



June 2017
Version 1.18.0

Thank you for choosing HBM for your test, analysis and measurement task. This document shows the released product package of SomatXR. Please always check whether an updated version is available at: <http://www.hbm.com>. Please note that the firmware has been optimized. We recommend installing the latest firmware on all existing modules.

What's new?

Modules / Firmware

- **Firmware**
 - CX23-R Firmware Version 1.18.0 (Build 3476)
 - MX Module Firmware Version 4.10.4.0
 - Included in CX23-R firmware to update from the Web Interface.
- **Module Support**
 - No changes

Software Tools / Libraries

- **Software Updates**
 - SomatXR Emulator v1.18.0

Documentation

- **New Documentation**
 - None
- **Updated Documentation**
 - 1-SCM-R-TCX-2 Data Sheet (English) Version 1.3
 - CX23-R / EX23-R User Manual Version 6.2

Accessories

- **New Accessories**
 - E type thermal couple .3M 840BR adapter 1-SCM-R-TCE-2
- **Updated Accessories**
 - None

A complete listing of all supported modules, accessories, and documentation of the SomatXR line is available at the end of these release notes.



Notes about the CX23-R firmware v1.18.0

- **New Features**

- **Extended long term unattended testing protections.** Provided a new option to disable the front panel power switch and the remote power switch. Using this option is advised for long term unattended testing where stopping and starting test runs is controlled by turning the system power supply on or off.

- **Bugs Fixed / Issues Resolved**

- **Time change during a test run issue.** Previously it was possible to set the time of the CX23-R during a test run which would result in a test failure. This issue has been resolved. Note that the time can still be set when running live updates.
- **Corrupted live display chart names issue.** Previously under certain chart size, title, character usage, and configuration circumstances, the chart names could function erratically in the GUI. This issue has been corrected.
- **General stability and bug fixing throughout the GUI.** Usability, stability, and correction of erratic GUI behavior in various subsystems within the user interface was completed. Keyboard usage in the spreadsheet edit mode has also been enhanced.
- **Sensor dropping from a sensor database onto an MX channel and channel ID issue.** Previously when dropping a sensor from the sensor database onto an MX channel, the channel ID would be affected. This issue has been corrected.
- **User profile and privileges inconsistency issue.** Previously inconsistencies were barring certain privileges to privileged users at the system configuration level. These issues have been addressed and the system now properly honors system configuration privileges granted to users with those privileges.
- **Missing Rainflow DataMode data in SIE file.** In certain situations, when filling up the storage capacity of the CX23-R during a test run, Rainflow DataMode data in the SIE file would not be present. This issue has been corrected.
- **Remote control test stop and start issues when storage is full.** When the storage of the CX23-R was filled, the Remote Control test stop and attempting to start a test with the remote control when the storage was filled would put the system in an undefined state. This issue has been corrected, and starting and stopping tests when the storage is full now operates exactly the same as a non Remote Control test stop or start.
- **Channel header missing in GUI in certain situations.** Previously in the test control view, when collapsing and expanding the Test and data control column, the channel header would disappear. This issue has been corrected.
- **Change device action resulting in improperly configured channels.** In certain situations, a change device action would result in the hardware panel showing incorrect channels. This issue has been corrected.
- **Inconsistent display of significant digits in displays.** Previously there was an issue where significant digits would not display as configured, this issue has been corrected.
- **Issue with large log files not exporting properly.** When the log file reached a certain large number of entries, it would be impossible to export the log. This issue has been corrected, and the system will successfully export logs as requested.
- **Error dialog displayed after reboot when network is configured to use a static IP address.** Previously when rebooting the CX23-R after changing the network settings to a static IP address, an error dialog would show up on the next reboot, this issue has been corrected.

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- **Lead wire correction using particular scaling settings improperly calculated.** When applying lead wire corrections and particular scaling modes, the resultant calculations written to the SXR file. This issue has been corrected and SXR migration implemented.
- **Live update startup problem after SXR file save.** In certain situations live updates would not start after setup file changes were saved. This issue has been corrected.
- **Optimizations**
 - **User friendly SIE filenames specified in logs.** Previously, system defined SIE file names were logged when a test was started. The user specified, user friendly SIE filenames are now being logged when a test is started to improve clarity and searchability.
 - **Added option for unlimited test restarts on error.** As an extension of the error restart functionality, the option for unlimited test restarts on error has been added to the system. See help system for more help.
 - **Reset of test restart count on error resets on successful test restart.** Previously the test restart count on error resets configured by the user would not reset when a successful test restart event occurred. This issue has been corrected and the test restart count will reset when a test successfully restarts after an error restart.
 - **Further support for robust long term unattended testing.** Major rework of functionality for long term unattended testing was completed. A significant help system topic was added to address this issue, please visit the help system for more information.

Notes about the CX23-R firmware v1.16.1

- **New Features**
 - **Support for fixed columns in the input channels spreadsheet.** Columns can now be locked in the input channels spreadsheet to allow the user to keep certain channel information visible at all times (fixed) while scrolling through the different per channel configuration options.
- **Optimizations**
 - **DataModes which utilize PV hysteresis now supporting option to define hysteresis in terms of “% of Range”.** Previously DataModes which utilize PV hysteresis did not have any option to define hysteresis in terms of % of Range. DataModes have been optimized to support this option.
 - **Warning added when attempting to start a test or initialize a remote control test when multiple clients are logged in to the CX23-R.** In order to maintain the integrity of the system during critical test start, and remote control test start conditions, a warning will be flagged when these functions are requested, and there is more than one user connected to the CX23-R.
 - **Eliminated requirement to reboot CX23-R after the user sets the date and time.** In previous versions, the user would have to reboot the CX23-R in order for the user configured date and time settings to take effect. This is no longer the case, and the user configured date and time settings will take effect immediately.
 - **Support for simultaneous editing of setups while a test is running has been removed.** Previously it was possible to edit setups while a test was running. This could put the currently running test in danger of halting depending on the situation, load, number of channels, and other variables. As such, to maintain data integrity and system integrity, this support has been removed for the benefit of the user.
 - **FTP Server now supports specifying a subpath from the FTP root.** The functionality of the automatic FTP server SIE file upload has been expanded to include being able to configure what subdirectory within the FTP root, the user would like the FTP files to be uploaded to.

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- **Expanded copy and paste functionality.** The copy and paste functionality of channel data has been expanded to include channel Name as an option.
 - **Added PPS time stamp recalculations active channel for GPS sources.** A new channel has been added to all supported GPS types to indicate the current state of GPS sync. For more information reference the Help System.
 - **Sorting via channel name is properly supported.** The ability to sort the order of channels in a setup based upon the Name parameter is now available. Previously it was only available on the Connection parameter.
 - **Nomenclature adjustment for consistency for the single channel digital meter.** For the single channel digital meter, the nomenclature min/max will be used in place of low/high for consistency sake.
 - **Garmin GPS extended to include more ground speed channels.** The Garmin GPS channels have been extended to include four more available channels for ground speed in knots, mph, kph, and meters per second.
 - **SATA used/free storage space now added to set of system channels.** The available and used space on the SATA drive are now available system channels which can be configured within a test.
 - **Date and time enhancements.** The Date and time page has been optimized and redesigned for clarity and usability.
 - **Sample rates on system channels set to reasonable limits.** The sample rates that are available for the system channels have now been reduced to 5 samples per second sample rate to reserve critical system resources for more important channels and data processing.
- **Bugs Fixed / Issues Resolved**
 - **Issue with long burst history pre/post trigger periods.** When using the burst history with long pre/post trigger periods of several tens of minutes, the system would run erratically. This issue has been corrected.
 - **Issue with video live displays under higher latency conditions.** In certain high latency connection conditions, the video live displays would not work as intended. This issue has been resolved, and the video live displays will work properly under higher latency conditions.
 - **Issue with automatic changes to channel configuration changes in the Single channel editor mode.** When changing the Excitation range in the Single channel editor, the Max electrical parameter was not being updated automatically. This issue has been corrected. It is also note worth that though this was not working in the Single channel editor view, it was working properly in the spreadsheet view.
 - **Live data display strip charts not stopping on test stop event.** In certain situations the live data display strip charts would not stop when the test was stopped. This issue has been corrected.
 - **Chart changes not being reflected when multiple users connected.** In certain situations changes to the run time chart displays made by one client were not propagating automatically to other clients. This issue has been corrected.
 - **Inconsistent "Save As" behavior reported.** In certain situations the "Save As" functionality would not work as expected when multiple users were connected to the CX23-R and a start test event was issued. This has been corrected.
 - **Imported CAN database with certain characters causes the channels in the database not to be selectable.** Previously when certain characters were used in an imported CAN database, they would not be selectable as valid channels for tests. This issue has been corrected.
 - **Issue with decimal syntax in Signal Calculator Computed Channel.** In certain situations when using a decimal value in a Signal Calculator Computed Channel where the number was formatted without a prepending 0 before the decimal point, the validation mechanism would flag an invalid error message with the syntax. This issue has been corrected.
 - **Various fixes to the SDBX importer.** Fixed issues with the SDB sync task not always working properly after the sensor input mode was edited.



- **Discontinuity between reported update rate of a digital display, and actual update rate.** In certain situations, the reported update rate of a digital display was not the actual update rate of the display. This issue has been corrected.
 - **Editing issues when adding channels from existing setups where hardware no longer exists.** In certain situations where the user attempts to add channels from existing setups where the hardware in those setups is no longer available, the system can begin to exhibit unstable behavior. This issue has been corrected.
 - **Selected setup on GUI startup is inconsistent when using remote control.** In certain situations the selected setup when the GUI is started up can be inconsistent when a remote control test is used. This issue has been corrected.
 - **Using channel names “true” or “false” resulting in inconsistent behavior.** When assigning a channel to have the name “true” or “false,” inconsistent behavior of the system would result. Effective in v1.16.0, channel name “true” and “false” will no longer be accepted as legitimate channel names.
 - **SaveAs functionality inconsistent behavior.** In certain cases the SaveAs functionality would not save charts in the SXR file. This issue has been corrected.
 - **Various stability enhancements to remote test start.** The remote test start feature has continued to undergo various stability enhancements and usability improvements.
 - **Various stability enhancements to charts.** The charts have continued undergoing various stability enhancements and usability improvements.
 - **Shunt control dialog not properly resetting.** In certain cases when using the shunt control, the dialog would not reset properly when a test run was started. This issue has been corrected.
 - **Up sampler computed channel improperly redlined.** In certain cases when configuring an Up sampler computed channel the channel would be redlined when inputting non-integer sample rates, this issue has been corrected.
 - **Resized columns in min/max displays not being saved.** When resizing the columns in a min/max display, the resizing of the columns would not be saved when the charts were saved, this issue has been corrected, and the resized columns will be saved and persist.
 - **Save button incongruity within the GUI.** In some situations when making changes to charts and displays, there can be a disconnection in save status between the save button in setup, and the save button in the top bar of the user interface. This issue has been corrected and the availability to save the setup will be synchronized regardless of which save button you may be looking at in the user interface.
- **Known Issues and Advisories**
 - **Recommended browsers.** The recommended browsers when using the CX23-R web interface are up to date versions of Chrome and Firefox. The web interface may work on other browsers but may result in degraded or undesirable operation.
 - **Setups utilizing a video encoder, created with v1.14.0 will require configuration changes to work in v1.14.1.** If a previous setup was created with v1.14.0 or earlier firmware, the resolution of your video image will need to be changed to a properly supported resolution prior to running the test.
 - **Setups utilizing multiple video channels from a multi-channel video encoder is not supported.** Although the CX23-R will allow the user to specify multiple video streams from a multi-channel encoder, using more than one channel from a multi-channel encoder is not supported, and configuring a test with this configuration may in not as-configured results, and is at the user’s own risk. It is recommended the user only use one channel on a multi-channel video encoder.
 - **Live video displays when using the Axis m7001 video encoder.** The Axis m7001 encoder can be used, but there are limitations on video display capabilities with this old and now discontinued Axis product. Video frames will be properly stored in the SIE file; however, viewing of the video frames is supported in the Hardware view only. As such, video frames cannot be displayed when the SIE test is running.

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- **Users with previously undefined profiles.** If users have been previously configured with no profile, those users will be given read only permissions until a profile is assigned. This is an advisory effective if upgrading from v1.8.3 or earlier firmware.
- **Caution when using Netgear networking interfaces with the CX23-R.** Certain Netgear switches and routers have been known to not work reliably when connected to the Host port of the CX23-R. The problem will manifest as the Netgear networking interface showing the CX23-R is not connected when in fact it is. In certain situations, a power cycle of the Netgear networking interfaces can correct the problem. For these reasons, it is strongly recommended that for any high availability or high assurance test platforms, that Netgear networking interfaces not be used to connect to the CX23-R Host port.
- **Caution when using Firewire with MX Modules.** In certain atypical usage scenarios, MX modules can lose PTP sync when a test run is restarted after a reboot. See the help system topic that discusses setting up the SomatXR system for more information.
- **MX modules can get into a state where they can only be recovered via a power cycle.** On occasion, MX modules may get into a state where they are no longer recognized by the CX23-R interface. The work around for this issue is to power cycle the MX module.

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Complete Listing of Modules, Accessories, Documentation and available Support Software Tools / Libraries

Modules

- SomatXR: Data Processor with 16 or 64 GB memory 1-CX23-R-xx-2
- SomatXR: Ethernet Switch PTP 1-EX23-R
- SomatXR: Standard Amplifier 1-MX1601B-R
- SomatXR: Bridge Amplifier 1-MX1615B-R
- SomatXR: Thermo Amplifier 1-MX1609KB-R
- SomatXR: Universal Amplifier 1-MX840B-R
- SomatXR: Highly Dynamic Amplifier 1-MX411B-R
- SomatXR: CAN module 1-MX471B-R
- QuantumX: Measuring Amplifier / 16 channels 1-MX1601B
- QuantumX: Bridge Amplifier / 16 channels 1-MX1615B
- QuantumX: Thermocouple Type K / 16 channels 1-MX1609KB
- QuantumX: CAN Module / 4 channels 1-MX471B
- QuantumX: Analog Voltage Output 1-MX878B

Documentation

- CX23-R Data Sheet (English / German) Version 2.2
- CX23-R / EX23-R User Manual Version 6.2
- CX23-R Quick Start Guide Version 3.0
- EX23-R Data Sheet (English / German) Version 1.2 (1.1)
- EX23-R Quick Start Guide Version 1.0
- SomatXR Safety Manual Version 2.1
- SomatXR Accessories Data Sheet (English / German) Version 6.2
- MX1601B-R Data Sheet (English / German) Version 3.0
- MX1609KB-R Data Sheet (English / German) Version 3.0
- MX1615B-R Data Sheet (English / German) Version 4.0
- MX840B-R Data Sheet (English / German) Version 1.0
- MX878B Data Sheet (English / German) Version 2.0
- MX411B-R Data Sheet (English / German) Version 1.0
- MX471B-R Data Sheet (English / German) Version 1.0
- MX Modules User Manual (English / German) Version 4.0
- MX Modules Quick Start Guide (English / German) Version 3.0
- NTX003 Data Sheet Version 1.1
- 1-UPX00x-2 UPS Data Sheet (English / German) Version 2.0
- 1-SCM-R-TCX-2 Data Sheet (English) Version 1.3
- Reference Manual For libsie Version 1.0
- 1-SCM-R-SG120-300-1000-2 Data Sheet Version 1.1
- 1-CON-S3005-2 Adapter Data Sheet Version 1.1
- 1-CASEMOUNT-UMB-2 Data Sheet Version 1.0
- 1-CASEMOUNT2-2/3-2 Data Sheet Version 1.0

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Software Tools / Libraries

- HBM Device Manager v1.0.0.1
- SomatXR Download Manager v1.0.2
- SomatXR Emulator v1.18.0
- libsie SIE library v1.1.5

Accessories

- Xcode to Xcode Adapter w/Mount 1-CON-S3005-2
- Fastener CaseLink-Rug, 160mmx80mmx12mm 1-CASELINK-RUG-2
- 2 Unit Mounting System, 200mmx130mmx50mm 1-CASEMOUNT2-2
- 3/4 Unit Mounting Syst,295mmx130mmx50mm 1-CASEMOUNT3-2
- Universal Mounting Bracket 1-CASEMOUNT-UMB-2
- Voltage conditioner .3M 840BR adapter 1-SCM-R-VC60-2
- ¼ bridge 1000 .3M 840BR Adapter 1-SCM-R-SG1000-2
- ¼ bridge 350 .3M 840BR adapter 1-SCM-R-SG350-2
- ¼ bridge 120 .3M 840BR adapter 1-SCM-R-SG120-2
- K type thermal couple .3M 840BR adapter 1-SCM-R-TCK-2
- E type thermal couple .3M 840BR adapter 1-SCM-R-TCE-2
- ICP, with BNC .3M 840BR adapter 1-KAB430-0.3
- AC/DC power supply unit (24 V, 120 W) 1-NTX003-2
- Power supply cable (CX23-R to MX module) 1-KAB2110
- Power supply cable (low loss) with exposed wires 1-KAB2115
- Mounting brackets 1-CASEMOUNT
- Ethernet cable (CX23-R / EX23-R to MX module) 1-KAB2100
- Ethernet cable (CX23-R / EX23-R to PC / access point) 1-KAB2106
- Ethernet cable (CX23-R to EX23-R) 1-KAB2107
- Push-pull sensor cable 1-KAB183
- Break away sensor cable 1-KAB184
- Digital I/O cable with exposed wires 1-KAB2101
- GPS/AUX adapter (CX23-R to EGPS-5Hz) 1-KAB2102
- CAN adapter (CX23-R to SomatCR KAB292) 1-KAB2104
- GPS/AUX cable with exposed wires 1-KAB2108
- CAN cable with exposed wires 1-KAB2109
- Precision GPS Receiver-200Hz 1-EGPS-200-B-2
- Precision GPS Receiver-200Hz-PLUS 1-EGPS-200-P-2
- EGPS-200 GPS Antenna 1-EGPS-200-ANT-2
- EGPS-200 GPS Template – RTK 1-EGPS-200-TEM-2
- Trigger Cable for EGPS-200 1-SAC-GPSTRIG-2
- Cable Extensions 1-SAC-EXT-MF



Accessories (cont'd)

- Full-bridge adapter (to eDAQ M8 connector) 1-KAB2117
(4 wire - no sense line)
- Quarter-bridge adapter (to eDAQ M8 connector) 1-KAB2118
(3 wire - no sense line)
- Voltage adapter (to eDAQ M8 connector) 1-KAB2119
- ¼ Bridge Adapter (ODU 14 pin to M8F connector) 1-KAB2122-0.3
- CX23 + eDAQ sync cable (M12 to LEMO) 1-KAB2111-2
- GPS Receiver - 5Hz Update 1-EGPS-5HZ-2
- Pelican Case - eDAQ-lite/SXR 1-PEL1520-2
- Pelican Case - eDAQ/eDAQ-lite/SXR 1-PEL1600-2
- AC/DC Power Supply (24 V, 30 W) ODU 4p 1-NTX002
- Plug (ODU 4p push-pull) 1-CON-P1001
- Power supply (ODU, 5 m, open) 1-KAB294-5
- Connecting elements 1-CASELINK
- Carrying handle 1-CASECARRY
- 4 protective caps for ODU sensors 1-CON-A2013
- 2 protective caps for ODU system 1-CON-A2014
- FireWire ExpressCard adapter 1-IF-002
- FireWire intermodule (ODU, IP68, 2 m) 1-KAB272
- FireWire PC (ODU / FW, IP68, 3 m) 1-KAB276-3
- FireWire (module to PC, IP68, 5 m) 1-KAB293-5
- Ethernet cable (IP65/5m) 1-KAB273-5
- Connector (ODU, 14 pol, IP68) 1-CON-P1007
- Plug (ODU 14p break-away) 1-CON-P1016
- 1-wire-EEPROM DS24B33 1-TEDS-PAK
- 10 Connectors thermo mini (type K, RFID) 1-THERMO-MINI
- QuantumX: UPS 1-UPX001-2
- SomatXR Uninterruptable Power Supply 1-UPX002-2