

Firmware Release Notes

FIR-v1650-B527540

- internal changes only

FIR-v1650-B524130

- CANOpen New object 1029h (Error Behavior), CANOpen

FIR-v1650-B502879

- General: For a target position in 607Ah outside the limits of 607Dh (Software Position Limit) now the limits apply. Before in Profile Position the movement was rejected, and in Interpolated Position and Cyclic Synchronous Position 607Dh the limits were not considered.
- General: Removed Object 2067h (Jerk Limit (internal))
- General: Renamed objects 3412h , 3413h , 3414h , 3415h
- NP5-08: New object 2006h (CANopen WheelConfig)

FIR-v1650-B472161

- internal changes only

FIR-v1650-B470010

- internal changes only

FIR-v1650-B467336

- EtherCAT: Change from EtherCat-State "OP" to either "SafeOp", "PreOp" or "init" causes "Quickstop"-State of controller
- CANopen: After Can-Bus-Off the controller switches back to the bus when disturbance is past
- PD4-C5918X4204-E: PD4-C5918X4204-E-XX: Changed default PI-Parameters (only for OpenLoop)

FIR-v1650-B434164

- General: It is not longer possible to modify read-only objects via non-CANopen PDOs
- General: Object 0x2038:01 (Brake controller timing) bugfix

FIR-v1650-B428718

- General: Object 6503h "Drive catalogue number" renamed as "IEEE 802 MAC address"

FIR-v1650-B412503

- General: Adapted cfg.txt behaviour: Command dd4c=1 also deactivates system VMM
- General: New object 4014h (Operating conditions) shows supply voltage and controller temperature
- N5-x-4: Changed default value of 2010h:00h to 12 (deactivates Universal Plug and Play)

FIR-v1650-B402711

- General: New object 1F50h (Program data) for writing VMM and controller dataflash

FIR-v1650-B394881

- internal changes only

FIR-v1650-B392445

- internal changes only

FIR-v1646-B391028

- General: New reboot delay functionality with Object 2800h (Bootloader settings)
- EtherCAT: Minor changes to pass changed Conformance-Test

FIR-v1642-B373960

- PD2-CB42-E-08: Overvoltage Warning Level set for Rated Voltage +24V

FIR-v1634-B353376

- General: Improved field-weakening algorithm

FIR-v1626-B336847

- General: Object 1018:03h (Identity Object: Revision Number) is set according to Firmware-Version
- General: All writable objects are now storable
- CANopen: Watchdog failure are now also shown in 1001h (Error Register) /1003h (Pre-defined Error Field) and handled like usual errors
- CANopen: Watchdog failure are now visible in 6041h (Statusword) and resettable via 6040h (Controlword)

FIR-v1618-B313151

- General: Object 2031h "Peak current" renamed as "Maximum current"
- General: New names for tuning parameters (object 3210h)
- NP5-40: 3411h (NanoSPI Comm Statusword) PDO is now mappable

FIR-v1610-B285790

- CANopen: SDO messages shorter than 8 bytes are now rejected

FIR-v1606-B270497

- General: Object 203a:01h (Homing on block configuration: Minimum current for block detection) extend to accept negative values as percentage of 2031h (Maximum current)

FIR-v1606-B270497

- General: Use red error LED for error code blinking
Values of 203Ah:01-02h will get lost after Firmwareupdate due to changed
- CANopen: Extend PDOs from 4 to 8
- Modbus: Support for Modbus TCP
- Modbus: Function code for "read array"
- Modbus: Support of baudrates > 256kBaud

FIR-v1548-B240421

- General: Actual Torque in user units assigned to 6077h (Torque Actual Value)

FIR-v1544-B219678

- Modbus: Interface rework, New Functionality like PDOs
- Modbus: Support Extended exception PDU

FIR-v1540-B207222

- General: New "saveable" categories, with corresponding new subindices in 1010h and 1011h. They mainly affect the objects related to the autotest. Some objects have been moved from one category to another:
 Moved to "Drive": 3202h, 3209h
 Moved to "Tuning": 2030h, 2031h, 2032h, 203Bh, 2059h
 At the end of an autotest all objects belonging to "Drive" and "Tuning" will be saved. When downgrading the firmware, the objects saved in "Drive" will get lost.
- N5: Filesystem corruption gets detected during boot-up
- N5: Moved Object "Current-IPv4-Address": from 2018h to 2014h
- N5: Moved Object "Current-IPv4-Subnet-Mask": from 2019h to 2015h
- N5: Moved Object "Drive Serial Number": from 2022h to 4040h
- N5: Removed Object 2020h (AppInfo-Static-IP-Address)
- N5: Removed Object 2021h (AppInfo-Static-Subnet-Mask)

FIR-v1536-B194830

- PD2-Cx/PD4-Cx: Enable Input Capture Feature

FIR-v1528-B1634545

- CANopen: Possibility to disable Bootup-Message via 2007h:01h

FIR-v1528-B160835

- General: Disabled open loop for BLDC if nominal current is not set
- General: Object 1011:xxh gets now reset to 1 instead 0 after loading

FIR-v1524-B136619

- General: Object 2701h (customer storage area) expanded to 254 subindices
- General: All strings are now null-terminated
- CANopen: Life guarding event now leads to PDS FSA fault reaction state
- CANopen: PDS FSA fault reaction state if NMT stopped or unexpected change to initialisation state

FIR-v1516-B103413

- General: Object 3250h (Digital Outputs Control): Subindex 01h changed to "No Function", Amount of subentries has changed from 6 to 9
- General: Object 6077h (Torque actual value) is now supported for CST mode
- General: 603Dh (Torque Window) and 203Eh (Torque Window Time) are now supported in profile torque mode.
- General: Motor Drive Sensor Display: encoder value must always be shown in 6064h (Position actual value)
- CANopen: Set default inhibit time to 10ms

FIR-v1516-B103413

- General: Object 3212h:02h (Override Field Inversion) is now available. Evaluated once after power on
- General: Implement Object 1020h (Verify Configuration)
- General: Default-Value for Object 60F2h (Positioning option code) set to 1
- General: Homing Mode 35 is now possible without switching to state 'operation enabled'
- CANopen: The procedure to remap PDO's has been modified according to the standard:
The following procedure shall be used for re-mapping, which may take place during the NMTstate 'Pre-Operational' and during the NMT state 'Operational', if supported:
 1. Destroy RPDO by setting bit valid to 1b of sub-index 01h of the according RPDO communication parameter.
 2. Disable mapping by setting sub-index 00h to 00h.
 3. Modify mapping by changing the values of the corresponding sub-indices.
 4. Enable mapping by setting sub-index 00h to the number of mapped objects.
 5. Create RPDO by setting bit valid to 0b of sub-index 01h of the according RPDO
- CANopen: Set default inhibit time to 10ms
- Modbus: Even parity supported
- Modbus: Default values set according to Modbus specification to: Baud Rate=19200, Parity=Even
- Modbus: New feature offers a diagnostic function to monitor communication errors according to Modbus Specification

FIR-v1512-B96378

- General: When auto-setup detects only HALL sensors, HALL mode is configured automatically

FIR-v1512-B96378

- General: "Interpolated Position Mode" implemented, according to DS402
- General: Object 3240h (Inputs Control): Amount of subentries changed from 8 to 9
- General: Hall-Input values are now readable in od-entry 60FDh (Digital Inputs) via input routing with object 3242h (Digital Input Routing)

FIR-v1504-B84509

- General: Show errors of the state machine with the status LED
- General: implement Halt (Bit 8in 6040h) in profile position
- General: Object 2039h(Motor Currents) :01h and :02h set to TX mappable
- General: Changed description of Object 2410h (NanoJ Init Parameters)
- EtherCAT: PDO watchdog is now signalled in 1001h (Error Register) as communication error

FIR-v1450-B83041

- General: New object 2410h for NanoJ Init Parameters (saveable)
- General: Support relative movement modes in object 60F2h
- General: Issue object 3212:01h for firmware legacy mode. Value 0 means that when the state machine is in the state "switched on" the control loop is disabled and there is no holding torque. Value 1 means legacy behaviour (When "switched on" control loop is active, holding torque built).
- General: Prepare and activate Clock/direction-Mode for C5-E
- C5-x-09: Prepare and activate Clock/direction-Mode for C5-E

FIR-v1450-B80405

- General: Jerk parameters were hard limited internally to 1000000, now limit can be configured or disabled
- General: Support relative movement modes in object 60F2h (Positioning option code)
- General: Object 2070h (Mode of modulo operation) replaced by 60F2h (Positioning Option Code) for modulo function.
- C5-E-2-09: Max current changed to 30A

FIR-v1446-B72078

- General: Encoder boot value made available in object 205Ah (Encoder Boot Value)

FIR-v1436-B67351

- General: Object entries for VMM renamed into NanoJ
- General: Introduction of subindex 3h in 1010h (Store parameters) and 1011h (Restore default parameters)
- USB: Prohibit the setting of 1011h:01h (Restore default parameters: Restore all default parameters) in the configuration file

FIR-v1430-B51832

- General: Object 230Fh shows the time since the last power-on in seconds
- General: Object 2059h (encoder configuration) made visible
- CANopen : Introduction of object 2006h CANopen WheelConfig

FIR-v1426-B46925

- General: Moved Object "Read Analogue Input": from 6402h to 3320h
- General: Moved Object "Analogue Input Offset": from 6431h to 3321h
- General: Moved Object "Analogue Input Pre-scaling": from 6432h to 3322h

FIR-v1424-B38337

- USB : Device Name and Hardware Version made available in the info.bin file.

FIR-v1422-B36464

- General: Firmware version is now available in INFO.BIN (Firmware mode)
- General: Firmware version is now available in INFO.BIN (Bootloader mode)
- USB: "PD4CFG.txt" has been renamed to "CFG.txt" for drives other than the PD4C