Eurotherm®

Dryer Machine Monitoring in a Sterilization Process with E+PLC⁴⁰⁰

Advanced control, data management and visualization in a modular platform solution

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CODESYS

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A healthcare OEM chose the Eurotherm™ E+PLC⁴⁰⁰ with an HMI touch panel for updating the monitoring of their endoscope storage/dryer cabinets.

The requirement was to replace obsolete Eurotherm 5000B data acquisition units which were previously used to monitor and record the temperature and duration of the drying process.

The OEM selected the E+PLC⁴⁰⁰ modular platform for its combination of tight temperature measurement specifications, tamper resistant recording, and CODESYS® integrated programming and visualization development environment. CODESYS libraries enabled faceplate customization that helped the company differentiate themselves from their competitors, while Eurotherm libraries provided functions designed to aid batch recording.
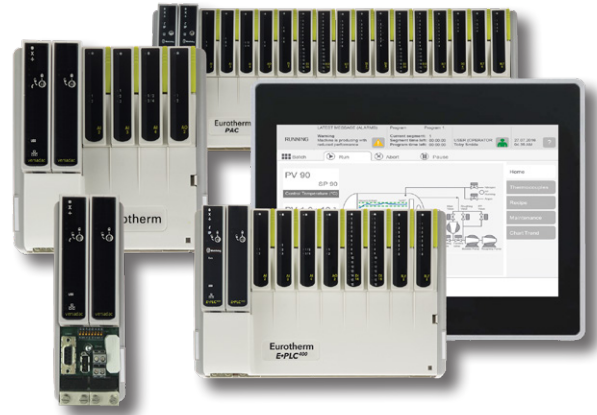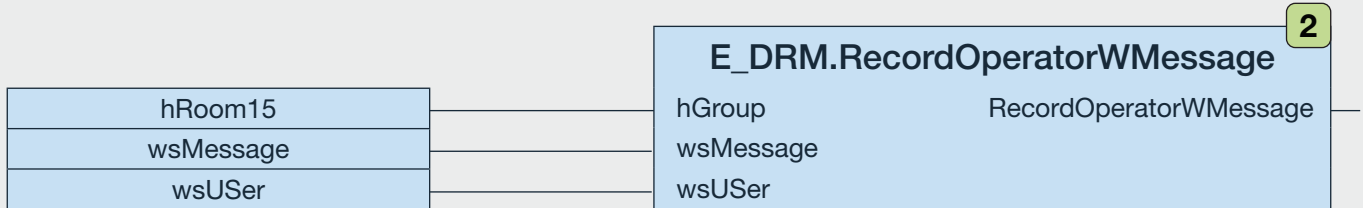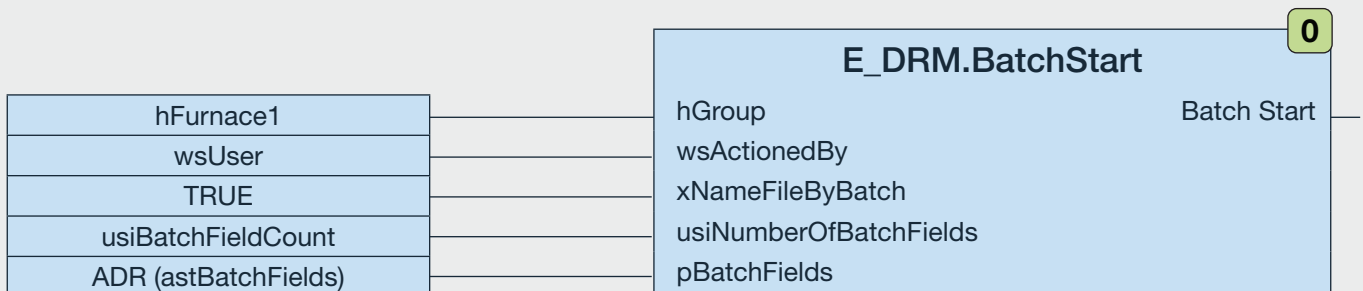
Features, Solutions and Services Included:

- Accurate temperature measurement
- Barcode scanner data entry
- Guided workflow
- Process alarms
- Tamper resistant batch recording
- OEM faceplate customization
- Single platform solution

Batch Functionality

The batch function can be called from the data recording management library by command buttons or sequences, to record relevant messages into tamper resistant history files. For example, the status of equipment can be logged to provide end-of-batch information, such as the energy used a by a connected EPack power controller.

hRoom15	**E_DRM.RecordOperatorWMessage**	**2**
wsMessage	hGroup	RecordOperatorWMessage
wsUSer	wsMessage	
	wsUSer	

Batch Start and Stop records can be triggered from any language (FBD, LD, ST etc.) in any work flow and can easily be added to the tamper resistant recorded history files. The application designer can configure all recorded parameters such as batch field names, to provide an application specific solution.

hFurnace1	**E_DRM.BatchStart**	**0**
wsUser	hGroup	Batch Start
TRUE	wsActionedBy	
usiBatchFieldCount	xNameFileByBatch	
ADR (astBatchFields)	usiNumberOfBatchFields	
	pBatchFields	

The HMI can be used to instruct the operator through the drying process by a step-by-step workflow procedure. Built in USB barcode scanner connectivity was utilized to log endoscope serial numbers, locations, and machine operator details along with the time and date that the equipment entered and exited the cabinet. Parameters such as temperature, airflow and door interlocks were monitored and recorded, and process alarms were programmed to indicate events.

At the end of the batch the HMI was used to clearly indicate the seven day shelf life status of each endoscope and when they needed reprocessing, in line with endoscope management and decontamination guidelines HTM 01-06.

"The visualization libraries in CODESYS IDE gave us the customization we needed to create our own screens and promote our brand".

OEM Engineer

"The E+PLC^{400} platform was an ideal replacement for 5000B recorders in this application, with the added benefit of a single programming and visualization development environment".

Eurotherm Product Engineer

Viewing Historical Files

Recorded data can be retrieved from history files at any time using Eurotherm Data Reviewer. For regulated industries, Eurotherm tamper resistant UHH file format is recommended.
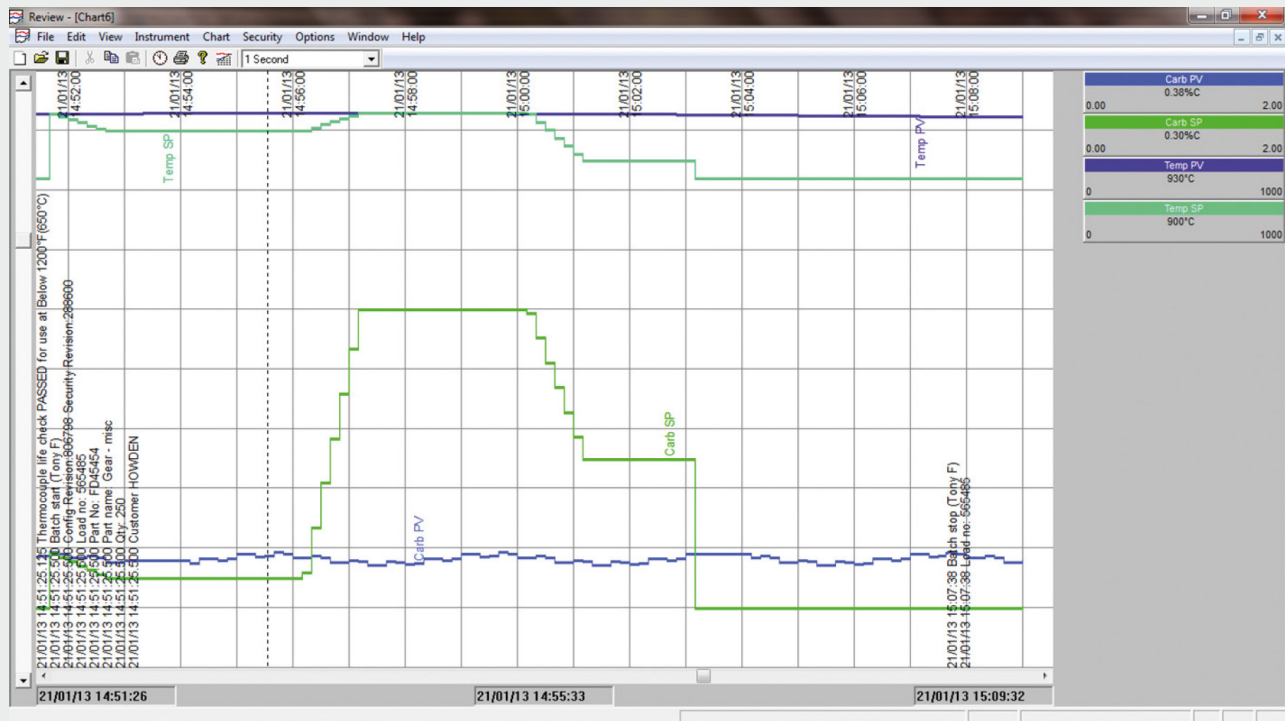
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