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# v2.0.0 Changelog

*Firmware v2.0.0 for all Ouster sensors*

Ouster

Dec 03, 2020

# Contents

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**Version** v2.0.0

**Date** 2020-11-20

## Added

- Add in `azimuth_window` config parameter documentation.
- Add new TCP command `get_lidar_data_format` for information on the structure of a lidar packet.
- Add new key `lidar_origin_to_beam_origin_mm` to TCP command `get_lidar_data_format` for information on the structure of a lidar packet.
- Add config parameters `phase_lock_enable` and `phase_lock_offset` to control motor phase locking.
- Add in new WARMUP sensor status to inform when sensor is in warmup state in cold temperature startup.
- Add STANDBY status from `get_sensor_info` when `auto_start_flag` = 0.
- Add TCP command `save_config_params` to ultimately replace deprecated command `write_config_txt`.
- Add config parameter `operating_mode` which mirrors deprecated config parameter `auto_start_flag`.
- Add config parameter `udp_dest` which mirrors deprecated config parameter `udp_ip`.
- Add alerts for errors related to motor phase locking.
- Add alert for invalid user config params.
- Add watchdog alerts for bad lidar data.
- Add watchdog alerts for sync pulse or NMEA lock lost.
- Add in part number compatibility for new and upcoming top-level sensor parts.

## Removed

- Remove deprecated TCP command `set_udp_ip`.

## Changed

- UDP packet size matches the number of channels on the sensor now (i.e. Gen 1 OS-16 and Gen 1 OS-32 have smaller packet lengths).
- TCP command `get_beam_intrinsics` now returns: 1) `lidar_origin_to_beam_origin_mm`, distance between the lidar origin and the beam origin in millimeters; and 2) beam altitude and azimuth angle arrays with padded zeros removed.

- `azimuth_window` parameter now in terms of millidegrees and implemented CCW in the Lidar Coordinate Frame.
- Updated on-sensor documentation to include TCP and HTTP API Guide only.
- `bit_count_unfiltered` parameter replaces the misspelled `bit_count_unfilterd` parameter.
- Diagnostics tab on sensor homepage now provides diagnostics info in single button.

## Fixed

- Reset Configuration button from Sensor Homepage (also `DELETE sensor/config`) now resets PTP profile.
- Added default route for static IPv4 override to fix multicast source addressing.
- Corrected NMEA message decoding (date calculation on leap years).
- Updated NMEA module to decode timestamp fields with decimal and up to 6 decimal characters.
- Fixed timestamp issue in `TIME_FROM_PTP_1588` mode where time will jump 1 second backwards for a single timestamp.
- Fixed issue where `sync_pulse_out` signal was being driven while `multipurpose_io` was configured as an input.