

# MicroPMU Firmware 3.11.0 Release Notes



*Note: If your microPMU has a firmware version lower than 3.5.0, please contact support@powerside.com before updating firmware*

## Firmware 3.11.0 Bug Fixes

- Fixed an issue where microPMUs configured in Low Latency mode could hang at 90% during Setup.ini USB uploads and fail to recognize USB or SD cards.

## Firmware 3.10.8 Bug Fixes

- Resolved issue where microPMU Configurator incorrectly writes PMU\_Measurement\_Mode tag.
- Corrected module type indication on web page for the GNSS module (previously indicated as GPS)

## Firmware 3.10.6 Bug Fixes

- Fixed minor issue with power factor in high accuracy mode

## Firmware 3.10.5 Bug Fixes

- Fixed minor issue with power factor in high accuracy mode on the web page / display.
- Fixed issue with phase angle in low latency mode.

## Firmware 3.10.4 Bug Fixes

- Fixed issue with phasor rotation in low latency mode.

## Firmware 3.9.4 New Features and Improvements

- Added microPMU kernel security updates
- Added C37.118.1 streaming UDP operation behind domestic network routers
- Improved C37.118.1 streaming compatibility:
  - > fractional second in frame
  - > station name padding in frame
- Improved C37.118.1 streaming compatibility: ROCOF field corrected in frame

## Firmware 3.6.0 New Features

Added a new operation mode: the low latency mode:

- > Suitable for more real time, controller type of functions.
- > You define which filter the microPMU uses: P-Filter or M-Filter (see C37.118.1-2011).
- > Streaming at the maximum rate (120 frames/s at 60Hz, 100 frames/s at 50Hz).
- > Streaming output latency: typical 50ms.
  - Note: there is no recording to the microPMU memory in this mode.
- > The C37.118.1-2011 stream contains up to 8 current channels, 4 analog channels (AC or DC).

## Firmware 3.5 New Features

Supports the ultra-precise synchrophasor measurements for the microPMU:

- Ultra-precise phasor measurements on 3 voltage channels and 3 current channels. TVE 0.01%.
- Simultaneous recording and streaming of micro-synchrophasors .
- Fast recording / streaming rate: 100/sec at 50Hz and 120/sec at 60Hz.
- Measured parameters: voltage and current phasors, frequency, apparent /active /reactive powers, power factor.
- Streaming to Ethernet port at 10~120 frames/s at 60Hz, 10~100 frames/s at 50Hz compliant with C37.118.1-2011. TCP/IP and UDP/IP is supported.
- Recordings downloaded via FTP.
- Configuration / firmware update via FTP or Web pages (HTTP) .
- 30 days\* of micro-synchrophasor measurement stored in internal memory.

(\* ) 30 days with microPMU with 32Gb internal memory, 14 days for microPMU with 16Gb internal memory

## Firmware 3.6.4 Bug fixes

Fixed the behavior when the microPMU operation mode tag is missing. It then defaults to “Precision” mode (see 3.6.0 feature list above).

## Firmware 3.6.2 Bug fixes

Fixed IEEE C37.118.1 “Send Configuration” frame issue when using microPMU in “low latency” mode.