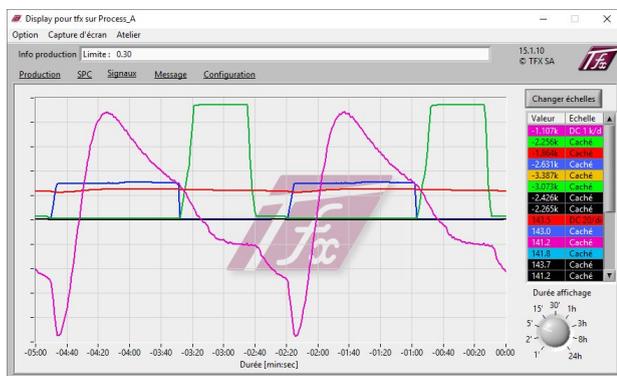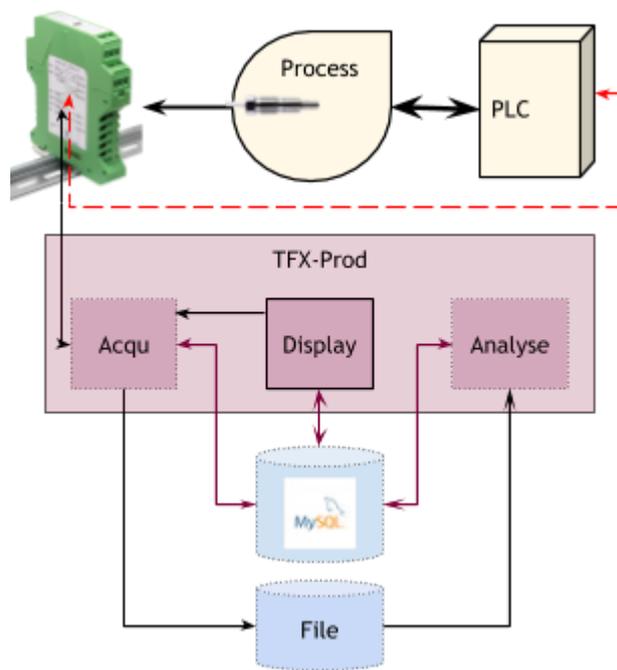TFX-200

TFX-Prod

Production monitoring and analysis software

Fully integrated in TFX's measurement chain, these applications allow production management and technical traceability of production data.

Key Features

- Signal acquisition and visualization of connected sensor signals;
- Manufacturing Job Shop, Material batches and customer inputs;
- Automatic analysis of any signals in a fully configurable script;
- Tracking chart of measured parameters (SPC)
- Export data per cycle, day or production;
- Multi-Access via the network.

Operating platform: Windows (XP and following)

Database: Oracle MySQL

System Diagram

The Acqu application communicates with process signal conditioners and generates files for each production cycle (programmable synchronization).

Each cycle is present in the database and is the subject of automatic analysis in order to generate a list of feature parameters.

Signal analysis

Users can retrieve all relevant information visible on process signals by programming their analysis script.
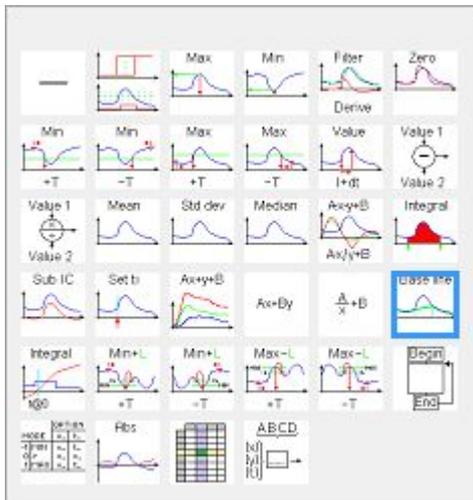
The analysis operates on any type of signals: temperature, pressure, strain, force, displacement, velocity, heat flux...

The toolbox supplied includes functions which describes step by step the extraction method and calculates characteristic parameters of any manufacturing cycle.


Signal processing functions (filtering, derivative, integration), calculation (formula parser) and specific heat flow (baseline) are integrated. It allows for example to calculate in a repeatable way the cure level.
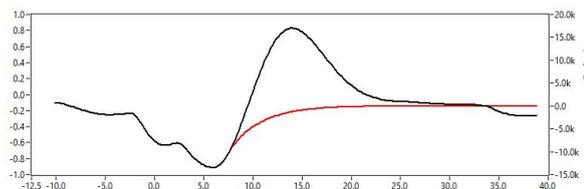
It is possible to apply the same processing to a family of identical sensors thanks to management of signals indices. This allows for example to easily determine the time of resin arrival, time to gel, time to exotherm peak for a set of sensors.

The defined script is automatically applied to each cycle in order to generate digital parameters usable statistically in SPC (Statistical Process Control).
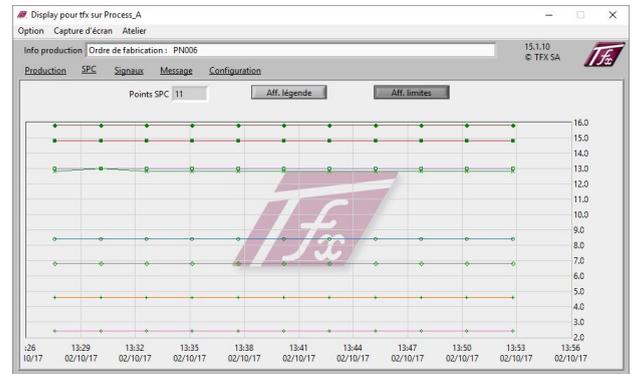
A set of cycles is therefore represented and exportable in the form of a rectangular data matrix ready for further statistical analysis (Big Data, multivariate analysis, ...).

Applications

TFX-Prod can track any type of manufacturing or testing process and provides technical traceability thanks to automatic analysis and integration of production data.

- Monitoring of batch production cycle by cycle: injection, compression, RTM, infusion, thermoforming, autoclave cycles...
- Monitoring and management of reactive materials. Receipt or tool management for automated cure control process.
- Production monitoring of continuous processes (extrusion, injection ...), linear characterization of production.
- Test monitoring, helps the reduce development process time.
- Bench characterization of materials.

Additional Options

TFX-Prod software can be adapted to be interfaced with existing systems and generate reports specific to any part produced:
- OPC / OPC-UA interface. Communication with the process server in order to retrieve available information (recipes, job number, instructions and signals).
- Custom interface (serial, network, ...) with special marking systems in order to ensure an unitary traceability.
- Reporting, dedicated indicators defined from the analysis.