SOFTWARE RELEASE NOTES

OMDxxx-R2000 Firmware v1.62

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Software Details

Software Name: R2000 OMD device firmware

Release Version: 1.62

Release Date: June 2022

Release Notes for Firmware Version 1.62

Description

This firmware release is a minor update for all OMDxxx devices.

Supported Products

- OMD10M-R2000-B23-V1V1D   (order number #305983)
- OMD12M-R2000-B23-V1V1D-HD-1L   (order number #305984)
- OMD25M-R2000-B23-V1V1D-SD-1L   (order number #70119140)
- OMD30M-R2000-B23-V1V1D-1L   (order number #305985)
- OMD30M-R2000-B23-V1V1D-HD-1L   (order number #305986)
- OMD30M-R2000-B23-V1V1D-T-1L   (order number #305987)
- OMD60M-R2000-B23-V1V1D-1L   (order number #317220)
- OMD60M-R2000-B23-V1V1D-T-1L   (order number #317294)

New Features

- None.

Bug Fixes

- Fixed issue causing inconsistent readings of *"temperature_min" / "temperature_max"*
- Several minor improvements.

Known Issues

- Ethernet protocol: High sample rates > 200 kHz can only be used with static display modes (*"display_mode"* set to *"off"*, *"static_logo"*, *"application_bitmap"*, *"static_text"* or *"application_text"*) and without additional scan data packet checksum (*"packet_crc" set to "none"*) .
- OMD60M devices: The *remission* scan data filter might not work as expected for measurements between 4 and 12 meter distance.

System Requirements

- Firmware v1.62 requires R2000 devices with hardware revision 1.72 or newer.
  Devices with older hardware revisions cannot be upgraded.

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Compatibility Notes

- Firmware v1.62 is backwards compatible to firmware v1.0x, v1.2x, v1.5x and v1.60.
- Firmware v1.62 implements the R2000 Ethernet protocol revision 1.04.

    Please refer to the Ethernet protocol documentation for details on protocol versions.

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Release Notes for Firmware Version 1.60

Description

This is the initial firmware release for R2000 OMD60M devices and a minor update for all other OMDxxx devices with HW 1.50.

Supported Products

- OMD10M-R2000-B23-V1V1D   (order number #305983)
- OMD12M-R2000-B23-V1V1D-HD-1L   (order number #305984)
- OMD30M-R2000-B23-V1V1D-1L   (order number #305985)
- OMD30M-R2000-B23-V1V1D-HD-1L   (order number #305986)
- OMD30M-R2000-B23-V1V1D-T-1L   (order number #305987)
- OMD60M-R2000-B23-V1V1D-1L   (order number #317220)

New Features

- Added support for extended measurement range (OMD60M devices)
- Ethernet protocol: Added optional CRC32C scan data packet checksum (*"packet_crc"*)

Bug Fixes

- Ethernet interface: The sensor might fail to establish an Ethernet link, if it is connected to a switch or device which does not support auto-negotiation.

Known Issues

- Ethernet protocol: High sample rates > 200 kHz can only be used with static display modes (*"display_mode"* set to *"off"*, *"static_logo"*, *"application_bitmap"*, *"static_text"* or *"application_text"*) and without additional scan data packet checksum (*"packet_crc"* set to *"none"*) .
- OMD60M devices: The *remission* scan data filter might not work as expected for measurements between 4 and 12 meter distance.

System Requirements

- Firmware v1.60 requires R2000 devices with hardware revision 1.50 or newer.
  Devices with older hardware revisions cannot be upgraded.

Compatibility Notes

- Firmware v1.60 is backwards compatible to firmware v1.0x, v1.2x and v1.5x.
- Firmware v1.60 implements the R2000 Ethernet protocol revision 1.04.

  Please refer to the Ethernet protocol documentation for details on protocol versions.

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Release Notes for Firmware Version 1.51

Description

This is a bug-fix release for R2000 UHD and HD devices with HW 1.50 (OMDxxx-R2000).

Supported Products

- OMD10M-R2000-B23-V1V1D   (order number #305983)
- OMD12M-R2000-B23-V1V1D-HD-1L   (order number #305984)
- OMD30M-R2000-B23-V1V1D-1L   (order number #305985)
- OMD30M-R2000-B23-V1V1D-HD-1L   (order number #305986)
- OMD30M-R2000-B23-V1V1D-T-1L   (order number #305987)

Bug Fixes

- Fixed a problem where the device might output invalid scan data only after a power cycle, if scan data filtering has been activated.

Known Issues

- Ethernet protocol: High sample rates >200 kHz can only be used with static display modes (*"display_mode"* set to *"off"*, *"static_logo"*, *"application_bitmap"*, *"static_text"* or *"application_text"*).
- Ethernet interface: The sensor might fail to establish an Ethernet link, if it is connected to a switch or device which does not support auto-negotiation.

System Requirements

- Firmware v1.51 requires R2000 devices with hardware revision 1.50.
  Devices with older hardware revisions cannot be upgraded.

Compatibility Notes

- Firmware v1.51 is backwards compatible to firmware v1.00, v1.01, v1.02, v1.20, v1.21 and v1.50.
- Firmware v1.51 implements the R2000 Ethernet protocol revision 1.03.

  Please refer to the Ethernet protocol documentation for details on protocol versions.

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Release Notes for Firmware Version 1.50

Description

This is a major feature update for R2000 UHD and HD devices with HW 1.50 (OMDxxx-R2000).

Supported Products

- OMD10M-R2000-B23-V1V1D   (order number #305983)
- OMD12M-R2000-B23-V1V1D-HD-1L   (order number #305984)
- OMD30M-R2000-B23-V1V1D-1L   (order number #305985)
- OMD30M-R2000-B23-V1V1D-HD-1L   (order number #305986)
- OMD30M-R2000-B23-V1V1D-T-1L   (order number #305987)

New Features

- Added ability to pre-process scan data (*scan data filtering*) in order to improve data quality while reducing Ethernet traffic. Available filters are *"average"*, *"median"*, *"remission"* and *"maximum"*.
- Added option to output every n-th scan only (*"skip_scans"*).
- Added ability to control two digital I/O channels (IQ1 and IQ2) using the Ethernet protocol.
- Added *"Timestamp Sync Output"* for time synchronization using digital output channel IQ2.

Changes

- Ethernet protocol: Added resolutions 3150 and 2520 to parameter *"samples_per_scan".*
- Ethernet protocol: Removed support for *"deprecated_handle_generation"*.
- Ethernet protocol: Renamed *"operating_mode"* value *"transmitter_off"* to *"emitter_off"*

Bug Fixes

- Fixed unexpected termination of UDP scan data output while updating *"hmi_application_text".*
- Fixed a potential crash when using packet type B with an odd value for *"max_num_points_scan"*.
- Fixed a potential crash when the sensor is overloaded while outputting scan data via UDP.
- Fixed wrong activation of *"Info"* flag (Bit 0) in scan data status header for errors and warnings.
- Various internal fixes and improvements.

Known Issues

- Ethernet protocol: High sample rates >200 kHz can only be used with static display modes (*"display_mode"* set to *"off"*, *"static_logo"*, *"application_bitmap"*, *"static_text"* or *"application_text"*).
- Ethernet interface: The sensor might fail to establish an Ethernet link, if it is connected to a switch or device which does not support auto-negotiation.

System Requirements

- Firmware v1.50 requires R2000 devices with hardware revision 1.50.
  Devices with older hardware revisions cannot be upgraded.

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Compatibility Notes

- Firmware v1.50 is backwards compatible to firmware v1.00, v1.01, v1.02, v1.20 and v1.21.
- Firmware v1.50 implements the R2000 Ethernet protocol revision 1.03.

  Please refer to the Ethernet protocol documentation for details on protocol versions.

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Release Notes for Firmware Version 1.21

Description

This is a maintenance firmware update for R2000 UHD and HD devices (OMDxxx-R2000).

Supported Products

- OMD10M-R2000-B23-V1V1D   (order number #232934)
- OMD30M-R2000-B23-V1V1D-1L   (order number #263095)
- OMD30M-R2000-B23-V1V1D-T-1L   (order number #271045)
- OMD30M-R2000-B23-V1V1D-HD-1L   (order number #275235)
- OMD12M-R2000-B23-V1V1D-HD-1L   (order number #287680)

Changes

- Added support for HD devices (OMD30M-R2000-HD).
- Ethernet protocol: Added resolutions 1680, 2100 and 2800 to parameter *"samples_per_scan"*.
- Ethernet protocol: Added new read-only parameter *"emitter_type"* to identify type of emitter.
- Ethernet protocol: Improved accuracy of *"system_time_raw"* (especially for low sample rates).
- Ethernet protocol: Flag "new_settings" is only set for changes of system settings for scan data acquisition (i.e. parameter *"samples_per_scan"*).
- HMI: Major rework of internal mechanics for updating content on the HMI LED display. Information is now displayed more consistently, especially in case of changes to the display state (e.g. application updates, parameter changes, error messages, etc.).
- HMI: Added item *"Product info"* to HMI menu.

Bug Fixes

- Static Ethernet configuration: The configured gateway address is now used by the sensor.
- Ethernet protocol: High sample rates >200 kHz can now be used with all packet types (A, B, C).
- Ethernet protocol: Commands *"get/set_scanoutput_config"* do not fail for UDP connections.
- Ethernet protocol: *"system_time_raw"* is now updated while *"operating_mode = transmitter_off"*.
- Ethernet protocol: Bit 0 of scan data header status flags is now updated correctly for all cases.
- HMI: Fixed display issues for "*hmi_static_text"* and *"hmi_application_text"* in some special cases.
- Various improvements to firmware stability (during startup and long-term operation).
- Various minor internal fixes.

Known Issues

- Ethernet protocol: High sample rates >200 kHz can only be used with static display modes (*"display_mode"* set to *"off"*, *"static_logo"* or *"static_text"*).

System Requirements

- Firmware v1.21 requires R2000 devices with hardware revision 1.00. Devices with older hardware revisions cannot be upgraded.

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Compatibility Notes

- Firmware v1.21 is backwards compatible to firmware v1.00, v1.01, v1.02 and v1.20.
- Firmware v1.21 implements the R2000 Ethernet protocol revision 1.02.

Additional Notes

- Please refer to the Ethernet protocol documentation for details on protocol versions.

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Release Notes for Firmware Version 1.20

Description

This is the first major firmware update for R2000 UHD devices (OMDxxx-R2000).

Supported Products

- OMD10M-R2000-B23-V1V1D   (order number #232934)
- OMD30M-R2000-B23-V1V1D-1L   (order number #263095)

Changes

- Added support for infrared devices (OMD30M-R2000)

- Ethernet protocol: Added access to the HMI display
  (display modes *"static_logo", "static_text", "application_bitmap", "application_text"*).

- Ethernet protocol: Added support for "inline" watchdog feeds (TCP scan data connections only).

- Ethernet protocol: Added option to limit scan data output to a single sector
  (*"max_num_points_scan"*).

- Ethernet protocol: Added option to temporarily disable the transmitter (*"operating_mode"*).

- Ethernet protocol: Various minor enhancements:

- Improved validation of command arguments.

- Added device capabilities *"scan_frequency_min/max"* and *"sampling_rate_min/max"*.

- Added function *"factory_reset"*.

- Parameter *"user_tag"* now accepts up to 32 UTF8 characters (instead of 32 ASCII chars).

- HMI menu: Various minor enhancements:

- Added option to switch all parameters to read-only (*"hmi_parameter_lock"*).

- Added tool "Alignment aid".

- Added submenu showing version information.

- HMI display boot animation is now shown until device is ready.

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Bug Fixes

- Ethernet protocol: connection handles are now generated using random sequences.
  Attention: This fix might cause compatibility issues. Please refer to the R2000 Ethernet protocol documentation for details and available compatibility modes.

- Ethernet protocol: Improved verification and error handling of command arguments.

- Ethernet protocol: Fixed sporadic error messages at *release_handle* ("Interrupted System Call").

- Ethernet protocol: Fixed handling of non-ASCII characters (UTF8) in *"user_tag"* and *"user_notes"*.

- Ethernet protocol: Fixed read access to parameter *"user_notes"* if it contains more than 238 bytes

- Ethernet protocol: Fixed *"reset_parameter"* to accept parameter *"user_notes"*.

- Ethernet protocol: Fixed crash when command URI contains a '+' character.

- Ethernet protocol: Fixed sensor hang-up if client acknowledges TCP scan data with huge delay.

- Ethernet protocol: Improved handling of parameter *"start_angle"* if it does not exactly specify the recording angle of a scan data point.

- Ethernet protocol: Fixed issue of scan data status flag *"new_settings"* not being set as specified.

- Fixed sporadic defect message while changing direction of rotation.

- Various minor internal fixes.

Known Issues

- Ethernet protocol: High sample rates >200 kHz can only be used with packet types A and C.

- Ethernet protocol: High sample rates >200 kHz can only be used with static display modes (*"display_mode"* set to *"off"*, *"static_logo"* or *"static_text"*).

System Requirements

- Firmware v1.20 requires R2000 devices with hardware revision 1.00.
  Devices with older hardware revisions cannot be upgraded.

Compatibility Notes

- Firmware v1.20 is backwards compatible to firmware v1.00, v1.01 and v1.02.

- Firmware v1.20 implements the R2000 Ethernet protocol revision 1.01.

Additional Notes

- Please refer to the Ethernet protocol documentation for details on protocol versions.

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Release Notes for Firmware Version 1.02

Description

This is a hotfix release for R2000 UHD devices (OMDxxx-R2000) with firmware version 1.00 or 1.01.

Supported Products

- OMD10M-R2000-B23-V1V1D (order number #232934)

Bug Fixes

- System timestamp might sporadically jump by -172s.

Known Issues

- Ethernet protocol: High sample rates > 200 kHz can only be used with packet types A and C.
- Ethernet protocol: High sample rates > 200 kHz can only be used with static display modes (*"display_mode"* set to *"off"*, *"static_logo"* or *"static_text"*).

Compatibility Notes

- Firmware v1.02 is entirely compatible to firmware versions 1.00 and 1.01.
- Firmware v1.02 implements the R2000 Ethernet protocol revision 1.00.

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Release Notes for Firmware Version 1.01

Description

This is a hotfix release for R2000 UHD devices (OMDxxx-R2000) with firmware version 1.00.

Supported Products

- OMD10M-R2000-B23-V1V1D (order number #232934)

Bug Fixes

- Display firmware might lock up permanently under rare conditions.

Known Issues

- Ethernet protocol: High sample rates > 200 kHz can only be used with packet types A and C.
- Ethernet protocol: High sample rates > 200 kHz can only be used with static display modes (*"display_mode"* set to *"off"*, *"static_logo"* or *"static_text"*).

Compatibility Notes

- Firmware v1.01 is entirely compatible to firmware version 1.00.
- Firmware v1.01 implements the R2000 Ethernet protocol revision 1.00.

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Release Notes for Firmware Version 1.00

Description

This is the initial firmware release for R2000 UHD devices (OMDxxx-R2000).

Known Issues

- Ethernet protocol: High sample rates > 200 kHz can only be used with packet types A and C.
- Ethernet protocol: High sample rates > 200 kHz can only be used with static display modes (*"display_mode"* set to *"off"*, *"static_logo"* or *"static_text"*).

Supported Products

- OMD10M-R2000-B23-V1V1D (order number #232934)

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