

Firmware V1.4 for Power Analyzer Norma 4000 / 5000 New Features and Improvements

New added features enable extra measurements and enhanced measurement methods



Firmware V1.4 now offers:

- Two wattmeter (Aron W2) method using instrument channels 1 and 2.
- Other channels can be used for other power measurements
- Vector screen for Aron mode
- Calculation of corrected power (P_C) for wye (star) and delta connections
- Improved calculation method for integer harmonics for improved stability
- Increased display resolution for fundamental phase angle for voltage and current
- General user interface improvements

Introduction

Firmware FW1.4 offers new measurement possibilities, enhancements to existing measurements, user interface improvements and additional remote control commands.

Aron (W2) Connection

The most important improvement in FW1.4 is the addition of two wattmeter Aron method (W2) for power measurement. This method utilizes channels 1 and 2 of the instrument other channels, if present, are available for other measured values. The implementation of this feature excludes the variables Q , S , λ , φ and impedances/resistances/reactances ($Z/R/X$) as they have no meaning in this measurement mode. The voltage and current variables displayed are limited to those that have real meaning for this measurement mode. The addition of this mode is particularly useful for large transformer applications (where there are only two instrument transformers installed in the equipment due to convention and cost) or for simultaneous measurements on dc drive systems. In three channel instrument the third channel can be used independently, in instrument with more than three channels these can be used in the modes already available.

NOTE: The current version of NormaVIEW is not compatible with connection method W2. When NormaVIEW is started, the factory configuration must be selected (= W3) or the method on the device must be set to W3 manually before connecting. Otherwise errors will occur and the program may hang and/or crash.

Integer Harmonic Improvement

The calculation of integer harmonics (harmonic order mode of the FFT) is improved for more stability in the instance of fluctuating signal frequency.

Harmonic Phase Angle

φ_{H01} (harmonic phase angle between U and I) is now calculated directly from harmonic analysis and is more precise at 0° than the previously used method $\arccos(P_{H01}/S_{H01})$, display resolution for phase angles has been increased to $100\mu\text{deg}$

User Interface

The variables selection list (e.g. to configure the user-defined screen or Analog Output Reference) has been re-arranged and can now be scrolled through more easily with the front panel keys " Σ ", "1...n" and "WAV"

Efficiency screen with user-programmable variables is now available also in N4000 (2 or 3 phase device); press key " Σ " in sequence until the efficiency screen shows up; program the 2 efficiency variables by key "F5" ("Config"), source variables can only be selected from [P1, P2, P3, P4, P5, P6, P, P']

Remote Control

The remote control command set has now supports the new measurement mode and improvements, this is detailed in the Remote Control Supplemental Users Guide.

Hardware Upgrading

The following files are required for the upgrading of instruments:

FWload.exe	Upgrader software utility
v14.srec	Fluke Norma firmware files
FWload.txt	Detailed description of the upgrade process

The upload utility transfers a firmware file from computer to instrument using serial RS-232 (or USB convertor) interface and tells the instrument to update its firmware.

Marketing Deliverables

- Norma 4000 and 5000 Supplemental Users Manual (available in English, French, German, Spanish, Italian Portuguese and Simplified Chinese).

Items not specific to this release:

- **Product and Application Photographs:** In the Information Store
 - **Product Announcement** (English only): Distributed to SMs/MMs
- **Commercial PowerPoint Presentation** (English only): On Public drive
- **Technical PowerPoint Presentation** (English only): On Public drive
- **Product Datasheet** (English PDF only)
- **Catalog Page** (English PDF only)
- **Press Release** (all languages)
- **Product Datasheet** (Printed in EN, FR & GE): In Information Store
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