Release Notes

Document revision: A

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Contents

Version 8.3.10

Improvements

- Robot production improvements.

Version 8.3.6

Fixed

- (ROBOT-939) Motion Resumed response should not be sent after Homing or deactivating robot.
- (ROBOT-974) Network settings dialog in web may report wrong values.
- (ROBOT-1009) In some situation, autoconf does not choose the closest (least movement) robot configuration upon a MovePose.

Version 8.3.5-beta

NOTICE:
Meca500 Revision 2 (R2) are now compatible with this firmware. All the

> ⚠️ **WARNING:**
> A bug in the 6.x firmware prevents the upgrade of the drives when upgrading to 8.x. To work around this problem, please upgrade the robot to 8.x a second time so that all drives are upgraded to the new version.

Features

- (ROBOT-149) Support for the Ethernet/IP control protocol.
- (ROBOT-699) Precise (1um) Position Control Incremental Move (jogging) in Web Interface. When using Incremental jogging, standard motion errors will be triggered if the robot reaches a joint limit or a singularity.

Improvements

- (ROBOT-919) The requirement of pressing the CTRL key to jog with a joystick key has been removed.
- (ROBOT-912) Robot is now rebooted automatically after any firmware upgrades (including drives and external tools).

Fixed

- (ROBOT-871) If activation fails, robot enters an invalid state where the motors stay activated.
- (ROBOT-918) 0G and brake release doesn't work before a first robot activation.
- (ROBOT-967) Receiving [3000][Connected to Meca500 R3 v8.1.x] message before boot sequence finishes.
- (ROBOT-976) PStop reset does not work in some cases.

Version 8.1.9

Fixed

- (ROBOT-385) Cannot reconnect to robot in some cases (reports user already connected while there is none).

- (ROBOT-857) The commands 'ResetError' and 'DeactivateRobot' do not always return a response message.

- (ROBOT-861) The reset error command triggers an EOB response if there is an error to reset.

- (ROBOT-913) Upgrade from certain Beta/RC versions causes calibration parameters to be lost.

- (ROBOT-960) The web interface sends 'MoveJointsVel' even if the robot has reached its destination while jogging in the web portal.

Version 8.1.8

Fixed

- (ROBOT-595) SpaceMouse and 3-axis joystick are now supported and update the icon files.

- (ROBOT-826) The web portal does not return the actual network configuration in the setting menu.

- (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

Fixed

- (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 seonds once every 71 minutes.

Version 8.1.6

Fixed

- (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.

Fixed

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

Version 8.1.4

Fixed

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

Improvements

- (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

Fixed

- (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

Features

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

Version 8.1.1-rc

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.

Fixed

- (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 $\pm 175°$ in the web interface, instead of $\pm 180°$.
- 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.

Improvements

- 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.