

iFactory Smart Manufacturing Suite IFS-51A Generic Starter Package



Features

- Adaptable and Scalable Industrial IoT Solution for Manufacturers to Pave the Way for Digital Transformation
- Centered Data Platform for Data Acquisition, Aggregation, Visualization and Analysis
- Real-time Machine Performance Management for Optimizing Operations
- Whole Plant Energy Monitoring for Optimizing Energy Efficiency and Reducing Energy Cost
- Easy Integration with Cross-Operational Domain Applications

Introduction

Advantech's iFactory Smart Manufacturing Suite provides a managed private cloud solution for manufacturers to accelerate the implementation of smart manufacturing and embrace digital transformation under the trend of Industry 4.0. The iFactory Starter Package for Generic Industry, IFS-51A, is based on the WISE-PaaS industrial cloud-native platform, which provides multiple framework services with a variety of integrated AIoT and operation services designed specifically for industrial customers.

The IFS-51A iFactory Starter Package for Generic Industry is embedded with three iFactory application solutions: 1) iFactory/OEE, an automated, real-time data analysis solution that enables machine visibility, production status monitoring, and error analysis for improving machine performance. 2) iFactory/EHS, a solution for monitoring energy consumption, accurately evaluating energy costs, and optimizing energy efficiency by providing intelligent strategies for energy management. 3) iFactory/EAN, a solution for event and alarm management with messaging services to enable critical events to be promptly identified and addressed.

iFactory Industrial Applications

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

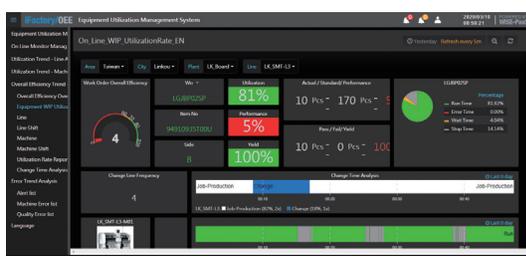
Event, Alarm and Notification (EAN)

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.

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.



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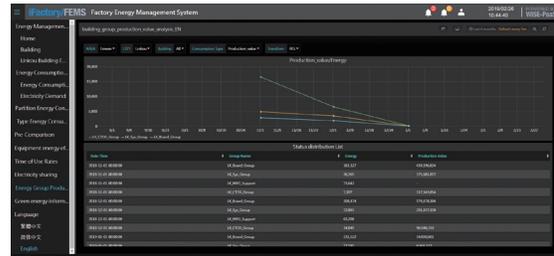
EHS Dashboard || Energy Consumption Overview

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



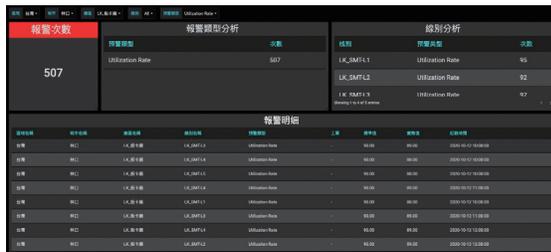
EHS Dashboard || Energy Consumption and Cost Analysis

Production operations typically consume the most energy in a factory. Energy consumption data and costs can be analyzed and compared with utility bills to improve energy efficiency and reduce waste.



EAN Dashboard || Real-Time Event and Alarm Monitoring

Monitor machine status in real-time and configure alarm events based on sensor values breaching user-defined thresholds.



EAN Dashboard || Alarm Statistical Analysis

Track and analyze historical data to spot overall trends by event type and the most frequently occurring alarms.



iFactory Smart Manufacturing Suite IFS-51A

Specifications

System PN	IFS-51A-AG01	
WISE-PaaS Services	WISE-PaaS/IoTSuite E100 for iFactory	WISE-PaaS/Dashboard WISE-PaaS/EnSaaS PostgreSQL WISE-PaaS/EnSaaS MongoDB WISE-PaaS/EnSaaS InfluxDB WISE-PaaS/EnSaaS Redis WISE-PaaS/Ceph WISE-PaaS/RabbitMQ WISE-PaaS/DataHub WISE-PaaS/Notification WISE-PaaS/EnSaaS K8s Service WISE-PaaS/EnSaaS Management Portal WISE-PaaS/EnSaaS Real-time Monitor WISE-PaaS/EnSaaS SSO WISE-PaaS/EnSaaS Ticket System
iFactory Industrial Applications	iFactory/OEE, iFactory/EHS, iFactory/EAN (Supports 100 Machines in total)	
Form factor	2U Rack mount Server	
Hardware Platform	SKY-7221D3S-12P8R	
Computing Resources	vCPU: 20 cores Memory: 64 GB Storage: 8TB	
Power	Power Supply	Redundant hot-plug Platinum 850W/1200W PSU
	Input	AC 100 ~ 240 V @ 50 ~ 60 Hz, full range
	Consumption	Max: 230, avg: 150
Environment	Operating Temperature	0 ~ 40 °C (32 ~ 104 °F)
	Non-Operating Temperature	-20 ~ 80 °C (-40 ~ 167 °F) and 40 °C @5~95% RH Non-Condensing
	Vibration Resistance	With SATA HDD: 0.5 Grms, IEC 60068-2-64, 5-500Hz, 1hr/axis
	Shock Protection	With SATA HDD: 10G, IEC-60068-2-27, half sine, 11ms duration
Mechanical	Dimensions (W x H x D)	448 x 88.4 x 760 mm , 17.6 x 3.48 x 30 inch
	Weight	About 30.5 kg (3 servers)
Server Expansion slots	1 PCI-E Gen3 x16 (FH/FL) + 4 PCI-E Gen3 x8 (LP) + 1 PCI-E Gen3 x16 OCP 2.0 NIC	
OS Support in VM	Linux (CentOS7.6, Ubuntu 18.4, etc.)	
Certification/Safety	EMC CE/FCC/CB/UL/CCC	

Ordering Information

Requirement	Part Number	Description
Required	IFS-51A-AG01	SKY7221/20cores/64/8TB/100Machines/OEE,EHS,EAN
Optional	320TDISF0010A0	Additional Licenses for 25 Machines connection
Optional	9803PCEW012	12 Months Extended Software Warranty