prevent disconnection on packet loss.
- (ROBOT-481) A movement could cause a motion error because the desired acceleration was higher than in the previous firmware version.
- (ROBOT-484) When reconnecting to a robot from the web interface, the existing

program was automatically sent for execution.

- The signal EOB was missing when the movement was short.
- (ROBOT-430) Joint 6 was limited to  $\pm 175^\circ$  in the web interface, instead of  $\pm 180^\circ$ .
- The robot did not always recover from error mode.
- Impossible to reconnect when the Ethernet cable was disconnected while the port was open.
- Unit symbols were editable in the web interface.
- The IP address formatting in the web interface was not correct.
- The panels of the web interface did not resize correctly on small monitors.
- Jogging was blocked when a maximum value was reached.
- Names of registers 6030h, 6031h and 6032h in EtherCAT were not correct.

## Changes

- The Category 2 protective stop is now reset with the command ResetPStop.
- (ROBOT-65) The grip force range for the MEGP25 has been changed to [10%, 100%] from [0%, 100%].
- (ROBOT-107) An input field has been added next to the “Save offline program” button in the web interface for specifying the ID number of the program to be saved.
- The message numbers for joint sets and the pose feedback on the monitoring port (10,001) changed to 2026 and 2027 respectively.
- (ROBOT-125) Each offline program can now store up to 13,000 motion commands.
- For the offline program saving, new response messages (1030, 1031) replace the old ones (3018, 3013).
- (ROBOT-472) The socket latency has been reduced.
- Commands in the Quick Command drop-down list are now in alphabetical order.
- PDOs 1601h, 1602h, 1603h, 1604h, 1605h, 1606h have been removed in EtherCAT.
- Moving communication mode from 7800h to 8000h in EtherCAT.
- Different acceleration affects the blending behavior now.