# RELEASE NOTES

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# Contents

## Version 10.3.0

### Features

- (ROBOT-3179) Support monitoring (read-only) connection from cyclic protocols.
- (ROBOT-3190) API command to remotely reboot the robot.
- (ROBOT-3191) New simplified user log and detailed event log available for download in MecaPortal.

### Improvements

- (ROBOT-3121) Support EtherNet/IP and Profinet at 1ms cycle time (Mcs500 robot).
- (ROBOT-3177) New APIs to manage robot calibration (SetCalibrationCfg, GetCalibrationCfg, GetRobotCalibrated).
- (ROBOT-3251) Reducing the maximum joint velocities with SetJointVelLimit now increases accelerations (in both joint and Cartesian spaces), allowing much quicker short distance moves.
- (ROBOT-3284) Meca500 r4 APIs are now reporting the EStop 'resettable' state.

### Fixed

- (ROBOT-3186) Mecademicpy RobotRtData does not populate data correctly when in Monitor mode.
- (ROBOT-3210) MecaPortal crash when user program name ends with slash.

# Version 10.2.1

## Features

- (ROBOT-2970) New API GetSafetyStopStatus to query, on the control port, the safety stop status.
- (ROBOT-3022) New robot diagnostic panel in the MecaPortal (Mcs500 only).

## Improvements

- (ROBOT-2624) Profinet stack updated in order to pass newer version of Profinet certification (version 2.44).
- (ROBOT-2706) MecaPortal code editor has new buttons to save/load programs from local PC disk.
- (ROBOT-2708) Enable or disable EtherNet/IP, Profinet and EtherCAT from MecaPortal's network configuration page. New API GetProfinetEnabled and GetEtherNetIpEnabled.
- (ROBOT-2993) Checkpoint real-time monitoring event (id 2227) is now automatically sent on the monitoring port.
- (ROBOT-3004) PStop1 and PStop2 safety signals are now always masked while the robot is in Manual operation mode (regardless of whether the enabling device is pressed or not).
- (ROBOT-3005) New 'checkpoint discarded' event (code 3040) sent when a checkpoint is discarded for any reason (motion cleared, robot in error, robot deactivated, etc.).
- (ROBOT-3107) Power supply physical input states (EStop, PStop1, PStop2, enabling device and reset) are now reported in cyclic data's safety status.

## Fixed

- (ROBOT-2896) Error messages on 4 axis robots sometimes refer to 6 Cartesian parameters instead of 4.
- (ROBOT-3047) Motion Error on Meca500 after robot activation or error reset when time scaling is not 100%.
- (ROBOT-3062) Failure to recover Meca500 drive after upgrade failure.

# Version 10.1.1

## Features

- (ROBOT-1253) EtherNet/IP protocol is now certified with version CT20.

- (ROBOT-2122) Show robot work zone and tool sphere in robot 3D view.

**Fixed**

- (ROBOT-2866) Meca500 Ethernet ports are not always linking with some switches or devices.
- (ROBOT-2890) Meca500 in EthetCAT mode remains busy after trying to activate while in PStop2.
- (ROBOT-2934) Gripper force sometimes overshoot when holding part.
- (ROBOT-2958) Calibrated robot may slightly move in another direction when at joint limits.
- (ROBOT-2959) Robot calibration cannot be not fully disabled.
- (ROBOT-2975) Vacuum pressure is always reported as 0 in cyclic protocols.

# Version 10.1.0

**Features**

- (ROBOT-2239) New robot API command 'SetPStop2Cfg'/'GetPStop2Cfg' for PStop2 configuration.
- (ROBOT-2451) Support for collision prevention and work zone features:
    - New robot API command 'SetCollisionCfg'/'GetCollisionCfg' for collision prevention configuration.
    - New robot API command 'SetWorkZoneCfg'/'GetWorkZoneCfg' for work zone configuration.
    - New robot API command 'SetWorkZoneLimits'/'GetWorkZoneLimits' for defining work zone bounding box.
    - New robot API command 'SetToolSphere'/'GetToolSphere' for defining tool sphere model.
    - New field 'CollisionStatus' in 'RobotStatus' cyclic protocol data.
    - New field 'WorkZoneStatus' in 'RobotStatus' cyclic protocol data.
    - Visual representations for reporting feature events in MecaPortal.
- (ROBOT-2825) Support for Mcs500 safety behaviors:
    - Support for Operation modes and key switch selector.
    - Support for speed limitation to 250 mm/s in Manual mode.
    - Support for safety standstill monitoring.
    - Conditional logic for 3-position enabling device.
    - New structure 'SafetyStatus' and fields related to safety signals in cyclic protocol data.

**Fixed**

- (ROBOT-2784) Gripper instabilities while holding part.
- (ROBOT-2833) Issues related to robot running large offline programs.
- (ROBOT-2837) SetTimeScaling not working on Meca500 on EtherCAT.
- (ROBOT-2859) Mcs500 cyclic data for joint limits of joint 4 reports no data.
- (ROBOT-2891) Brake Release not allowed if Pstop2 is on.
- (ROBOT-2898) Some state change events were sent on Control port instead of Monitoring port (safety stops, torque limit status).
- (ROBOT-2907) Robot activation may fail if robot is moving when trying to activate (tool weight causing movement due to gravity for example). The robot may now post-pone activation by few seconds, waiting until it stopped moving.

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IMPORTANT: The following behavior changes have been implemented in version 10.1. If you are upgrading from a previous version (ex. 10.0 or 9.3), this section will be of particular importance:

- (ROBOT-2784) In fixing the instabilities issues, the overall speed of the gripper has been reduced. In cases where the legacy max gripper velocity is required, 'SetGripperVel' can accept up to 200%, but will only go to those excess speeds when the gripper force is at 100%.

- (ROBOT-2939) The method for resuming robot motion using cyclic protocols (EtherCAT, EtherNet/IP or Profinet) has changed. In addition to clearing 'Pause Motion' and 'Clear Motion' bits, resuming motion now also requires to set the 'Resume Motion' bit. This 'Resume Motion' bit is replacing the previous 'Reset PStop2' bit in the cyclic data, now that the 'Resume Motion' command has been generalized. In fact, the 'Resume Motion' command is now used not only to resume paused motion, but also to recover from safety stop signals (such as PStop2, enabling device released or connection dropped) or recover from collision or work zone event. Note that motion is resumed only upon rising edge of the 'Resume Motion' bit so if, for any reason, the robot is refusing to resume motion (PStop2 signal is still present for example) the application will have to clear the 'Resume Motion' bit and set it again later.

- The alpha feature denoted *WorkspaceLimits* has been deprecated. Commands from *WorkspaceLimits* (SetWorkspaceLimitsCfg, GetWorkspaceLimitsCfg, SetWorkspaceLimits, GetWorkspaceLimits) have been changed for new commands. Please refer to the Programming Manual for equivalent commands in the work zone and collision prevention features.

# Version 10.0.4

## Fixed

- (ROBOT-2783) Meca500 joint offset after activation without homing.
- (ROBOT-2811) Mcs500 can't move to joint 3 limits with MoveLinVel when TRF has Z offset.
- (ROBOT-2815) MecaPortal visual scaling enhancements.
- (ROBOT-2823) Missing response to SetTimeScaling.
- (ROBOT-2832) Some MSIPS R1 power supplies (for Mcs500 robots) generate a fatal error after a long press on the reset button.
- (ROBOT-2833) Robot becomes unresponsive when starting too many large offline programs.
- (ROBOT-2834) Profinet and EtherNet/IP cyclic data is delayed when starting a large program.

# Version 10.0.3

## Features

- (ROBOT-892) Support for new Mcs500 Scara robot.
- (ROBOT-1598) Support for robot calibration (with full DH parameters and more).
- (ROBOT-2552) Support for time scaling (real-time robot execution speed control without affecting the followed trajectory).
- (ROBOT-2680) Various minor MecaPortal enhancements.
- (ROBOT-2682) Support for new Mvk01 vacuum and digital IO module for Mcs500 robot. New API calls allow to control vacuum and digital IOs.
- (ROBOT-2700) New MoveJump command for Mcs500 robot.
- (ROBOT-2746) Pause motion now follows planned path (no more ignores blending).

> IMPORTANT: The following behavior changes have been implemented in version 10.0. If you are upgrading from a previous version (ex. 9.3), this section will be of particular importance:
> - (ROBOT-1687) EtherCAT COE is not supported on Mcs500 robots (though cyclic PDO communication protocol remains the same on both Mcs500 and Meca500 robots).
> - (ROBOT-2641) Behavior of the Delay command has been changed on Mcs500 robots to be more consistent. On Meca500 robots, the Delay command is being blended with previous/next commands when executed in joint space but not in Cartesian space. On Mcs500 robots, the Delay command is now always causing the robot to come to a complete stop before the requested delay duration starts to be applied.

- (ROBOT-2746) Robot behavior during PauseMotion and ClearMotion have slightly changed:
  - Deceleration period has been uniformized to 100ms in both Joint and Cartesian modes (in Joint mode it used to depend on joint acceleration and could thus take very long to stop moving).
  - Deceleration is now made along the planned path, including blending (it used to ignore blending and stop like if blending was always set to 0 percent).