

May 2017

Thank you for choosing HBM as solution provider for your measurement, testing and analysis tasks.

This document shows product news and dependencies around the QuantumX and SomatXR data acquisition series, for instance modules, accessories, firmware, PC software, documentation, services and trainings.

As this document is also part of the DVD shipped together with every single module, please check whether an updated version is available: <http://www.hbm.com>

We always recommend using the released firmware and software shown in this document!

Your opinion counts a lot. Please contact us and let us know how to improve our products and services. Many thanks in advance: <http://www.hbm.com/support/>

What's new or updated?

New modules

- **MX460B-R SomatXR Rugged Digital Measurement Module**
 - 4 channels, 100 kS/s per channel
 - Input type: digital pulse counter, digital rotary encoder (single / dual lane, w/ index), frequency and speed (rpm), pulse-width-measurement (PWM), HBM torque flange signals.
- **MX1616B QuantumX Bridge Amplifier**
 - 16 channels, 20 kS/s per channel
 - Input type: strain gage full / half / quarter bridge, potentiometer, RTD (PT100), voltage
 - Difference to MX1615B: 350 and 1000 Ohm completion resistor

Module Firmware 4.10.4

- **New Functionality**
 - CAN: Saturated integer by CAN encoding. When the actual signal exceeds the number of specified bits in the CAN message you have two possibilities: 1. Just truncate the additional bits (modulo). This was the behavior of older firmware versions. 2. The value in the CAN message remains at the limit (saturation).
 - CAN: New CAN input type Boolean. This makes comfortable stuffing digital IO signals in CAN messages.
 - All modules: Possibility to analyze data streaming. The firmware logs all possible reasons when data streaming is interrupted, i.e. disconnection of module.
 - MX879B efficient digital IO data transfer: Digital IO signals are now treated as Booleans (and not as 32 Bit unsigned integers). Up to 64 Boolean digital IO states can

be transferred in one data package. This saves bandwidth and allows an easy transmission of digital IO via MX471B to CAN bus. Of course, CAN messages could also represent several digital signals. Besides the digital IOs, alarm signals are Booleans too.

- MX460(B)/MX410(B)/MX411B-R: New scaling type: segmented linear and polynomial scaling. MX410(B): To support linear table scaling, we need to set a gain based scaling for analog voltage output on the device, which should be calculated from first and last (after sorting!) point-x. If polynomial scaling is requested and analog output is active, parameterization shall be rejected.
- All modules: Switch off sensor supply when parametrization from TEDS is not supported by module. Example: The current sensor (with TEDS) requires a sensor supply of 12V. Then the sensor is exchanged. The new sensor (also with TEDS) requires only 5V and is not supported by the module (e.g. frequency sensor on MX840B connector 1). In this special case the sensor supply will not be enabled. Or more detailed it will be switched off after a few seconds. The channel parameter "TEDS must" is required.
- CAN: Use "channel name" instead of "signal name" in EtherCAT. Signal name describes the sensor; channel name can be defined individually. Before, using more than one CAN signal of the same type you were not able to distinguish them in EtherCAT (because of identical signal name).
- **Fixed Issues**
 - EtherCAT/Morphee: module declines inconsistent parametrization (e.g. 1Hz filter @ 19.2 kS/s data rate).
 - EtherCAT/Morphee: Reduce the number of scan cycles ("settings change flag").
 - MX471/B: Erase debug message which could lead to loss of performance (in context with an erroneous CAN setup).
 - Timestamps: It could occur that the very first sample after changing the datarate came with the wrong measurement pattern.
- **Known Issues**
 - EtherCAT: Parametrize filter settings: After setting filter "OFF", no further parametrization via CANopen-on-EtherCAT has any effect. This is also true when another client switches off the filter (e.g. MX Assistant, catmanAP, ...). You won't get an error message.

PC Software

- **MX Assistant 4.61**
 - Fixed: Copy&Paste signal names in edit mode.
 - Changed: CAN transmit type "ISO event" divider set to 1 not 210 (SW).

- New: Option to display CAN IDs in hexadecimal (default: off). Can be activated via general parameters.
- Fixed: Some texts have not been translated (e.g. Boolean).
- New: Module error status now for whole tree branches possible.
- New: HBM sensor database.
- Fixed: CAN Bus outputs - Replacing CAN-Out mapping did not heed format.
- Fixed: Assigning a CAN signal to analog voltage outputs, for example MX878B, output scaling is parameterized properly.
- New: Digital output sources are now supported (limit switch, digital I/O).
- Fixed: MX410(B)/MX430B: Analog voltage output displays now filter settings.
- New: CAN bus outputs - Boolean sources supported.
- **catmanAP 5.0.2**
 - **New functional package “EasyMonitoring”**, especially for CX22B-W data recorder:
 - parallel recording with individual triggers and files
 - (S)FTP upload of measurement files to a data server (cloud)
 - Send push notification messages to smart phones or tablets triggered by detected events/alarms (download app from app store for Android or Apple)
 - Integration of NMEA based weather station measuring wind speed, barometric pressure, air temperature, humidity, rainfall and hail. For example Vaisala WXT520 weather station.
 - **New functions for Mobile Vehicle Testing and RLDA**
 - Acquisition, display and analysis of CAN raw data, acquired by MX471B.
 - Extended support for CCP/XCP communication
 - **New functions for Lab Testing**
 - Use CX22B-W optionally as gateway from FireWire to Gigabit maximizing data throughput. Direct access to all MX modules “behind” CX22B.
 - peak-valley computation
 - Zoom In / Out all objects in visualization to easily adapt to any screen size
 - MX878B/MX879B: analog voltage output and digital voltage output control via user interface allows you to link a visualization object of type controller (slider, knob, switch slider or switch) to an analog or digital output.
 - MX878B/MX879B: parameterize and use real-time PID controller.
 - Online computation: table or polynomial based linearization of signal inputs instead of onboard linearization in MX module.
 - Angle synchronous display of combustion engine signals.
 - **New functions for analyzing *.sie (SomatXR and eDAQ)**
 - Analyzing video recordings including a synchronized playback of video and other digital and analog data.

- Display CANraw data and decode with *.dbc.
- GPS raw messages (NMEA messages) including timestamps can be extracted to a separate text file.

Documentation

- **New**
 - SCM-TCx leaflet: thermo mini to SubHD15
 - MX1616B: Bridge Module with ¼ bridge 350 and 1000 Ohm completion resistor
 - MX460B-R Digital Measurement Module
 - CASEMOUNT2-3 Mounting brackets for 2 resp. 3 stacked modules
 - CASEMOUNT-UMB Universal mounting bracket for accessories
 - CON-S3005 Ethernet coupler (M12, x-coded)
- **Updated datasheets**
 - CX22B-W: Data Recorder, now catman v5 recording functionality + gateway option
 - MX1615B: Bridge Module, now supporting ¼ bridge / 3 wire with carrier frequency
 - MX471B: CAN Module, now supporting CANraw
 - MX460B: Digital Rotary Module, now supporting crank wheel and angle measurement
 - MX238B: High Precision Full Bridge Amplifier, minor changes
 - MX430B: Precision Full Bridge Dynamic Amplifier, minor changes
 - CX23-R: Data Recorder, only 64 GB memory version, new functions
 - All SomatXR MX modules, Measurement modules, minor changes
 - UPX001/2: Uninterruptible Power Supply, now also as QuantumX version
- **Updated operating manuals**
 - QuantumX general operation manual: minor changes
 - CAN bus operating manual: new CAN raw
 - QuantumX data recorder manual: minor changes – mainly gateway functionality
 - SomatXR MX Operating Manual: minor changes

Version Chart

QuantumX / SomatXR system PC software (DVD and download)	Version 4.61 (* = has been updated)
MX Assistant	4.61 *
FireWire driver for Microsoft Windows™	1.45.0.0 (please update)
HBM Device Manager	1.0.0.1

Device / module firmware	Version
QuantumX Data Recorder CX22B and CX22B-W	5.0.2 * (just install catman with license key)
QuantumX MX840B, MX440B, MX1615B, MX1601B, MX1609KB/TB, MX410B, MX460B, MX430B, MX238B, MX403B, MX809B, MX471B, MX878B, MX879B, CX27B and older modules...	4.10.4 *

SomatXR Data Recorder CX23-R	1.16.0 *
SomatXR MX840B-R, MX1615B-R, MX1601B-R, MX1609KB-R, MX411B-R, MX471B-R, MX460B-R	4.10.4 *

Commercial PC software (DVD and download)	Version
catman®EASY / AP	5.0.2 *
catman®Enterprise	7.0 *
HBM Common LabVIEW™ driver	3.0
HBM Common API driver for Visual Studio .NET	3.1
QuantumX CANape driver	4.1.3

Minimal Requirements for the PC

- Software:
 - Windows®XP, Vista™, 7, 8.x or 10
 - Microsoft Internet Explorer Version 8.0 or newer
 - Microsoft .NET Framework 4.0
if necessary, needs to be manually installed using Windows-Update under Windows 8
- Hardware:
 - 32 or 64 Bit architecture
 - Intel Pentium 1 GHz or equivalent
 - Memory (RAM):
 - 512 MByte under Windows® XP
 - 1024 MByte under Windows Vista™, 7, 8.x or 10
 - Graphic card and monitor with resolution of at least 1024 x 768 pixels
 - Up to 100 MByte free hard disk memory (more in case of lacking .NET Framework)
 - Ethernet interface (10/100/1000 MBit)
 - Optional FireWire 1394b adapter (PC-CARD, expressCARD/34, PCI, PCIexpress or Thunderbolt).