Manufacturing Edge

iFactory/OEE
iFactory/EHS

Features

Real-time KPI Management
- Measure and compare data for real-time management

Dashboard Visualization
- Dashboard visualizations of trends, graphs, diagrams, and process displays
- View real-time historical data in tables for tabular analysis and reporting

Configuration Settings and APIs
- Convenient configuration settings for customization
- Communicate with external platforms, systems or services using MQTT and GraphQL APIs

Introduction

Manufacturing Edge is an enterprise ready solution designed for small and medium size factories with manufacturing production functions for Overall Equipment and Effectiveness (OEE), Environment, Health, and Safety (EHS), and Event, Alarm, and Notification (EAN). Manufacturing Edge combines hardware and software to provide a total solution package. Manufacturing Edge acquires data from gateway devices to help management monitor production and environment data through OEE, EHS and EAN factory enhancement software.

Many manufacturers struggle to identify the key issues that contribute to low machine productivity and they find it tedious to record, collect, and analyze data manually. However, to realize Industry 4.0 transformation does not require a major infrastructure overhaul that costs a lot of money. Advantech's iFactory Solution Ready Package (SRP) combines hardware and software in a combined industrial package that manufacturers can integrate into their existing infrastructure to realize their intelligent factory. For system integrators, iFactory SRP provides a cost-effective approach to expediting project development with value-added applications that meet the criteria of Industry 4.0.

Key Functions

iFactory OEE

Overall Equipment Effectiveness (OEE)
Intelligent factory solution for managing OEE through data acquisition, aggregation, and analysis of machine availability to improve productivity, reduce loss, and increase profit.

iFactory EHS

Environmental Health and Safety (EHS)
Intelligent factory solution for managing EHS by monitoring energy consumption in order to reduce energy waste. Centralized energy management can reduce costs and optimize energy efficiency.

iFactory EAN

Event, Alarm and Notification (EAN)
Intelligent factory solution for managing EAN by automatically triggering alerts and actions in response to events based on defined logic to facilitate the prompt resolution of issues and increase operational efficiency. (Only part number: IFS-EMG-M77F03A)

Key Functions

OEE Dashboard: Availability, Performance and Quality
OEE application is embedded with standard dashboards showing availability, performance, and quality management to allow detailed monitoring in real time.

OEE Dashboard: Error Trend Analysis
Standard machine and quality errors can be recorded in different categories for trend analysis. This allows users to customize the dashboards for different on-site production conditions.

EHS Dashboard: Energy Consumption Overview

Provides an overview of historic and current energy consumption data to enable systematic identification of problem areas and prime targets for energy use reduction.
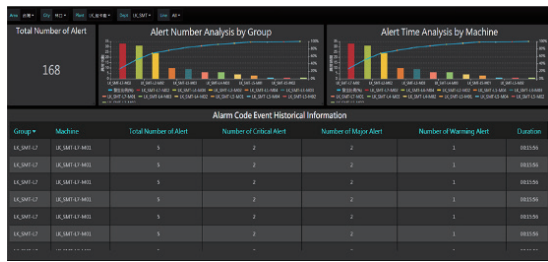

EHS Dashboard: Energy KPI Management

KPI settings allow users to measure and review energy usage and efficiency of each department, reducing energy waste and improving energy efficiency.
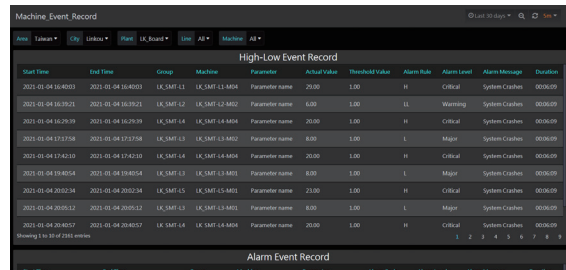

EAN Dashboard: Alarm Code Event Analysis by Machine

Trends analysis of alarm code events so managers can monitor which machines have issues and from which group layer they belong to, thereby improving production efficiency.
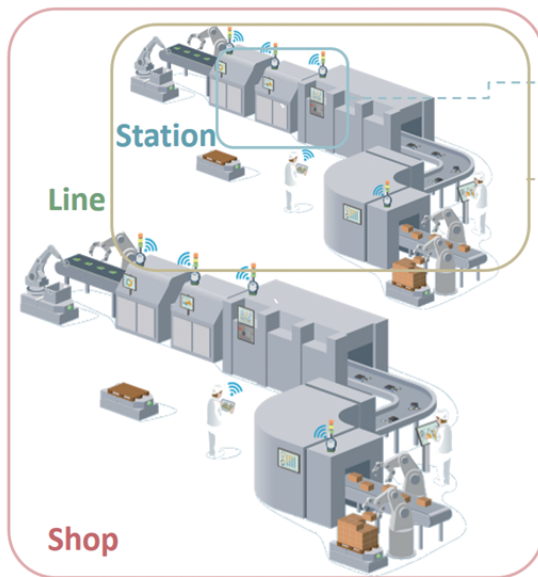

EAN Dashboard: Machine Event Record

Production operations are easy effected by environmental conditions like vibration and temperature. The Machine Event Record dashboard can monitor error codes or raw data from these devices to allow preventative measurement and maintenance.

iFactory EGM Package Set

Supports Both Linux & Windows OS

Factory Overall Equipment Effectiveness and Visualization

IFS-51A-AG01

F01A (Station) — iFactory OEE / iFactory EHS

MIC-7700 i3-7101E CPU
16G DDR4 , C drive: 128GB, mSATA SSD, D drive: 128G SSD storage
iFactory OEE/EHS suggested machine connections: **5** Machines

F02A (Line) — iFactory OEE / iFactory EHS

MIC-7700 i5-7500 CPU
16G DDR4, C drive: 128GB, mSATA SSD, D drive: 512G SSD storage
iFactory OEE/EHS suggested machine connections: **20** Machines

F03A (Shop) — iFactory OEE / iFactory EHS / iFactory EAN

MIC-7700 i7-7700T CPU
16G DDR4, C drive: 128GB, mSATA SSD, D drive: 1T SSD storage
iFactory OEE/EHS/EAN suggested machine connections: **50** Machines

Specifications

Solution Ready Package		Manufacturing Edge		
Part Number		IFS-EGM-M77F01A	IFS-EGM-M77F02A	IFS-EGM-M77F03A
SRP	Operating System	Linux OS		
Software	iFactory OEE/EHS/EAN suggested machine connections	Up to 5 machines (iFactory OEE/EHS)	Up to 20 machines (iFactory OEE/EHS)	Up to 50 machines (iFactory OEE/EHS/EAN)
	Container Tech	Docker on Ubuntu		
	Database	InfluxDB Version 1.8 & Mongo Version 4		
	Customized Graphic Platform	WISE-PaaS/Dashboard (dashboard edge enhanced plan with multi-language)		
	Browser	Supports HTML5 browser (recommend Google Chrome)		
SRP	Hardware Platform	MIC-7700Q		
Hardware	CPU	Intel Core 2.3G 6M 2 cores i3-7101E	Intel Core 2.3G 6M, 4 cores i5-7500TE	Intel Core 2.9G 8M, 4 cores i7-7700T
	Memory	16G DDR4	16G DDR4	32G DDR4
	Storage	C drive: 128GB, mSATA SSD D drive: 128G SSD	C drive: 128GB, mSATA SSD D drive: 512G SSD	C drive: 128GB, mSATA SSD D drive: 1T SSD
	Power Supply Unit	150W adapter		
	I/O & Port	RJ45 x 2, VGA x 1, HDMI x 1, USB x 8, COM x 4		
	Certifications	CE / FCC / UL / CCC		

Ordering Information

Part Number	Description
IFS-EGM-M77F01A	MIC-7700, 16 GB RAM, 128GB mSATA SSD, 128G SSD and Linux. iFactory OEE/EHS suggested machine connections: up to 5 Machines
IFS-EGM-M77F02A	MIC-7700, 16 GB RAM, 128GB mSATA SSD, 512G SSD and Linux. iFactory OEE/EHS suggested machine connections: up to 20 Machines
IFS-EGM-M77F03A	MIC-7700, 32 GB RAM, 128GB mSATA SSD, 1T SSD and Linux. iFactory OEE/EHS/EAN suggested machine connections: up to 50 Machines

Optional Items

Part Number	Description
1702002600	Power cord UL 10A 125V 180cm
1700022940-01	Power cord PSE, 3-pin, 7A, 125V, 3 m, DAC-ST01
1702002605	Power cord (EU) 2-pin, 10/16A, 220V, 1.83 M, 90 D
AQD-SD4U16N24-SE	Optional DDR4-2400 memory (16GB)