

ConveyLinx-Ai firmware revision changes

6.5.2 to 6.6.0

Release date **12.4.2023**

Bugfixes

- Motor slave mode from the Profinet configuration parameters may not be set properly if the HW configuration is changed and reloaded by the PLC.

Improvements

- Run until sensor change function is added. The PLC can issue Run commands, and upon state change of the target sensor input, the motor will stop without further command from the PLC. 4 commands for each sensor are available for each motor.
- ConveyProxy can connect to the ConveyLinx-Ai family.

6.5.0 to 6.5.2

Release date **10.2.2023**

Bugfixes

- FB172 – MDRs with diameters 51 and 55 would not have their surface speed calculated properly. The real surface speed would be double the calculated. Fixed
- FB170 – Wrong parter error would appear very rarely without real cause in Profinet systems with connected project topology. Fixed
- The reset to position 0 (Home) bit command may not be mirrored in the Servo status data word for HW40 cards. Fixed

Improvements

- A reset of the servo command during acceleration or deceleration ramps would now result in a hard stop, without the deceleration ramp setting applied in full.

6.4.1 to 6.5.0

Release date **13.1.2023**

Bugfixes

- For ConveyLinx-Ai3 FC modules with Atmel CPU, issues are seen in the Sensor measuring ADC channel. Adjustments were made to provide better signal stability.

Improvements

- The internal minimal acceleration limit is lowered based on speed code, down to 2mm for speed code 8. Previous internal limit was 30mm.
- Motor slave mode selection has been added to the TIA Parameters.

- The ability to set the Acceleration/Deceleration ramps in mm/s² instead of millimeters was added to the TIA Parameters.

6.4.0 to 6.4.1

Release date **27.10.2022**

Bugfixes

- For modules with MK52 CPU, the allocated system Stack and Heap memory was not enough, leading to memory and communication issues.

6.02.1 to 6.04.0

Release date **31.08.2022**

Bugfixes

- The reaction to a cable break, when the modules are working with Profinet Ring topology was slower for modules with HW version of 20 to 39(Atmel CPU).
- The modules can now connect to Profinet masters, which use the Codesys stack V3.5.16. FB155.
- Module-motor connection may be broken if the modules are started with unstable Logic PS in specific circumstances. FB157

Improvements

- The modules can now control an idle roller with a mechanical brake.
- Modules with HW revision of 40-59 are now supported.
- ConveyLinx-IO modules with HW revision 20-39 are now supported.

6.02.0 to 6.02.1

Release date **31.03.2022**

Bugfixes

- Fixed issue FB150. Once every 5000-10000 start commands, the motor would not run after it has stopped with some kind of error during the deceleration ramp.

6.01.0 to 6.02.0

Release date **04.01.2022**

Improvements

- Added support for the Q Atmel CPUs with 144 pins. Atmel Q CPUs cannot be downgraded below 6.2.0.

Bugfixes

- FB145 - If the master motor goes into an error state, while the slave motor has any outside rotation applied, the slave motor will stop, but current may still be applied to it.
- FB147 – The backup of the non-volatile module information is now read/written with CRC.

5.09.0 to 6.01.0

Release date **19.10.2021**

Improvements

- Because of a significant lead times of the Freescale microcontroller hardware revision of the ai-family devices was created with Atmel microcontrollers. FW 6.1.0 can be used to upgrade cards with both MCUs. Atmel devices will have hardware revision 20 or higher.

5.06.1 to 5.09.0

Release date **24.06.2021**

Bug fixes

- FB127- If motor settings are changed fast, it was possible for the module to report a fake Overvoltage alarm. Issue was present after FW 5.4.5.
- FB109 – When the module is in PLCIO mode + ConveyLogix program one of the Profinet tasks may not start correctly.
- FB101 – If the IP of a module is manually changed, the module would start the DHCP task upon next power cycle. The DHCP task must only be started on the first module in a configured line.

Improvements

- General error reporting in a ZPA line
- A Trace function is implemented, allowing the recording of 1-4 internal targets upon a trigger.
- Merger decision time was optimized for the central line
- Improved behavior on mixed commands(Run/Stop and Servo commands)
- Improved deceleration speed profile
- Telnet diagnostics are expanded to include module reset information and ESD-related statistics.
- All IO points(all 8 points of the ConveyLinx-IO and the two Pin2 points of the ConveyLinx-Ai/Ai2/Ai3) will now start as outputs in OFF state. Upon PLC connection or ConveyLogix program start, the pins will revert to inputs. If Pin2 function is NONE/ExternalControl, the pins will revert to input upon PLC connect.
- Z variant of the MK52 CPU support is reinstated. FW downgrade of modules with the Z variant will not be accepted by the modules.

- New Brake method available – Continuous torque brake. Similar to the Servo brake, this method will actively resist a movement of the motor, when stopped, but will not try to go back to the original stopped position.
- Support added for PGDs with reduction ratio of 91
- Update times of the motor current and motor speed improved from 200ms to 20ms.
- Improved ESD resistance. The module or the switch may still reset, but will not freeze without recovery.

5.04.5 to 5.06.1

Release date Unreleased officially

Bug fixes

- Fixed an issue when the frame ID of a Profinet PLC connect message is in RTC UDP. FB84

Improvements

- Code cleanup and memory optimization
- Added various support for functions, which will be available in the upcoming ConveyShell software
- Added support for ConveyLinx-Ai3 FC and RC devices
- Project organization change to optimize updates
- Removed support for the Z variant of the MK52 CPU

5.04.4 to 5.04.5

Release date 15.11.2019

Improvements

- The two overvoltage protection trigger levels can now be adjusted. The default values are still the same – at 28V the complementary control is turned off and at 30V the transistors are short-circuited. FB80

5.04.3 to 5.04.4

Release date 04.11.2019

Bug fixes

- General bugfixes when a motor is used as a slave to the other one. FB70-79

5.04.2 to 5.04.3

Release date 09.08.2019

Bug fixes

- When one motor is a slave to the other and the voltage rises above 28V, the complementary mode of the slave motor is not switched off. FB58
- When the device is working with LLDP V2.3, the LLDP messages may be sent out with higher frequency. FB57
- Fixed an issue with the update of the Brake method, after a PLC re-program. FB53
- If the module is reconfigured by the PLC, while in ConveyStop, the ZPA tasks were not deleted properly. FB52
- Various small bugfixes related to recovery from ConveyStop. FB54
- Once every several million on-off cycles, the motor will not stop when ordered to. FB65

Improvements

- If the PLC is in programming mode, the accumulation is no longer changed to Accumulate on next. FB55
- Improved memory usage by the Profinet stack and three of the 5 Profinet stacks are not started, until the module is discovered to save memory. FB 61

5.04.1 to 5.04.2

Release date 06.11.2018

Bug fixes

- When induct distance was used with a long box, it may cause issues with jams. FB36.
- If the T-merger jams, while a product was waiting to merge, the timer did not work properly. FB41
- After motor power recovery, the Stop is cleared after two seconds instead of immediately in order to give time for the FW to reconnect to the motor correctly. FB42
- RunAfter sensor timer is now 5 seconds by default instead of 1. FB45

Improvements

- Merger states added to the ZPA instance. FB44

5.04.0 to 5.04.1

Release date 15.08.2018

Bug fixes

- Second part of the Profinet stack Hilscher connection issue. Now the module would connect correctly. FB37.

5.03.0 to 5.04.0

Release date 29.06.2018

Improvements

- Added proper Speed Code 8 support
- ConveyLogix Instances added in ProfiNet and EtherNet/IP for ConveyLinx-Ai and ConveyLinx-IO

- CC-Link - ConveyLinx-IO added in possible slave station cyclic data.

Bug fixes

- Various small ConveyLinx-Ai2 working with ConveyLogix issues were fixed.
- The module now forms the correct connections in ZPA mode with Profinet PLC configuration. No power reset is needed after the initial discovery.
- Fixed an issue where the module will not accept connect request over Profinet for a Hilsher PLC.
- In a specific situation the rollers of a module in ZPA mode would run at 50% speed after PLC reconnect (with PLC configuration)

5.02.1 to 5.03.0

Release date 20.04.2018

Improvements

- In the Reduced ZPA data assemblies, two of the reserved fields are now used for ConveyStop Control.
- Now it is possible to make one of the motors a slave to the other and reverse the direction of the slave. The command is integrated in the process data. Very useful for the situation of two motors in one roller.

Bug fixes

- When a module is viewed in EasyRoll's diagnostic screen, the module might reset. Rare occurrence.
- The Clear JAM button and bit will now clear the jam, even if the Auto-Clear timer is already running.
- If the speed is changed multiple times very fast(<10ms), the new speed settings are not accurately reflected.
- A small hickup effect was visible when changing the Brake mode while the motor is running. Laregely cosmetic issue.
- Brake mode will now take its Hold position from its current position, when Servo Brake is activated while the motor is stopped.

5.02.0 to 5.02.1

Release date 22.02.2018

Bug fixes:

- Wrong I/O data after restart of the module, when working with ConveyLogix in CC-Link – bug fixed.

5.01.1 to 5.02.0

Release date 15.02.2018

Improvements:

- ConveyLogix tags visible via Input and Output data of CC-Link IEF Basic protocol, when there is PLC program running inside the module.

4.22.2 to 5.01.1

Release date 21.12.2017

Improvements:

- The Profinet communication stack is updated to conform to Profinet V2.32.
- The EthernetIP is updated to pass the latest EthernetIP version certification test.
- Communication protocol CC-Link implemented.

4.22.1 to 4.22.2

Release date 18.12.2017

Bug fixes

- Problem with unicast MAC addressing in large systems solved.

4.21.0 to 4.22.1

Release date 01.12.2017

Improvements:

- Added support for PMD and PGDN motor types.

Bug fixes

- Fake Confirm Bit won't work – bug fixed.
- Left motor Touch&Go sensitivity won't work - bug fixed.
- Diagnostic Log - when module is powered ON, the module reports fake CPU overheat - bug fixed.

4.20 to 4.21.0

Release date 27.10.2017

Improvements:

- Added support for bi-directional 2-sensor conveyors.
- Added BUG_REVISION to major and minor revisions indication.

Bug fixes

- When new servo command is started and the previous one wasn't complete, there was unwanted behaviour of the motor – bug fixed.

4.19 to 4.20

Release date 06.10.2017

Improvements:

- Disable Motor Digital Output mode.
- Added new instance for ZPA extended mode: standard ZPA instance + Sensor Detect + Accumulation Reason Left/Right. Generated new EDS file ConveyLinxAi_V1_6.ed5.

Bug fixes

- When PLC is disconnected send STOP command to Move by Pulses (Servo) function.
- There was a bug when configuration of LaneFull on pin2 sensor port is at the same time with PLC configuration – fixed.
- Colisions between Left/Right zone with Central zone avoided in Merger mode – bug fixed.
- Added separate timers for Arrival jam and Full-run jam.
- When belted configuration is selected in PLC topology configuration, now is possible to set different settings for left and right motor.
- When InductTime is used for long distances, adjustment to the internal timer is added.

4.18 to 4.19

Release date 16.06.2017

Bug fixes

- Fixed Sensor Gain Error indication in Diagnostic Registers (88 & 89) when ZPA mode.

4.17 to 4.18

Release date 23.05.2017

Improvements:

- Maximum size of firmware file increased to 450 Kb (was 382 Kb).

Bug fixes

- Improved servo functionality precision when the motor's direction is changed without stopping the motor.

4.16 to 4.17

Release date 10.03.2017

Improvements:

- ConveyLogix functionality added for ConveyLinx-IO devices.
- Added Performance bit in MotorStatus for all Motor Types.
- The network tool PRONETA now correctly displays the topology of ConveyLinx-Ai2 devices.
- Motor Information Fields at Modbus addresses 4:10000 for left motor and 4:10100 for right motor are available from Message instruction in EtherNet/IP communication protocol.
- Diagnostic bits for peer connect status added for ConveyLinx-IO devices.

4.15 to 4.16

Release date 23.12.2016

Improvements:

- Added Motor Minimum and Maximum Possible Speed in EasyRoll->Diagnostic screen.
- Sensor Diagnostic shown in EasyRoll ->Diagnostic log.
- Recognizing PMD motors.

Bug fixes

- Added protection in EtherNET/IP for connection requests with zero input length.
- Maximum time for Sensor Debounce timer was changed from 1 sec to 2 sec.

4.14 to 4.15

Release date 07.10.2016

Improvements:

- Factory Defaults sets parameters for different device default motor types.
- Added System diagnostic entries after PLC connects and disconnects via Modbus.
- IP source address of the PC, used for messages regarding Module Lock Functions and DHCP Disable option, is checked whether or not is in the same network of the module. If it is not, module response is broadcast message.
- When used with PLC configuration and Topology in ZPA mode, in order to build module-to-module connections, a power reset was required. Now a power reset is not required.

Bug fixes

- JAM timer is reset when there is Accumulation and it is started from zero after the Accumulation is clear. Before that JAM timer was only paused during Accumulation.
- After Accumulation from pin2, there was problem with LED indication of the sensor port. Fixed.
- After FullRunJAM, there was problem with LED indication of the sensor port. Fixed.
- When motor status is UNUSED, continuous error messages were received in Diagnostic buffer. Fixed.

4.13 to 4.14

Release date 15.09.2016

Improvements:

- Diagnostic buffers in RAM, added in separate window in EasyRoll, where information about time of every event can be find.

Bug fixes

- If Set_New_Speed and Stop_Command are receive together, deceleration ramp work properly.

4.12 to 4.13

Release date 19.08.2016

Improvements:

- Diagnostic buffers in RAM, added in module Backup file – there are two buffers, one describing Motor status and errors and one for System diagnostic (PLC connect/disconnect, Communication errors).

- Ethernet packet is no more checked for wrong length size in IP header field.

- Added CustomerID check in Register 19 – between module and MDR (bit 12) and between the module and its neighbor (bit 13).

- Activated neighbor recognition based on Customer coding in Register 6.

Bug fixes

- When configured through Profinet topology method in PLC mode, module not always sets its motors to USED. Fixed.

4.11 to 4.12

Release date 11.07.2016

Improvements:

- Added new functionalities in ConveyLogix: Left and Right MDR servo position tags; reading the production and preventive maintenance data from Senergy-Ai MDR.

4.10 to 4.11

Release date 17.06.2016

Improvements:

- The IP address of the module now cannot be changed, when the module is connected to PLC and is used with PROFINET standard configuration. The Name of the module must be changed first, for the module to allow IP change.

- Added E-STOP functionality for ConveyLinx-IO module.

- E-STOP occurs if motor supply is < 18V or from register 20, even if No E-STOP Group is created.



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Bug fixes

- On Motor Error - Brake mode was always free. Now is fixed and became Normal if Servo or Normal mode are selected.
- Motor Stalled Error is added to Pin2 Output report ZoneErrors.

4.9 to 4.10

Release date 11.05.2016

Improvements:

- Flex zone feature improvement-
the flex zone can now work with products longer than 2 zones
- Added support for additional (other than 50) motor tube diameters – 38, 42, 52, 63.5, 76.3, 80mm.
- When the motor is decelerating and the Run command is OFF and the MDR stalls, the remaining deceleration ramp is cleared.
- The “Overload” MDR error can now be cleared with the “Clear motor error” bit.

Bug fixes

- Motor diagnostic doesn't show "Motor not Connected" and "Motor error" flags, when motor is unused.
- ZPA mode fixes:
 - When a tote is stolen, while the “Disable arrival jam reset delay” is checked, the following products will stop. Fixed.