

Phase Dynamics' New Stand-Alone Analyzer

At the beginning of this year, Phase Dynamics introduced a new version of its well known Water Cut Analyzer.

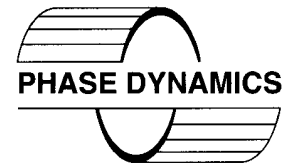
The Standard Analyzer consists of three components: Measurement Section ("sensor"), Electronics Enclosure ("transmitter"), and the System Cable (connecting the two). The new version is a **Stand-Alone** Analyzer, i.e. one that has the electronics mounted integral to the Measurement Section, and therefore requires neither a separate Electronics Enclosure nor a System Cable.

The integral electronics are mounted inside the existing Oscillator Housing, so that there is **no** dimensional change compared to the Standard Analyzer's Measurement Section.

The integral electronics differ from the Standard Analyzer in that they do **not** provide a local display, do **not** have access menu buttons, and are **only** available for 24 VDC. However, they provide one HART 4-20 mA and one Modbus RTU RS-485 outputs as standard, and can be accessed via a handheld or the PC configuration tool. These integral electronics also provide the **new** capability of 65-day data logging to an internal FLASH memory.

The intent is to handle all communications between Analyzer and central computer via Modbus. Instead of a System Cable limited to a maximum length of 150 feet, the Stand-Alone Analyzer's wiring now requires only a standard twisted pair, and consequently allows a distance between Analyzer and control room of up to 4000 feet. It also makes it possible to daisy-chain up to 32 Stand-Alone Analyzers on one wire.

Given the integration of the electronics with the oscillator, there are no boards that can be replaced. Any electronics failure will affect the oscillator, and since in Phase Dynamics' technology the Oscillator and the Measurement section are a matched pair, **any** repair of the Stand-Alone Analyzer has to be done at the factory. We therefore suggest that for roughly every six Analyzers (of the same type), the end-user stock one replacement Analyzer.



If the end-user does want the advantages of the Stand-Alone Analyzer, but still prefers to have a local (explosion proof) or control room (NEMA 4) display, Phase Dynamics can now offer **Optional Electronics**, with either the standard 4-line 20-character LCD display, or with a touchscreen that has color graphics and provides data trending graphs.

There are two versions of Optional Electronics: the **Enhanced** and the **Expanded Electronics**. The Enhanced Electronics provide 4 Modbus ports and one HART 4-20 mA output (with 275/375/AMS support), together with one analog and one frequency/pulse inputs. The Expanded Electronics have the same 4 Modbus ports, but also provide additional analog inputs and outputs, for a total of 5 configurable 4-20 mA inputs, 3 frequency/pulse inputs, and 5 configurable 4-20 mA outputs.

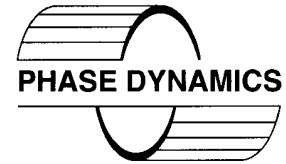
Both the Enhanced and the Expanded Electronics have full capability as a **flow computer**.

The Enhanced and the Expanded Electronics can be powered by 24 VDC or by 120-230 VAC 50-60 Hz. They in turn can provide power to **one** Analyzer; all other Stand-Alone Analyzers that may be hooked up to the Optional Electronics need to receive separate power inputs.

The Stand-Alone Analyzer is especially suitable for the following situations:

- Where the end-user does not need, or purposely wants to avoid, local display and menu button access.
- Where the end-user needs to send data from the Analyzer to a remote control room or central computer (up to 4000 feet).
- Where the end-user has many Analyzers installed close together, and can save wiring costs by daisy-chaining them on one twisted pair to his central computer (up to 32 Analyzers).
- Where the end-user has many Analyzers installed close together, and can save installation costs by daisy-chaining them to only one local Optional Electronics (which will display the data from each Analyzer in rotation).
- Where the end-user requires extensive data logging without the need for further Optional Electronics (FLASH memory downloaded to laptop).
- Where the end-user insists on using Phase Dynamics' proven "oscillator load pull" microwave technology, but his budget constrains him to just the basics.

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Independently of the Stand-Alone Analyzer, the Enhanced and the Expanded Electronics can also be mounted inside the Electronics Enclosure of our Standard Analyzer. As a result, Phase Dynamics can now offer six different Water Cut Analyzer systems:

1. Standard Analyzer with Standard External Electronics
2. Standard Analyzer with Enhanced External Electronics
3. Standard Analyzer with Expanded External Electronics
4. Stand-Alone Analyzer with Standard Integral Transmitter (No External Electronics)
5. Stand-Alone Analyzer with Optional Enhanced Electronics
6. Stand-Alone Analyzer with Optional Expanded Electronics.

See the new Phase Dynamics "Family of Water Cut Analyzers" Catalog for illustrations and complete specifications.

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