Sensor Correlation Service for paper machines
Improve the accuracy of quality measurements and reduce rejects, raw material, and energy use

Typical issues affecting sensor data accuracy

– Discrepancies between measurements from the online sensors and the quality control laboratory
– Sample and lab testing procedures don't follow the TAPPI standard
– Online sensors are incapable of producing reliable measurements for sensor correlation
– Improper correlation methods used for some sensors
– Wrong correlation expectations for certain measurements

Solutions to fine tune measurement data accuracy

The ABB Sensor Correlation Service audits processes and methods for sensor correlation in order to improve the accuracy of quality measurement data and comply with TAPPI standards.

This service helps mills choose proper correlation methods for individual measurement, create lab procedures that follow TAPPI standards, and establish an ongoing correlation program and strategy.

Verify correlation capability
An ABB service engineer will initially verify that scanners and online sensors are correlation capable, then evaluate the mill's existing correlation process. An audit of the sensor's capabilities and the mill's correlation process helps to establish proper correlation expectations.

The initial verification includes:
– Verify scanner alignment, sensor gap setup, temperature settings, etc.
– Perform Long Term Stability Test and results analysis.
– Perform Short Term Stability Test and results analysis.
– Base Calibration Test with the full set of "check sample" standards.
– Collect Air Profiles and perform analysis.

Correlation evaluation
Subsequent to the initial verification of scanner and sensor correlation capability, the ABB service engineer will audit current sensor correlation procedures, using TAPPI standards.

The correlation evaluation includes:
– Validation of existing lab testing methods and equipment; identify errors according to TAPPI standard.

– Analyze sensor correlation historical data provided by the customer.
– Determine variability induced by process variation, and accuracy of online sensor and lab test methods; calculate proper correlation expectations.
– Evaluate the available correlation methods and choose the correct one for each sensor. For example, Single Point or Aclar Bag method can be chosen for the moisture sensor; Roll Weight or Single Point method can be chosen for the Basis Weight sensor, etc.
– Implement and refine the correlation procedure for each correlation.
– Calculate new grade code variables based on correlation results.
– Analyze initial results and provide recommendations for ongoing correlation process.

What sets this solution apart
The ABB Sensor Correlation Service puts paper mills on the right path by ensuring measurements from the online sensors and the quality control laboratory closely track each other. Proper sensor correlation leads to more accurate quality measurement data, which is a common goal for all paper makers.

Power and productivity
for a better world™

ABB

Sensor Correlation Services
Improve the accuracy of quality measurements and reduce rejects, raw material, and energy use

North America Customer Contact Center

29801 Euclid Avenue, Wickliffe OH 44092, USA

Tel: 1 800 HELP 365 (1 800 435 7365)

Outside USA/Canada: +1 440 585 7804

E-mail: NAService_info@us.abb.com

Web: abb.com/processautomation

Power and productivity
for a better world™

ABB