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e-F@ctory Starter Package

Utilization of IoT in manufacturing

IoT technology adoption in manufacturing enables real-time monitoring of production equipment, manufacturing status, and product quality, making feedback to the equipment and operators easier, thereby realizing continuous cost down of the whole plant. Utilization of data managed through IoT realizes a powerful production site which is highly productive with quick response to failures.

Support IoT on the shop floor

The e-F@ctory starter package includes sample projects for the MELSEC iQ-R Series programmable controller and the GOT2000 Series human-machine interface. Programs for visualization and simple analysis are provided in sample project format, realizing IoT infrastructure on the shop floor just with basic settings such as device assignment and parameter registration. The starter package can help solve issues including consideration time and budget required for IoT system construction.

Highlights

- Programmable controller and GOT (HMI) realizes IoT infrastructure on the shop floor
- Sample projects of control program and screen design data provided
- Easily realize IoT with basic settings such as parameter registration

Various functions are available

Functions to realize IoT such as for “visualization” and “simple analysis” of production data are available as the e-F@ctory starter package. These functions can be utilized according to its application.

Realize IoT with minimum impact to the existing equipment

Adding a programmable controller and GOT (HMI) embedded with the e-F@ctory starter package can easily realize IoT in manufacturing with minimum impact to the existing equipment.

The e-F@ctory starter package is a package of sample projects for analyzing equipment information collected in the programmable controller and displaying analyzed results on the GOT (HMI). Designing complex analysis algorithms and graphs is unnecessary, realizing the equipment operation monitoring system at a lower cost.

e-F@ctory starter package GOT (HMI) screen examples*1

Dashboard

Process capability index (histogram)

Equipment trouble *Pareto* chart

Cylinder & cycle time measurement monitor

*1. Screen designs are subject to change and may be different from the above examples.

Product List

The e-F@ctory starter package is available either as a package of multiple functions or as a single function according to its application.

■ Provide as multiple functions

Equipment operation monitoring solution

Function name	Outline
Dashboard	Comprehensively displays the production and operational status of the equipment such as the equipment overall efficiency and number of production
Production counting	Displays the production status by product type and time zone by setting product type and time zone
Equipment trouble Pareto chart	Displays the status of an error stop alarm due to the operation rate drop in a Pareto chart
Cylinder & cycle time measurement monitor	Measures the operating status of the cylinder and the equipment operation cycle and monitors the error sign
Error sign inspection	Monitors error sign signals, and displays corrective actions registered in advance when an error sign appears
Error stop action	Monitors error stop signals, and displays corrective actions registered in advance when an error stop occurs
Loss time analysis	Measures the equipment non-operation time for each factor and displays the rate by total/time zone/date
Operational status monitor	Displays the equipment operational status of a day in a graph
Control chart (Xbar-R)	Displays the data collected from the equipment as the Xbar-R control chart in real time
Process capability index (histogram)	Displays the data collected from the equipment in a histogram and calculates the process capability index

■ Provide as a single function

Function name	Outline
Vibration analysis (FFT)*2	Analyzes vibration waveform by fast fourier transform analysis (FFT) and monitors OA (overall value)
MT method*2	Quantifies deviation between the normal data and the input data by using the MT (Mahalanobis-Taguchi) method
Waveform guard band monitoring	Monitors the analog input waveform by creating upper/lower limit guard bands

*2. The analysis library that can be executed by the MELSEC iQ-R Series C Intelligent function module is also available.

Product specifications

Item		Type
Available products	Programmable controller	MELSEC iQ-R Series*3
	GOT (HMI)	GOT2000 Series*3

*3. Recommended products differ according to functions. For more information, please contact your local Mitsubishi Electric sales office or representative.

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⚠ For safe use

• To use the products listed in this publication properly, always read the relevant manuals before use.

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