Firmware Release Notes

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 Datatypes
- 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 autosetup. 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 autosetup 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 2018hto 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 communication parameter.
- 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