

PowerLogic™ PM8000 firmware version 4.5.0

Firmware version 4.5.0 (V004.005.000) for the PowerLogic™ PM8000 includes new features and changes that enhance the functionality and security of your meter.

We recommend upgrading your device to this firmware version.

Release date: October 2023

Download link: [PM8000 series firmware release download page](#)

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What's new

This section lists what's new in firmware version 4.5.0.

Advanced and Essential feature sets

Firmware version 4.5.0 introduces Advanced and Essential feature sets. The feature set your device ships with is an option at the time of sale. All devices purchased before the release of firmware version 4.5.0 have a Standard feature set. There are now three feature sets: Advanced, Standard, and Essential. Each feature set is designed for different applications.

Advanced

The Advanced feature set meets high industry standards for energy monitoring, power quality compliance, and reporting. It is ideal for critical power applications where accuracy and reporting are vital. A PowerLogic™ PM8000 with an Advanced feature set is IEC 61000-4-30 Class A compliant. This device can measure and record power quality data such as harmonics and interharmonics up to the 63rd order and flicker. These values are calculated according to industry standards such as IEC 61000-4-30, IEEE 519, and EN 50160.

Standard

The Standard feature set is our original feature set, now with Rapid Voltage Change monitoring. This feature set is designed for standard energy monitoring, power quality compliance, and reporting for critical power applications. A PowerLogic™ PM8000 with a Standard feature set is IEC 61000-4-30 Class S compliant. This device can measure, calculate, and record power quality data according to industry standards such as IEC 61000-4-30, IEEE 519, and EN 50160.

Essential

Leverage the customization potential of ION architecture for revenue and energy monitoring applications that do not require power quality compliance. Monitor your energy consumption while having the flexibility to configure new measurements with your existing installation.

Feature set differences

Feature	Essential	Standard	Advanced
Interharmonics (voltage and current)	-	-	■
Individual harmonics logs (10 min)	-	-	■
Flicker	-	-	■
Mains signaling evaluation	-	-	■
EN 50160 compliance reporting	-	■	■
IEEE 519 compliance reporting	-	■	■
Rapid voltage change monitoring	-	■	■
Disturbance direction detection	-	■	■
THD and K-factor logging	-	■	■
Trending and forecasting	-	■	■
High speed sag/swell burst logging	-	■	■
Factory-configured historic data logs	-	■	■
Daily nominal logs	-	■	■
IEC 61000-4-30 Class	-	S	A

Feature	Essential	Standard	Advanced
Harmonics	31	63	63
Waveform samples/cycle	128	256	512
Data recorders	10	50	64
Storage (MB)	64	512	512
Memory channels	160	800	1024

NOTE: The number of ION modules available varies between Advanced, Standard, and Essential. For more information on ION module counts, see the ION Module Details spreadsheet in your meter's firmware package, available on www.se.com.

Rapid Voltage Change monitoring

Available on: Advanced and Standard

Rapid Voltage Change (RVC) monitoring is now available using the sag/swell module. RVC is a quick transition in RMS voltage between two steady-state conditions. An RVC event does not exceed the sag/swell thresholds.

For more information on the Sag/Swell module, see *ION Reference*, available on www.se.com.

Individual harmonics logging

Available on: Advanced

The Advanced feature set adds extra Data Recorder modules. These data recorders expand the logging capabilities in the default template. The Advanced template is factory-configured to log the first 50 voltage and current harmonics at 10-minute intervals. It is possible to configure the template to log voltage and current harmonics up to the 63rd harmonic.

For more information on how to enable IEEE 519 logging, see the PowerLogic™ PM8000 series User Manual on www.se.com.

Interharmonics

Available on: Advanced

Measure and evaluate interharmonics using the Harmonics Measurement and Harmonics Evaluation modules. Interharmonics are frequencies that are not integer multiples of the fundamental frequency. Interharmonics are calculated according to IEC 61000-4-30 (IEC 61000-4-7 accuracy class I).

For more information on the Harmonics Measurement and Harmonics Evaluation modules, see *ION Reference*, available on www.se.com.

Mains signaling evaluation

Available on: Advanced

You can now configure mains signaling evaluation using the Mains Signaling Evaluation module. Mains signaling uses power lines to send information within well-defined frequency bands. The Advanced feature set can evaluate signals on the supply voltage.

For more information on the Mains Signaling Evaluation module, see *ION Reference*, available on www.se.com.

Flicker

Available on: Advanced

Monitor flicker as described in IEC 61000-4-15 using the Flicker module. A flicker disturbance is a repetitive low-frequency modulation of system voltage. Flicker is usually caused by a large changing load somewhere in the power system.

For more information on the Flicker module, see *ION Reference*, available on www.se.com.

Before upgrading

Before upgrading to this firmware version:

- Back up all meter data.
- Install ION Setup 3.2.23249.01 or higher.

For details on what to back up in your meter and how to get the latest ION Setup, see "Meter firmware upgrade prerequisites" in the PowerLogic™ PM8000 series User Manual.

Firmware upgrade procedure

For details on how to upgrade the meter firmware, see the PowerLogic™ PM8000 series User Manual on www.se.com.

NOTE: A meter upgraded to firmware version 4.5.0 or later cannot be downgraded to an earlier firmware version.

NOTICE

LOSS OF DOWNGRADE CAPABILITY

Do not upgrade to firmware version 4.5.0 or later if you need to downgrade the meter in the future.

Failure to follow these instructions will result in loss of firmware downgrade functionality.

More information and resources

Visit www.se.com to download:

- The firmware upgrade files.
- The latest template and webpage files.
- The latest user manual, technical datasheets, and installation guides.