

PLANTWEB ADVISOR FOR METROLOGY

Managing Differential Pressure Meter Uncertainty

Plantweb Advisor for Metrology Functionality

Plantweb Advisor for Metrology is Emerson's new modular analytics platform. It is built upon the latest technologies, providing a suite of functions and flexibility that are unprecedented within the measurement world today. This next-generation platform provides a level of standardization and automation of complex tasks that integrate seamlessly across measurement assets and engineering support locations.

The enhanced diagnostic, remote monitoring, predictive capabilities and validation provide greater insight into both process and instrumentation, driving clarity and reducing financial exposure and risk.

Prognosis Differential Pressure Model

Differential Pressure (DP) meters require periodic checks and calibrations to ensure they perform optimally. Having an automated, online tool provides an added degree of confidence in the performance of the device. For this purpose, Plantweb Advisor for Metrology offers differential pressure meter condition diagnostics using the Prognosis™ methodology.

This software module interfaces to the DP meters either directly or via a flow computer/supervisory/DCS, taking the raw data from the meters and using it to identify various issues, some of which include:

- Orifice plate installed backwards
- Damaged orifice plate (worn sharp edge, warped plate, dirty plate)
- Obstructed flow in meter tube or through orifice
- Physical plate or meter tube size different from values configured in flow computer
- Plugged or leaking transmitter impulse line
- Transmitter calibration error
- Transmitter calibration drift
- Equalizing valve on instrument manifold leaking
- Wet gas



The Prognosis Differential Pressure Module provides an automated tool to detect various device issues and produces an added degree of confidence in the performance of the meter.

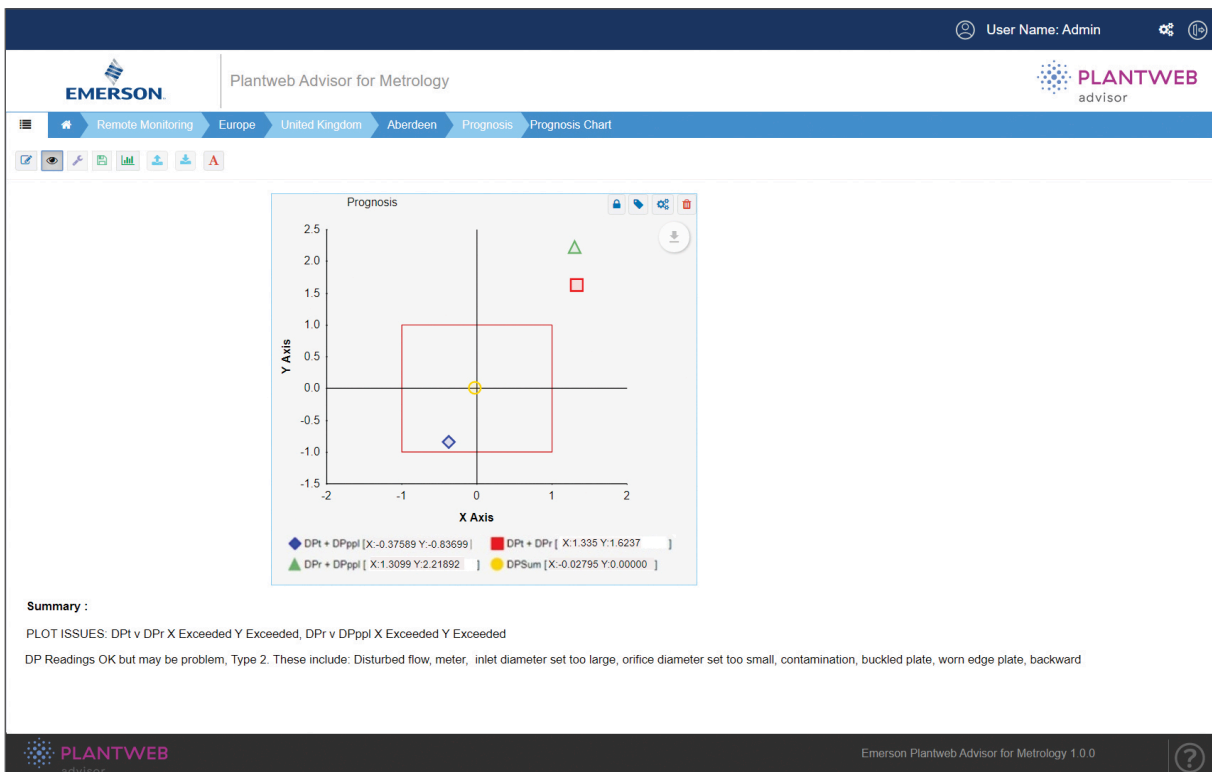
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Requirements

The Device and Calibration Manager provides:

- Three DP pressure taps with transmitters, the third of which is downstream (ideally 6D for an Orifice plate)
- Compatible with orifice, venturi and cone meters
- DP data source such as a flow computer, supervisory, DCS (Modbus, OPC and SQL supported)

A number of dashboards are provided to give at-a-glance performance indication, alongside current and historical trending and configurable reports. The DP diagnostic module is integrated with the full suite of Plantweb Advisor for Metrology modules, giving a cross-check against other devices and a holistic overview of the measurement system.



Prognosis chart from Plantweb Advisor software

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