July 2019
Version 2.10.0

Thank you for choosing HBM for your test, analysis and measurement task. This document shows the released product package of eDAQXR. 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**
  - eDAQXR Firmware Version 2.10.0
  - MX Module Firmware Version 4.12.32.0
    - Included in eDAQXR firmware to update from the Web Interface.
- **New Module Support**
  - None

Software Tools / Libraries
- **Software Updates**
  - None

Documentation
- **New Documentation**
  - None
- **Updated Documentation**
  - eDAQXR eDAQXR-lite User Manual   Version 7.0
  - MX Modules Quick Start Guide (English / German)   Version 6.0

Accessories
- **New Accessories**
  - None
- **Updated Accessories**
  - None

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

Notes about the eDAQXR firmware v2.10.0

- **New Features**

    - **Spectrum Chart support in the Single Channel Editor.** A new spectrum tab has been added as a chart type in the Single Channel Editor to support live data readouts during channel configuration.
    - **Touch screen and field friendly interactive triggers.** The interactive triggers have bee modified to be more friendly to touch screens in field situations. Please see the help system for more information.
    - **Import / Export System Preferences.** Support for exporting and importing system preferences has been added. Please see the help system for more information.
    - **RAW CAN message displays in Mode 2 Networked systems.** Support to view RAW CAN traffic in a display has been added for Mode 2 Networked systems.
    - **CAN CCP/XCP Support.** CCP and XCP over CAN are now supported. Please see the help system for more information on what is supported and how the system should be configured to enable using CCP/XCP over CAN.
    - **SIE sample count metadata object for Time History channels.** A new SIE metadata object has been added for Time History DataMode channels to indicate how many data samples exist for that particular channel.
    - **RAW CAN Message Display.** The ability to see Raw CAN Messages and sequentialized CAN data has been added to the Single Channel Editor. Users can now view and capture message data when configuring the a RAW CAN channel in the Single Channel Editor. Or can view sequentialized data when configuring a CAN database channel in the Single Channel Editor. See the help system for more information.
    - **eDAQ txt database editability support.** eDAQ txt databases that are imported into the XR can now be edited within the GUI. See the help system for more information.
    - **GPS time synchronization for SIE tests on standalone eDAQXR's.** The user can now individually time sync data taken on eDAQXR's via GPS, when running tests in networked eDAQXR mode.
    - **MX471 and MX840 support of eDAQ txt databases.** MX471 and MX840 CAN channels can now consume and be configured by imported eDAQ txt database CAN channels.
    - **Keyboard shortcuts.** Keyboard shortcuts have been added to various contexts of the GUI to make field usage of the system more accessible. See the help system for more information.

- **Optimizations**

    - **CAN Channel data storable in integer formats.** In order to optimize SIE file size, options have been added to store selected CAN Channel data in integer formats.
    - **Max Test Start delay increase.** In order to accommodate some sensors which require longer times to stabilize, the start time delay maximum setting has been increased to 120 seconds.
    - **General user experience optimizations and bug fixes.** General optimizations in usability, and bug fixes have been applied to the user interface.
    - **Mode 1 Networking Test, Slave System LED indicator.** When running a Mode 1 Networking test, the yellow LED on slave nodes will also blink to indicate a test is running.
    - **SKB filename display in GUI.** The SKB file name is now displayed on the Databases page with the "Attached" or "Detached" text.
    - **XY Plot channel selection workflow improvements.** The process for working with the XY Plot chart type has been enhanced for greater usability and speed. Details are available in the help system.

- o **Chart type selection optimizations.** Selecting a chart type is now a single mouse click operation to expedite setting up large numbers of chart displays.
- o **SIE file size reduction via integer format CAN channel data.** Using the CAN channels on the XR, float64 data type will only be used if the signal sources are float64, and float32 will only be used if the signal sources are float32. The resultant SIE file size should be reduced, and the amounts will vary depending on the specific configuration of your test.
- o **Sorted of CAN Channels.** Sorting of CAN channels has been optimized to sort by connector and then by the name.
- o **Defined sensitivity factor scaling mode support for Defined slope intercept mode supported channels.** Defined sensitivity factor scaling mode is now available for all channels which support the Defined slope intercept mode.

- • **Bugs Fixed / Issues Resolved**

  - o **CAN database Motorola format issue**. Fixed an issue with the eDAQ CAN DB importer not correctly importing DB files that uses the Motorola data format. **Any customers who previously received "corrected DB files" can no longer use these corrected files; they must import the original eDAQ CAN DB files.**
  - o **SIE Viewer channel display issue.** When using the SIE viewer with a Mode 2 Networking test, the slave channels would not be displayed. This issue has been resolved.
  - o **SIE block indexing issue in networked systems.** When using networked eDAQXR's or eDAQXRlite's in a Mode 2 Networked system, the SIE files would be written with incomplete block indices. This issue has been resolved.
  - o **GPS Synchronization issue when using networked eDAQXR's.** When attempting to use GPS synchronization on two eDAQXR/eDAQXRlite's the data on one eDAQXR in certain situations would lose synchronization with the other. This issue has been resolved.
  - o **Low sample rates combined with test stop options issue.** In certain configurations when using low sample rates and test stop parameters, tests would prematurely exit. This issue has been resolved.
  - o **DIO Output test error issue.** Fixed a bug that would fairly rarely result in an error reset (or the system hanging on a test start request) when any eDAQ legacy DIO output channel was defined in an SXR test. This bug exists in almost all previous releases that supported the eDAQXR.
  - o **Computed Channels and DataModes with numerical names issue.** In certain situations when using Computed Channels or DataModes whose names are only numbers, the system would error. This issue has been resolved.
  - o **CAN request message with message strings with only decimal digits issue.** Previously if a CAN request message string only contained decimal digits [0-9], the system would error. This issue has been resolved.
  - o **"ghost" and null message transmission when using CAN request messages issue.** Previously when using CAN request messages, the "ghost" and null messages would be transmitted. This issue has been resolved.
  - o **DataModes with histograms in Mode 2 Networked tests issue.** Previously when utilizing DataModes which have "histogram" types such as Peak Valley Matrix, or Time At Level, in a Mode 2 Networked test setup, the system would not properly gather data for those DataModes. This issue has been resolved.
  - o **Install shunt resistor parameter honoring with bridge channels issue.** Fixed a bug that affected all eDAQXR bridge channels. The user selection of the Install shunt resistor parameter was not always being honored when the user installed the shunts in the Test Control page. The system would incorrectly install the same shunt resistor across all channels in any given layer - even when the user had selected different shunt resistors for one or more of the channels in that layer.

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- **Sub 1 Sample / Second sample rate issue with request messages issue.** Previously when running a test with a sample rate of less than 1 Sample / Second, the use of request messages would cause the system to error. This issue has been resolved.
- **CAN Request Messages issue.** Previously CAN request messages were not being handled properly by the system. This issue has been resolved.
- **Editing MX1615 channels.** Previously when working with the MX1615 in a test setup, the system would be unable to save test setups. This issue has been resolved.
- **10x gain setting with SMSTRB issue.** Fixed an issue with SMSTRB modules not working properly when the 10x gain setting was required (i.e., when the required input range exceeded +-4 mV/V). The SMSTRB never switched into the 10x gain mode, and so the output would saturate at approximately +-4.8 mV/V. This bug existed in all previous releases.
- **SIE filename renaming issue.** Previously when saving an SIE file with a different name that differed only by changing the capitalization of a single character in the previous SIE file name, a system error would result. This issue has been resolved.
- **'Stop test at' parameter when using test start delay issue.** Previously when using the "Stop test at:" parameter with a "Test start delay" specified, the "Stop test at:" parameter would not be honored. This issue has been resolved.
- **Disconnected network node leaves stale hardware state in GUI issue.** Previously if a network node was disconnected from the system, a GUI refresh would be required to see current Hardware in the Add channels dialog. This issue has been resolved.
- **8 layers of same type causing error.** Previously if 8 legacy eDAQ layers were connected to a system, the system would error reset. This issue has been resolved.
- **SIE files with special characters issue.** Previously when using certain characters or strings in the SIE file name, it would cause the SIE file to be undownloadable. This issue has been resolved.
- **Single Channel Editor live chart failure on units selection issue.** Previously when the user opened the Single Channel Editor after selecting Electrical units, the live charts would fail to start. This issue has been resolved.
- **Trigger channel names that are numbers issue.** Previously when attempting to use a trigger channel where the channel name was a number, an error would result. This issue has been resolved.
- **Error when rezeroing a DIO channel on a slave node.** Previously when attempting to rezero a DIO channel on a slave node, the system would error reset. This issue has been resolved.
- **Adding GPS channels from networked systems issue.** Previously when attempting to add GPS channels from two systems on a networked setup, the GUI would disallow certain channels. This issue has been resolved.
- **Various DBC importer issues.** Previously when using certain dbc files with extended signal types, the DBC importer would not be able to import the database. This issue has been corrected.
- **General user interface and rendering bug fixes and optimizations.** The GUI as always has undergone several minor issue bug fixes as well as usability optimizations.
- **DataModes setup dialog rendering issues.** In certain situations there would be rendering or usability anomalies when configuring DataModes. These issues have been resolved.

- **New or revised issues and advisories**

  - **Advisory on SIE data file names.** Google Chrome and Mozilla Firefox are currently the recommended browsers for accessing the web interface of the XR system. However, Chrome and Firefox browser updates have removed recognition / support of some special characters in file names, in some cases resulting in faulty SIE downloads or unrecognizable SIE file names. To completely preclude potential problems, it is recommended that both SXR

setup names and SIE file names consist of only numbers, letters (upper and lower case), and the '_' character. Of course, users can use special characters if they desire and do not encounter problems. If problems are encountered, the user can rename the SIE files via the user interface and run the download again. Following are some known problems. Using the '#' character will result in problems when using the Download Manager application. Using the '(' or the ')' character will result in problems using the current version of Firefox.

o **Issue with Garmin GPS modules not proving correct Day, Month, and Year data.** Some of the Garmin modules delivered to customers in the past have a firmware version that does not provide the correct date parameters noted above. All other Garmin parameters are provided correctly. The only way to fix this is to update the Garmin firmware. This is a somewhat complicated procedure requiring special Garmin software and cabling. Customers who want their Garmin module(s) updated can contact Somat customer (support@usa.hbm.com) to make the arrangements.

- **Errata (advisories)**

  o **Legacy eDAQ discovery after firmware update (revised).** The legacy eDAQ layers on the eDAQXR system are not always discovered after a firmware update, power cycle, or system reboot. Improvements were made in v2.8.0 to vastly reduce the likelihood of this issue occurring. Based on long term power cycle tests on multiple systems, this has been seen considerably less than 1 time in 1000 cycles. If a test is running, the system will reset and the test will be restarted.
  o **Mode 2 networking limitation that affects SIE data file.** The number of channel data samples stored in the SIE file will typically not be the same for all channels with the same sample rate when tests are stopped.
  o **Limitations on CAN database Vector DBC file export.**
    ▪ CAN database Mode dependent channels are currently excluded.
    ▪ CAN database CCP channels are currently excluded.
  o **eDAQ EBRG/EHLS digital filter limitations.** These eDAQ layers do not support certain digital filter / sample rate settings across all 16 channels of any layer.
    ▪ Decimal 20000 S/s Linear Phase 6667 Hz: Maximum of 12 channels per layer. The 25000 S/s Linear Phase 8333 Hz is supported for all 16 channels.
    ▪ Decimal 10000 S/s Butterworth 1500 Hz: Maximum of 15 channels per layer.
    ▪ Decimal 100 S/s Linear Phase 33 Hz: Maximum limited to 15 channels per layer only if Test engine frame rate is 100 Hz; otherwise, supported for all 16 channels.
    ▪ Binary 8192 S/s Butterworth 1700 Hz: Maximum of 15 channels per layer.
    ▪ Binary 4096 S/s Butterworth 640 Hz: Maximum of 15 channels per layer.
  o **Recommended browsers.** The recommended browsers when using the eDAQXR 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.
  o **SIE file naming conventions when using FTP upload.** Please note that file naming conventions and special character usage can affect whether the FTP server you are uploading to, will accept the file. There are characters that are illegal file name characters in Windows systems, and likewise for Linux systems. Please avoid these illegal characters when considering what operating system your FTP server is running on.
  o **Use of HTTP and HTTPS protocols and browser add-ons / extensions when connecting to the eDAQXR.** When performing a firmware upgrade and using the HTTP protocol, a CTRL+F5 refresh of your browser after the firmware update is required to ensure that new features and GUI elements are available. The same is true of the help system. If the user accesses the help system after a firmware update, a CTRL+F5 is required to ensure new help content is made available as well. The optimal performance when using the eDAQXR is realized using the HTTP protocol, inclusive of typical use, as well as download operations from the eDAQXR. Additionally, it is recommended that any browser add-ons or

extensions be disabled when using the eDAQXR as their enablement has been linked to degrading performance of the GUI interface when in use.

- o **Caution when using Netgear networking interfaces.** Certain Netgear switches and routers have been known to not work reliably when connected to the Host port of the eDAQXR. The problem will manifest as the Netgear networking interface showing the eDAQXR 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 eDAQXR Host port.

- **Errata (known issues)**

  - o **Single channel editor locks up very rarely.** The SCE.can get into a state where it cannot be closed. This can happen when the SCE automatically starts a Strip chart or other data display when opening the SCE dialog window, and the system cannot provide data for the display for some reason. The user can refresh the browser to close the SCE dialog window. There is also a User preference to not automatically start any display in the SCE dialog window.
  - o **Sporadic eDAQ legacy REZERO_TIMOUT error.** This error is seen very rarely after a system boot from a power cycle or software initiated reset. The system reboots on this error and will automatically restart an SIE test that was running when the initial power cycle or software initiated reset occurred.
  - o **Sporadic NETDEV WATCHDOG time out error.** This error is seen very rarely after a system boot from a power cycle or software initiated reset. The system reboots on this error and will automatically restart an SIE test that was running when the initial power cycle or software initiated reset occurred.
  - o **Sporadic eDAQ legacy EBRG layer EXCITATION_5V_OFFSET error.** This error is seen very rarely after a system boot from a power cycle or software initiated reset. The system reboots on this error and will automatically restart an SIE test that was running when the initial power cycle or software initiated reset occurred.
  - o **Sporadic MX module HANDLE SUBSCRIBE error.** This error is seen rarely after a system boot from a power cycle or software initiated reset. The system reboots on this error and will automatically restart an SIE test that was running when the initial power cycle or software initiated reset occurred.
  - o **Limitations with Mode 2 networking.** Channels cannot be shared across the network nodes (i.e., channels defined on any given node cannot be used on another node for DataMode triggering, use in a computed channel, etc.). The user interface does not prohibit this. If the user configures as SXR test in this way, the user interface will attempt to start the test run. However, the system will reset on error.
  - o **Limitations on using MX471 modules.** The MX471 can be overloaded and not able to keep up with the processing required if there are too many CAN channels assigned. This is significantly affected by the CAN bus load – specifically the broadcast rate of the CAN messages. For example, the following test scenario will result in an overload. Test using all 4 ports with 128 channel assigned to each port (using 32 CAN messages per port) broadcast at 100 messages per second. In most cases, the XR system will reset on an overload situation, but not always. As such, users are strongly advised to avoid MX471 overload situations – particularly for unattended testing.
  - o **Web browser exceptions.** The web browser interface will sometimes lock up or not properly reflect the actual states of the hardware or test. Refreshing the browser will usually correct this.
  - o **Potential loss of data sync issue when using Firewire with MX modules.** In certain usage scenarios, MX modules can lose PTP sync when a test run is restarted after a reboot. Connecting an MXB module to any other MXB module using FireWire without both having an

Ethernet connection to the data processor can result in acquired data not being synchronized to the data processor on one or more MXB modules.

- o **EX23-R PTP Synchronization with MX modules using ports 5 and 6.** Using a system connected with MX modules connected to ports 5 or 6 on the EX23-R can result in the MX modules losing sync with the XR until the EX23-R is reconfigured properly. Reconfiguring these ports is fairly trivial. Please contact HBM Support at support@usa.hbm.com if your test application requires using MX modules on ports 5 and 6.
- o **Push notifications on iOS devices.** There is a known issue with the iOS HBM Push application, where notifications will not be pushed, but instead have to be fetched by closing or reopening the app on your iOS device, or performing a pull down refresh of the notification list.
- o **Setups utilizing multiple video channels from a multi-channel video encoder is not supported.** Although the eDAQXR 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.
- o **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.

eDAQXR System Overview

The following information defines the scope of the eDAQXR system relative to the TCE/eDAQ system. Functionality that is not supported in this first release is noted.

Legacy eDAQ layers

The following legacy eDAQ layers are supported, with restrictions noted where applicable. Layers not listed are not supported.

NOTE: It is critical that you verify that the latest firmware is loaded on your existing legacy eDAQ layers before removing the legacy eDAQ processor. There is no ability to upgrade firmware with the new EXRCPU.

- **Legacy eDAQ Layer Support**
    - **EBRG – Layer Firmware v1.3**
    - **EHLS – Layer Firmware v1.12**
    - **EDIO – Layer Firmware v1.10**
        - GPS port will not be supported
        - Vehicle Bus modules will not be supported
    - **EITB – Layer Firmware v1.5**
    - **ENTB – Layer Firmware v1.0**

- **Legacy eDAQlite Layer Support**
    - **ELBRG – Layer Firmware v1.2**
    - **ELHLS – Layer Firmware v1.1**
    - **ELDIO – Layer Firmware v1.9**
        - GPS port will not be supported.
    - **ELNTB – Layer Firmware v1.0**

EDAQXR processor "EXRCPU"

- Axis cameras are supported (limited to the officially supported list).
- Serial Bus modules are not supported.
- The following MXB modules are supported
    - MX1615 B / BR
    - MX1601 B / BR
    - MX1609 KB / KBR
    - MX840 B / BR
    - MX460 B / BR
    - MX411 BR
    - MX471 B / BR
    - MX878 B (Limited Functionality – See Help System)

Channel and Test Setup

This section lists current functional issues that TCE/eDAQ users will likely view as deficiencies. Most of these (and possibly all) will be addressed in future releases.

- There is currently no support for multiple runs. All test runs are currently treated as autonomous runs. A new SIE file is generated for every test run.
- The eDAQXR currently supports Zero and Shunt scaling tasks in an interactive mode only. The user needs to be patient and wait for all channel readings to become stable for each step in the task.
- There is currently no provision for assigning data types to channels. All legacy eDAQ and MXB channels are sourced and stored in the SIE file as 32 bit floats. All other channels are sourced and stored in the SIE file as 64 bit floats (including CAN, GPS, and digital input channels).

Networking

Networking is handled much better in the eDAQXR compared to the eDAQ. The user only needs to communicate with the Master node. There are two operational modes supported. In Mode 1 networking, the master collects channel data from the other nodes and processes it to generate a single SIE file. For more demanding test requirements, Mode 2 networking is available where all nodes process data channels into separate SIE files which are merged into a single SIE file when downloaded.

- Mode 2 networking does not yet support the capability to share channel data streams across nodes.

Computed channels and DataModes

- Power Saver computed channel is not supported.
- Some of the other eDAQ computed channels currently have no use in the eDAQXR and are not supported (e.g., Engineering Scalar and Integer Scalar).
- Time at Level (multi-dimensional) DataMode is not supported.

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

Modules

- eDAQXR: EXRCPU-32GB w/eDAQ adapt, lid, cables — 1-EXR-E-32GB-2
- eDAQXR: EXRCPU-64GB w/eDAQ adapt, lid, cables — 1-EXR-E-64GB-2
- eDAQXR: eDAQXR CPU 32GB No base, lid, cables — 1-EXRCPU-32GB
- eDAQXR: eDAQXR CPU 64GB No base, lid, cables — 1-EXRCPU-64GB-2
- SomatXR: Data Processor with 64 GB memory — 1-CX23-R-64-2
- 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
- SomatXR: Frequency Amplifier — 1-MX460B-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
- QuantumX: Digital Dynamic — 1-MX460B
- QuantumX: Universal Amplifier — 1-MX840B

Documentation

- eDAQXR Data Sheet (English / German) — Version 1.1
- eDAQXR Compatible Legacy eDAQ Technical Specifications — Version 1.0
- eDAQXR Quick Start Guide — Version 1.0
- eDAQXR Safety Manual (English / German) — Version 2.0
- eDAQXR eDAQXR-lite User Manual — Version 7.0
- eDAQXR-lite Data Sheet (English / German) — Version 1.0
- eDAQXR-lite Quick Start Guide — Version 1.0
- eDAQXR-lite Safety Manual (English / German) — Version 1.0
- MX1601B-R Data Sheet (English / German) — Version 4.1
- MX1609KB-R Data Sheet (English / German) — Version 6.0
- MX1615B-R Data Sheet (English / German) — Version 7.1
- MX840B-R Data Sheet (English / German) — Version 3.0
- MX878B Data Sheet (English / German) — Version 2.0
- MX411B-R Data Sheet (English / German) — Version 2.0
- MX471B-R Data Sheet (English / German) — Version 2.0
- MX Modules User Manual (English / German) — Version 6.1
- MX Modules Quick Start Guide (English / German) — Version 6.0
- 1-UPX00x-2 UPS Data Sheet (English / German) — Version 2.0
- 1-SCM-R-TCX-2 Data Sheet (English) — Version 2.0
- Reference Manual For libsie — Version 1.0
- 1-SCM-R-SG120-300-1000-2 Data Sheet — Version 2.0
- 1-CON-S3005-2 Adapter Data Sheet — Version 1.1
- EX23-R Data Sheet (English / German) — Version 3.0

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Software Tools / Libraries

- HBM Device Manager   v1.0.0.1
- XR Download Manager   v1.2.2
- XR Emulator   v2.10.0
- libsie SIE library   v1.1.5

Accessories

- eDAQXR: eDAQXR to eDAQ adapter assembly   1-EXR-E-ADT-2
- eDAQXR: eDAQXR PWR CABLE W/REMOTE-PIGTAILS   1-EXR-PWR-IO-PT-2
- 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