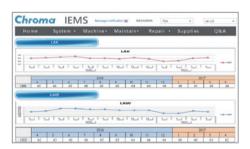


## INTELLIGENT EQUIPMENT MANAGEMENT SYSTEM MODEL 98019-EM

#### Instant and Precise OEE Control

The intuitive interface controls equipment reports in real time, such as OEE, utilization, and preventive maintenance reports. Users can instantly review and formulate improvements when necessary.



#### Early Shutdown Warning through Big Data Analysis

The system monitors equipment data, integrates and compares production information, and so finds the data models before equipment abnormalities occur. This prevents the production line from being stopped due to shutdown.

#### Automatic Notification for Maintenance and Calibration

Pre-program equipment maintenance or calibration schedules, the system will remind users of the itineraries in advance.

#### Check Device Status in Real Time

Query data on equipment maintenance and repair log whenever, the system grasps the equipment use and maintenance status in real time.

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0	A1084	Reflo	v	CKD	VP5200L-V	77%	Andy	2017/1/23		
•	A1085	Pick & I	Mace	JUKI	FX-3RML	78%	Andy	2017/1/23		
•	A1086	Pick & I	Place	JUK3	KE-2080M	78%	Andy	2017/1/25		
•	A1087	Reflo	÷	LOYALSUN	L5-208-N	79%	Andy	2017/1/25		
•	A1088	AC		OMRON	VT-RNS II	78%	Andy	2017/1/26		

## Easily Integrate Various Kinds of Devices

Developers can return the machine's realtime status and test data to the iEMS platform system through OPC, MSMQ, or API.

#### **Cloud Library**

All repair call, maintenance, and machine status data is automatically uploaded to the database in the cloud, where users can grasp the complete equipment log.



#### **KEY FEATURES**

- Real-time OEE control
- Early shutdown warnings through big data analysis
- Auto maintenance and calibration notifications
- Check device status in real time
- Easy integration of various devices
- Cloud Library

#### **APPLICATIONS**

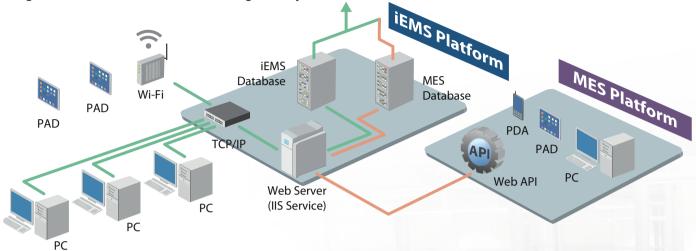
- Equipment information management
- Equipment preventive maintenance and calibration
- Visual monitoring of machine status
- Maintenance calls and repair reports in the cloud
- Real-time management of spare parts
- Web operation for mobile devices
- Integrated asset management
- Management reports



# Chroma

#### **Open System Structure**

Most equipment management systems are single module functions in the MES system and are closed systems, unable to integrate with other systems or even with other equipment. Chroma iEMS provides integration methods such as OPC, MSMQ, and Chroma API. The open interface can receive equipment data in real time and the open database can be integrated with the customer's asset management system.



#### Integrated Equipment Management and Status (OEE)

The majority of equipment management systems separate the equipment management function from the equipment status monitoring function, so users need to work across different interfaces or software programs simultaneously to handle both. Chroma iEMS integrates equipment management functions and status monitoring on one platform, making it easier for users to operate.



#### Join the Training Platform

Chroma iEMS connects to Chroma University, a training platform where you can watch online training videos for equipment maintenance, repair, calibration, and other operations. This greatly simplifies and shortens the training of your personnel.



### **iEMS** Functions

#### **Equipment Information Management**

- Basic equipment information (factory data, user's manual)
- Maintenance record
- Maintenance details
- Repair history
- Equipment effectiveness (utilization, mobility, MTBF, MTTR)
- Equipment components replacement record
- Equipment borrow and return record
- Annual survey
- Maintenance schedule
- Equipment capability screening

#### Preventive Maintenance and Calibration

- Routine inspection
- Maintenance inventory
- Maintenance result
- Maintenance instruction
- Maintenance audit
- Maintenance result figure upload
- Maintenance order scheduling calculation
- Equipment maintenance plan
- Equipment maintenance SOP display

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	Castody number	Equipment item	Brand	Model	OEE	Maintenance staff	Scheduled maintenance day	Serial number		Listed as idle
	A1083	Printing	RITACHI	HIP-07	79%	Andy	2013/1/26			Maintenance results
	A1084	Reflew	CKD	VP5200L-V	77%	Andy	2013/1/23		Check the bead air filter No din	
•	A1085	Pick & Place	JUKI	FX-3RXL	78%	Andy	2017/1/23		Cran X, Y-axis linear No dast or oil	
	A1086	Pick & Place	JUKI	KE-2080M	78%	Andy	2013/1/25		Cleaning each transfer sensor No dast, foreign matter	
	A1087	Refew	LOYALSUN	LS-208-N	79%	Andy	2013/1/25		Cleaning the outer shaft of No dust, foreign matter	
	A1088	AOL	OMBON	VT-RNS II	28%	Andy	2013/1/26		Clean and oil the transfer Appropriate amount of groups, smooth movement.	

# Maintenance Calls and Repair Reports in the Cloud

- System auto maintenance call
- Maintenance report
- Cloud Library
- Maintenance manual
- Maintenance record
- Maintenance notices
- Abnormal figure upload
- Equipment abnormal traceability

#### Visual Equipment Monitoring

- Equipment management report
- Idle equipment report
- Overall Equipment Effectiveness (OEE)
- Equipment utilization rate
- Equipment mobility
- Availability data trends
- Capability data trends
- MTBF data trends
- MTTR data trends



### **iEMS** Functions

#### Real-time Management of

#### Consumable Usage

- Equipment components replacement record
- Spare parts list
- Material receipt entry
- Material inventory display
- Spare parts supply notification
- Spare parts management

Plant MTEF(HRS) Type	LAK Choose Consume	w Line W Parts con	501-2 sumable	14.	Maintain NO.	A Specification	w. Mainta	in NO. 3	
Picture	Plant	Consumables Name	Specification	MIBF	Minimum inventory	Revised inventory	laventory	Operat	outbourn
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8	LAK	300000X	30000K	300X	ж	ж	xx	inbound	outbours

#### Integrated Asset Management

Includes automatic update of equipment depository, equipment lists according to the internal asset management system of your company, and attribute data synchronization.



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## Management Reports and Web Operation for Mobile Devices

- Interface message notification
- E-mail instant notification
- Factory management report
- TS management form
- Equipment cause of failure analysis
- Consumables usage
- Present equipment status
- Equipment utilization analysis
- Maintenance efficiency analysis



