

Thunder 1.13.7.0 Release Notes

Release Date: 03/12/2025

The goal of this document is to inform that a new version of official software/firmware is released for HIWIN E series servo drives. Updates made in this version are listed in below table:

Type	Name	Version	Updates
Software	Thunder Human Machine Interface	1.13.6.0	17 new features, 22 bug fixes, 0 known issue
		1.13.7.0	1 new feature, 5 bug fixes, 0 known issue
MDP firmware	E1	2.13.6	12 new features, 1 bug fix, 1 known issue
	E1COE	2.13.6	18 new features, 9 bug fixes, 1 known issue
	E2	3.13.6	12 new features, 3 bug fixes, 1 known issue
	E2COE	3.13.6	19 new features, 11 bug fixes, 1 known issue

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1. Software

1.1 Thunder Human Machine Interface

1.1.1 New Features

1.1.1.1 Version 1.13.6.0

No.	Summary	Description
7077, 8834	Off-line mode supports part of multi-motion function	This version supports loading multi-motion file in off-line mode for users to view and modify.
9388	Error map adds display unit	In this version, unit columns are added in error map table.
10341	Electronic gear ratio supports wedge mechanism	This version supports wedge mechanism's electronic gear ratio.
9114, 9424, 9425, 10342	Tuning interface supports new functions	In this version, tuning interface supports new functions, including MFC, P/PI parameters setting, stiffness level setting, time domain adjustment and gain switching.
10381	Optimize torque mode setting	In this version, when users select torque mode and perform Configuration Wizard for the first time, parameter Pt401 - First stage first torque command filter time constant will be automatically optimized and adjusted.
7027, 10430, 10446	Optimize phase initialization function	This version adds error messages for phase initialization failure and expands the supported range of current in phase initialization.
10096, 10355	Phase initialization supports new functions	In this version, in conjunction with the corresponding firmware version, auto phase initialization and simple inertia adjustment can be performed in "Phase initialization setup" window.
9887	Add a tool that can continuously burn firmware / PDL / PRM	This version adds an external gadget that can continuously update firmware / PDL / PRM.
10382	Add communication protocol button	In this version, the corresponding communication protocol button is displayed based on the model (PROFINET, EtherNet/IP, or MECHATROLINK-III).
10089	"Error log" window supports Warning message	In this version, "Error log" window supports the record of Warning message. Besides, the Warning button in the main window can open "Error log" window.
10276	Add homing method -1, -2, -4, and -5	This version adds homing method -1, -2, -4, and -5.
8105	Thunder's motor parameters file adds the value of rotor mass	In this version, Thunder's motor parameters file (*.mot) adds the value of rotor mass.
10435	Support "Homing Operation" window to display the current status	This version supports "Homing Operation" window to display the current status / last performed operation.

No.	Summary	Description
10436	"Test Run" window supports continuous relative move	In this version, relative move in "Test Run" window adds continuous operation mode, including the check box to activate it, repeat times and dwell time.
10471	Add MoveHome button and Home status light in "Test Run" window	This version adds MoveHome button and Home status light in "Test Run" window.
10445	If the motor is set to linear motor or direct drive motor, the default setting of electronic gear ratio is 1:1	In this version, when using linear motor or direct drive motor, the mechanism with gear ratio is generally not paired with. To simplify the setting, the default of electronic gear ratio is set to 1:1.
10613	If the firmware version of drive is 2.13.6 (E1) / 3.13.6 (E2) or above, "Position trigger setup" window additionally supports encoders other than digital format	In this version, If the firmware version of drive is 2.13.6 (E1) / 3.13.6 (E2) or above, encoders other than digital format are additionally supported and position trigger function can be used.

1.1.1.2 Version 1.13.7.0

No.	Summary	Description
10090	Support new model E2-R	This version supports new model E2-R.

1.1.2 Bug Fixes

1.1.2.1 Version 1.13.6.0

No.	Summary	Description
7643	Optimize the display of Spectrum analyzer interface	In the previous version, the guidance for Enable button in Spectrum analyzer is unclear. In this version, the problem is fixed.
10345, 10404	Optimize PRM conversion function	This version prevents abnormal PRM conversion behavior and crash.
9876	Optimize PRM file loading behavior	In the previous version, when PRM conversion behavior is performed, the check box "Redo phase initialization setup" is not forced to be checked. In this version, the problem is fixed.
10272	Fix the abnormal display of "Performance monitor" window	In the previous version, the setting values in "Performance monitor" window are displayed abnormally. In this version, the problem is fixed.
8803	Fix the setting problem of "Pre-Configuration" window	In the previous version, Configuration Wizard does not correctly select the setting for "Pre-Configuration" window. In this version, the problem is fixed.
10463	Fix the display problem of Configuration Wizard's Encoder setup page	In the previous version, some columns will disappear when Configuration Wizard reads digital encoder. In this version, the problem is fixed.

No.	Summary	Description
7517	Fix the problem that the loading file function of Others tab in Pt parameter list is abnormal	In the previous version, the loading file function of Others tab in Pt parameter list is abnormal. In this version, the problem is fixed.
7749	Fix the unit of Gantry variables in Scope	In the previous version, the unit of Gantry variables is cnt. In this version, the unit is changed to cunit.
10283	Fix the problem that "Lissajous" window cannot be opened in enabled state	In the previous version, "Lissajous" window cannot be opened in enabled state. In this version, the problem is fixed.
10375	Widen the file path length for loading PRM file	In the previous version, if the number of characters in the file path exceeds the length limit, loading error may occur. In this version, the problem is fixed.
10407	Detect PRM Transfer error message after updating firmware	In the previous version, PRM Transfer error codes are not detected when updating firmware. In this version, the problem is fixed and the corresponding pop-up window will be displayed according to the error.
10266	Fix the problem that the values are cleared when Scope stops recording	In the previous version, when Scope stops recording, there is a 1/2 chance that the numerical data in the columns will be deleted. In this version, the problem is fixed.
10566	Fix the problem that when linear motor is selected in Configuration Wizard, Single-Turn Data is displayed on Encoder setup page	In the previous version, when the motor is set to linear motor, Single-Turn Data will be displayed. However, the correct display should be Position Data. In this version, the problem is fixed.
8151, 10442	Cancel the installation of 7-Zip	In the previous version, if 7-Zip provided in Thunder installation file is not correctly installed, some functions may be abnormal. 7-Zip is built-in in this version, so additional installation is not required.
8942	Fix the display problem of "Electronic gear ratio setting" window	In the previous version, when the language is English, the text "reduction ratio" in "Electronic gear ratio setting" window is not fully displayed. In this version, the problem is fixed.
10066	Fix the problem of UsbDriverInstaller execution error	In the previous version, the UsbDriverInstaller system error will occasionally occur after installing Thunder. In this version, the problem is fixed.
10509	Fix the display problem of Configuration Wizard's Motor setup page	In the previous version, the motor model in Configuration Wizard is displayed abnormally. In this version, the problem is fixed.
9653	Fix the problem caused when the capacity of PDL exceeds the available space	In the previous version, if there is a lot of content in user.pdl and multi-motion function is activated at the same time, the function will be abnormal since the capacity of PDL exceeds the limit. In this version, users will be reminded when the space is not enough.
10644	Fix the problem that ESC function is disabled when loading E2 PRM file to E2 drive	In the previous version, ESC function is mistakenly disabled when loading E2 PRM file to E2 drive. In this version, the problem is fixed.
10668	Fix the problem that when users update firmware or set to factory default, the failure of PDL procedure will make the drive abnormal	In the previous version, when users update firmware or set to factory default, the failure of PDL procedure will result in abnormal drive parameters. In this version, the procedure will be stopped and a message window will be displayed if it fails.
8867, 10414	Optimize the conversion of PRM file	In the previous version, PRM file with special version may not be converted. In this version, the problem is fixed.
9124	Pictures of the mechanisms'	In the previous version, some pictures of the mechanisms' appearance are

No.	Summary	Description
	appearance are incorrectly cited	incorrectly cited. In this version, the problem is fixed.

1.1.2.2 Version 1.13.7.0

No.	Summary	Description
10846	Fix the position boundary detection during single point adjustment	In the previous version, the unnecessary motor position check during single point adjustment will cause the occurrence of error messages. In this version, the problem is fixed.
10915	Fix the problem that the function has no respond when continuous inertia detection is executed	In the previous version, inertia adjustment cannot be activated due to wrong status judgment. In this version, the problem is fixed.
10936	The values of drive overload percentage, peak loading rate and regenerative loading rate on Scope are incorrect	In the previous version, due to unit abnormality, the values of drive overload percentage, peak loading rate and regenerative loading rate are incorrect. In this version, the problem is fixed.
10875	Fix the problem that when users execute homing in "Test Run" window, the motor will be disabled after it touches the limit, making homing fail	In the previous version, the homing function in "Test Run" window will make the motor disabled due to the trigger of limit signal, resulting in the failure of homing. In this version, the problem is fixed.
10964	Fix the problem that D series parameters file cannot be loaded by E series parameters	In the previous version, D series parameters file cannot be loaded by E series parameters. In this version, the problem is fixed.

2. Firmware

2.1 MDP firmware (E1 / E1COE)

2.1.1 New Features

2.1.1.1 Version 2.13.6

No.	Summary	Description
8956	Error log supports the function option of warning recording	In this version, users can set Pt011.t□X□□ to open Warning log. Like alarm, the trigger time of warning can be recorded and the record can be kept after the drive is powered cycled.
10447	Internal homing method supports hard stop homing	This version supports hard stop homing. Users can perform homing by touching the hard stop (mechanical stop). Refer to section 8.11 in "E1 / E2 Series Servo Drive User Manual" for details.
10477	Change the default capturing parameter in drive recorder	In this version, servo voltage percentage, the default parameter in drive recorder, is replaced by voltage of the main power.
9678	Support full-travel distance auto tuning function	This version supports full-travel distance auto tuning function. Users can set the positioning completion range and specify the tuning range to perform gain loop's auto tune. Refer to section 8.10.4 in "E1 / E2 Series Servo Drive User Manual" for details.
9782	Support auto phase initialization function	This version supports auto phase initialization function. Instead of manual execution, users can perform phase initialization with one click.
9640	E1 drive with ESC-SS-S02 supports EnDat serial encoder (with battery) to perform absolute encoder initialization	In this version, E1 drive with ESC-SS-S02 can perform absolute encoder initialization for EnDat serial encoder (with battery) via Thunder or PDL.
10200	Change the upper limit of Pt400 - Torque command input gain	In this version, the upper limit of torque command input gain (Pt400) that can be set is increased to 1000.
10330	Add Pt206.t□□□X - Encoder output inversion function selection	In this version, by setting Pt206.t□□□X, users can choose whether to invert the encoder output signal.
10417	Add Ut00B - Average loading rate	This version supports the calculation of average loading rate (update cycle is 15 seconds).
10542	Add Ut00F - Feedback pulse counter (load side)	This version supports feedback pulse counter for load side, which can be used to observe the original value of the feedback pulse number read from the load-side encoder by the drive.
9934	Add Ut700 - Homing status	This version supports Ut700 - Homing status. By observing this parameter, users can monitor the ongoing procedure of homing or check the reason for the failure of homing. Refer to section 8.11.4 in "E1 / E2 Series Servo Drive User Manual" for details.

No.	Summary	Description
10388	Add the function of reading Serial Number of AC servo motor	This version can read Serial Number of AC servo motor and display it in Thunder.
10433	(Only for Fieldbus) Object 3215h (Reset drive) adds the function of resetting gantry's master axis and slave axis at the same time	In this version, object 3215h (Reset drive) adds the function of resetting gantry's master axis and slave axis at the same time.
9859	(Only for Fieldbus) EtherCAT drive supports Modulo function	In this version, EtherCAT drive supports Modulo function. Users can apply it to rotational positioning. Refer to section 3.2.10 in "E Series Servo Drive EtherCAT Communication Command Manual" for details.
10158	(Only for Fieldbus) EtherCAT drive supports warning AL990 - Host controller's position command error	In this version, when the target position change input by EtherCAT drive in CSP mode is too large, the target position will be ignored and warning AL990 will pop up. Refer to section 3.2.3 in "E Series Servo Drive EtherCAT Communication Command Manual" for details.
10211	(Only for Fieldbus) EtherCAT drive supports 10 sets of RxPDO and TxPDO	In this version, EtherCAT drive can configure up to 10 sets of RxPDO and TxPDO.
10415	(Only for Fieldbus) EtherCAT drive supports the source selection function of object 606Ch (Velocity actual value)	In this version, by setting Pt0A0.t□□□X, EtherCAT drive can decide to use the value filtered or unfiltered by Pt308 as the source of object 606Ch (Velocity actual value).
10488	(Only for Fieldbus) Optimize the related functions of drive's MECHATROLINK-III communication to make the drive certified by MECHATROLINK Members Association	In this version, the related optimizations of MECHATROLINK-III communication are listed as follows: 1. Fix the abnormal behavior of some servo commands 2. Optimize the error detection and reporting mechanism for common commands 3. Optimize the error detection and reporting mechanism for servo commands 4. Optimize the abnormal command protection mechanism for servo commands 5. Optimize the communication connection mechanism

2.1.2 Bug Fixes

2.1.2.1 Version 2.13.6

No.	Summary	Description
10449	Fix the problem that when using HIWIN's self-made AC servo motor or DM-RM series, the alarm AL025 may be triggered after the drive setting is completed	In the previous version, when using HIWIN's self-made AC servo motor or DM-RM series, if the peak current of drive is less than the peak current of motor, the alarm AL025 (System alarm 2) may be triggered after the drive setting is completed. In this version, the problem is fixed.
7721	(Only for Fieldbus) Fix the problem that when the gear ratio setting of Fieldbus drive is not 1:1, if the encoder overflow occurs, the abnormal latch position sent back by Touch probe function to the controller makes the functions such as homing invalid	In the previous version, when the gear ratio setting of Fieldbus drive is not 1:1, if the encoder overflow occurs, the latch position sent back by Touch probe function to the controller will be abnormal, making the functions such as homing invalid. In this version, the problem is fixed.
10393	(Only for Fieldbus) Fix the behavior of EtherCAT drive's object 60FEh:02 (Digital outputs : Bit mask)	In the previous version, the behavior of EtherCAT drive's object 60FEh:02 (Digital outputs : Bit mask) is different from that in the further previous version. In this version, the problem is fixed.
10625	(Only for Fieldbus) Fix the problem that EtherCAT drive cannot set PDO objects of data type I8 to negative values	In the previous version, EtherCAT drive cannot set PDO objects of data type I8 to negative values. In this version, the problem is fixed.
10154	(Only for Fieldbus) Optimize the compatibility of PROFINET drive with Phoenix Contact controller	In the previous version, when PROFINET drive is communicating with Phoenix Contact controller, the abnormal phenomenon of PZD's IO data values being 0 will occur. In this version, the problem is fixed.
10058	(Only for Fieldbus) Fix the problem that when using MECHATROLINK-III drive with some controllers to execute No operation (NOP) command, the command cannot be completed	In the previous version, when using MECHATROLINK-III drive with some controllers to execute No operation (NOP) command, the command cannot be completed. In this version, the problem is fixed.
10410	(Only for Fieldbus) Fix the problem that when communication is disconnected due to environmental interference, MECHATROLINK-III drive does not disable the motor	In the previous version, when communication is disconnected due to environmental interference, MECHATROLINK-III drive does not disable the motor. In this version, the problem is fixed.
10507	(Only for Fieldbus) Fix the problem that when MECHATROLINK-III drive receives velocity or torque command, the information of command execution condition error will be triggered	In the previous version, when MECHATROLINK-III drive receives velocity control (VELCTRL) or torque control (TRQCTRL) command in disabled state, the information of command execution condition error will be triggered. In this version, the problem is fixed.

No.	Summary	Description
10577	(Only for Fieldbus) Fix the problem that MECHATROLINK-III drive mistakenly triggers emergency stop (ESTP)	In the previous version, MECHATROLINK-III drive will mistakenly trigger emergency stop (ESTP) every 12 hours. In this version, the problem is fixed.

2.1.3 Known Issues

2.1.3.1 Version 2.13.6

No.	Summary	Description and workaround
4457	PDL variable memory limit change	<p>Description: As to PDL variable memory limit change, related information is listed as below:</p> <p>2.13.6 - Variable memory left 208 Bytes 2.12.5 - Variable memory left 284 Bytes 2.10.6 - Variable memory left 310 Bytes 2.8.16 - Variable memory left 220 Bytes 2.8.8 - Variable memory left 240 Bytes 2.7.17 - Variable memory left 272 Bytes 2.7.5 - Variable memory left 288 Bytes 2.6.19 - Variable memory left 304 Bytes 2.6.11 - Variable memory left 328 Bytes 2.5.6 - Variable memory left 306 Bytes 2.4.6 - Variable memory left 306 Bytes 2.3.12 - Variable memory left 322 Bytes 2.2.8 - Variable memory left 496 Bytes 2.1.8 - Variable memory left 516 Bytes</p> <p>Workaround: Reserved variable arrays in the firmware can be used: par16_save[100] (data type int16), par32_save[100] (data type int32).</p>

2.2 MDP firmware (E2 / E2COE)

2.2.1 New Features

2.2.1.1 Version 3.13.6

No.	Summary	Description
8956	Error log supports the function option of warning recording	In this version, users can set Pt011.t□X□□ to open Warning log. Like alarm, the trigger time of warning can be recorded and the record can be kept after the drive is powered cycled.
10447	Internal homing method supports hard stop homing	This version supports hard stop homing. Users can perform homing by touching the hard stop (mechanical stop). Refer to section 8.11 in "E1 / E2 Series Servo Drive User Manual" for details.
10477	Change the default capturing parameter in drive recorder	In this version, servo voltage percentage, the default parameter in drive recorder, is replaced by voltage of the main power.
9678	Support full-travel distance auto tuning function	This version supports full-travel distance auto tuning function. Users can set the positioning completion range and specify the tuning range to perform gain loop's auto tune. Refer to section 8.10.4 in "E1 / E2 Series Servo Drive User Manual" for details.
9782	Support auto phase initialization function	This version supports auto phase initialization function. Instead of manual execution, users can perform phase initialization with one click.
9941	Position trigger function supports dual output encoder (analog + digital)	In this version, position trigger function can support the application of dual output encoder (analog + digital). Refer to section 8.13 in "E2 Series Servo Drive User Manual" for details.
10200	Change the upper limit of Pt400 - Torque command input gain	In this version, the upper limit of torque command input gain (Pt400) that can be set is increased to 1000.
10330	Add Pt206.t□□□X - Encoder output inversion function selection	In this version, by setting Pt206.t□□□X, users can choose whether to invert the encoder output signal.
10417	Add Ut00B - Average loading rate	This version supports the calculation of average loading rate (update cycle is 15 seconds).
10542	Add Ut00F - Feedback pulse counter (load side)	This version supports feedback pulse counter for load side, which can be used to observe the original value of the feedback pulse number read from the load-side encoder by the drive.
9934	Add Ut700 - Homing status	This version supports Ut700 - Homing status. By observing this parameter, users can monitor the ongoing procedure of homing or check the reason for the failure of homing. Refer to section 8.11.4 in "E1 / E2 Series Servo Drive User Manual" for details.
10388	Add the function of reading Serial Number of AC servo motor	This version can read Serial Number of AC servo motor and display it in Thunder.
10433	(Only for Fieldbus) Object 3215h (Reset drive) adds the function of resetting gantry's master	In this version, object 3215h (Reset drive) adds the function of resetting gantry's master axis and slave axis at the same time.

No.	Summary	Description
	axis and slave axis at the same time	
9859	(Only for Fieldbus) EtherCAT drive supports Modulo function	In this version, EtherCAT drive supports Modulo function. Users can apply it to rotational positioning. Refer to section 3.2.10 in "E Series Servo Drive EtherCAT Communication Command Manual" for details.
10158	(Only for Fieldbus) EtherCAT drive supports warning AL990 - Host controller's position command error	In this version, when the target position change input by EtherCAT drive in CSP mode is too large, the target position will be ignored and warning AL990 will pop up. Refer to section 3.2.3 in "E Series Servo Drive EtherCAT Communication Command Manual" for details.
10211	(Only for Fieldbus) EtherCAT drive supports 10 sets of RxPDO and TxPDO	In this version, EtherCAT drive can configure up to 10 sets of RxPDO and TxPDO.
10415	(Only for Fieldbus) EtherCAT drive supports the source selection function of object 606Ch (Velocity actual value)	In this version, by setting Pt0A0.t□□□X, EtherCAT drive can decide to use the value filtered or unfiltered by Pt308 as the source of object 606Ch (Velocity actual value).
10488	(Only for Fieldbus) Optimize the related functions of drive's MECHATROLINK-III communication to make the drive certified by MECHATROLINK Members Association	In this version, the related optimizations of MECHATROLINK-III communication are listed as follows: 1. Fix the abnormal behavior of some servo commands 2. Optimize the error detection and reporting mechanism for common commands 3. Optimize the error detection and reporting mechanism for servo commands 4. Optimize the abnormal command protection mechanism for servo commands 5. Optimize the communication connection mechanism
9754	(Only for Fieldbus) MECHATROLINK-III drive adds the device code of E2	In this version, MECHATROLINK-III adds the device code of E2 to distinguish the device code of E1.

2.2.2 Bug Fixes

2.2.2.1 Version 3.13.6

No.	Summary	Description
10449	Fix the problem that when using HIWIN's self-made AC servo motor or DM-RM series, the alarm AL025 may be triggered after the drive setting is completed	In the previous version, when using HIWIN's self-made AC servo motor or DM-RM series, if the peak current of drive is less than the peak current of motor, the alarm AL025 (System alarm 2) may be triggered after the drive setting is completed. In this version, the problem is fixed.
10470	Fix the problem that when the encoder connector port (CN7) of E2 drive is connected to 23-bit EnDat2.2 encoder, the encoder will fail to communicate	In the previous version, when the encoder connector port (CN7) of E2 drive is connected to 23-bit EnDat2.2 encoder, after users set the encoder parameters and power cycle the drive, the encoder will fail to communicate. In this version, the problem is fixed.
10612	Fix the problem that when the encoder connector port (CN7) of E2 drive is connected to BiSS-C encoder, if the Warning bit in BiSS-C packet is activated, an alarm will pop up	In the previous version, when the encoder connector port (CN7) of E2 drive is connected to BiSS-C encoder, if the Warning bit in BiSS-C packet is activated, the alarm AL830 (Encoder data error) will pop up. In this version, the problem is fixed. Instead, the warning AL946 (Encoder communication warning) will pop up.
7721	(Only for Fieldbus) Fix the problem that when the gear ratio setting of Fieldbus drive is not 1:1, if the encoder overflow occurs, the abnormal latch position sent back by Touch probe function to the controller makes the functions such as homing invalid	In the previous version, when the gear ratio setting of Fieldbus drive is not 1:1, if the encoder overflow occurs, the latch position sent back by Touch probe function to the controller will be abnormal, making the functions such as homing invalid. In this version, the problem is fixed.
10393	(Only for Fieldbus) Fix the behavior of EtherCAT drive's object 60FEh:02 (Digital outputs : Bit mask)	In the previous version, the behavior of EtherCAT drive's object 60FEh:02 (Digital outputs : Bit mask) is different from that in the further previous version. In this version, the problem is fixed.
10625	(Only for Fieldbus) Fix the problem that EtherCAT drive cannot set PDO objects of data type I8 to negative values	In the previous version, EtherCAT drive cannot set PDO objects of data type I8 to negative values. In this version, the problem is fixed.
10154	(Only for Fieldbus) Optimize the compatibility of PROFINET drive with Phoenix Contact controller	In the previous version, when PROFINET drive is communicating with Phoenix Contact controller, the abnormal phenomenon of PZD's IO data values being 0 will occur. In this version, the problem is fixed.
10058	(Only for Fieldbus) Fix the problem that when using MECHATROLINK-III drive with some controllers to execute No operation (NOP) command, the command cannot be completed	In the previous version, when using MECHATROLINK-III drive with some controllers to execute No operation (NOP) command, the command cannot be completed. In this version, the problem is fixed.

No.	Summary	Description
10410	(Only for Fieldbus) Fix the problem that when communication is disconnected due to environmental interference, MECHATROLINK-III drive does not disable the motor	In the previous version, when communication is disconnected due to environmental interference, MECHATROLINK-III drive does not disable the motor. In this version, the problem is fixed.
10507	(Only for Fieldbus) Fix the problem that when MECHATROLINK-III drive receives velocity or torque command, the information of command execution condition error will be triggered	In the previous version, when MECHATROLINK-III drive receives velocity control (VELCTRL) or torque control (TRQCTRL) command in disabled state, the information of command execution condition error will be triggered. In this version, the problem is fixed.
10577	(Only for Fieldbus) Fix the problem that MECHATROLINK-III drive mistakenly triggers emergency stop (ESTP)	In the previous version, MECHATROLINK-III drive will mistakenly trigger emergency stop (ESTP) every 12 hours. In this version, the problem is fixed.

2.2.3 Known Issues

2.2.3.1 Version 3.13.6

No.	Summary	Description and workaround
4457	PDL variable memory limit change	<p>Description: As to PDL variable memory limit change, related information is listed as below:</p> <p>3.13.6 - Variable memory left 208 Bytes 3.12.5 - Variable memory left 284 Bytes 3.10.6 - Variable memory left 310 Bytes 3.9.16 - Variable memory left 212 Bytes 3.9.10 - Variable memory left 232 Bytes</p> <p>Workaround: Reserved variable arrays in the firmware can be used: par16_save[100] (data type int16), par32_save[100] (data type int32).</p>