ERD: Configuration

EFM Emerson ROC provides a configuration section to the Ignition Gateway that can be seen in the Configure section of the Ignition Gateway web UI. There is one configuration page - EFM Emerson ROC Settings. The page contains two tabs: TLP Definitions and EFM Mappings.

Support Files

The Cirrus Link default TLP Definitions and EFM Mapping files can be used as a starting point for configuring the EFM Emerson ROC module.

Download Here

(Note these need to be thoroughly tested and reviewed in your application before they are put into production)

Zip file contents:

- TLP Definitions
 - FB107-TLPs-V1_0.csv
 - ROC800-TLPs-V1_0.csv
 - UserProgram-TLPs-V1_0.csv
- EFM Mappings
 - Configuration Mappings
 - FB107-Meter_Configuration_Mapping-V1_0.csv
 - ROC800-Meter_Configuration_Mapping-V1_0.csv
 - Periodic Mappings
 - FB107-Orifice_Turbine_Meter_Periodic_History_Mapping-V1_0.csv
 - ROC800-Orifice_Turbine_Meter_Periodic_History_Mapping-V1_0.csv

TLP Definitions

The first tab contains settings for creating sets of TLP Definitions:

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CURITY Auditing Users, Roles Service Security	Name Main TLPs	CSV File TLPS.csv		delete <mark>edit</mark>
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New TLP Definitions can be created by following the 'Create new TLP Definition' link as shown below:

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CURITY Auditing Users, Roles Service Security Security Zones	Name	New TLP Definition The name of this TLP Definition Browse No file selected.		
ATABASES Connections Drivers Store and Forward ARMING General		The CSV file for this TLP Definition Create New TLP I	Definition	
Journal Notification On-Call Rosters Schedules GS				

Main Properties

- Name
 - This is the friendly name of the TLP Definition being created
- CSV File
 - $^{\circ}$ Click the 'Browse' button to select CSV file for this TLP Definition

EFM Mappings

The EFM Mappings are used for publishing EFM Records representing Events, Alarms, Configuration, and History entries that are polled from a device.

Configuration Mappings

The configuration mapping files are used for building up EFM Configuration Records. They define which TLPs map to which fields (columns) in an EFM Configuration Record. Additionally they can provide bit and/or value mappings for the TLP values.

Click here for more details on the content of these mapping files.

The Configuration Mappings tab shows all uploaded Configuration Mapping files.

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Backup/Restore Licensing	Erm Emerson RUC Sellings	
Modules	TLP Definitions FFM Mannings	
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Users, Roles	No Configuration Mappings	
Service Security Security Zones	-> Croste new Configuration Manning	
TABASES	· Create new Conniguration mapping	
Connections		
Drivers Store and Forward		
ARMING	Note: For additional details on configuration, see the documentation here	
General		
Journal Notification		
On-Call Rosters		
Schedules		

A new Configuration Mapping can be added by clicking on the "Create New Configuration Mapping..." link.

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STEM Overview Backup/Restore Licensing Modules Projects Redundancy Gateway Settings ETWORKING Gateway Network Email Settings	EFM Emerson ROC Settings TLP Definitions EFM Mappings Configuration Mappings Periodic Mappings New Configuration Mapping Periodic Mapping	
CURITY Auditing Users, Roles Service Security Security Zones	Main FB107 Config Mapping The name of this Configuration Mapping	
ITABASES Connections Drivers Store and Forward	CSV File Browse FB107-Meter_Configuration_Mapping-V1_0.csv The CSV file for this Configuration Mapping	
ARMING General Journal Notification On-Call Rosters Schedules	Create New Configuration Mapping	
GS History Realtime	Note: For additional details on configuration, see the documentation here	
C-UA SERVER Certificates		

Main Properties

- Name
- $^\circ~$ This is the friendly name of the Configuration Mapping being created $\bullet~$ CSV File
- - ° Click the 'Browse' button to select CSV file for this Configuration Mapping

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Search	Trial Version 1:32:45 We're glad you're test driving our software. Have fun.	Activate Ignition
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Security Zones	FB107 Config Mapping FB107-Meter_Configuration_Mapping-V1_0.csv	delete edit
Connections Drivers Store and Forward ALARMING	→ Create new Configuration Mapping	
General Journal Notification On-Call Rosters Schedules AGS History	Note: For additional details on configuration, see the documentation here	

Periodic Mappings

The periodic mapping files are used for building up EFM Periodic History Records. They define which TLPs map to which fields (columns) in an EFM Periodic History Record, the logical type of the point type table (meter, station, or input), and an archive type of the value.

Click here for more details on the content of these mapping files.

The Periodic Mappings tab shows all uploaded Periodic Mapping files.

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Overview Backup/Restore	EFM Emerson ROC Settings		
Licensing			
Modules Projects	TLP Definitions EFM Mappings		
Redundancy			
Gateway Settings	Configuration Mappings Periodic Mappings		
ETWORKING			
Email Settings	Periodic Mappings		
CURITY			
Auditing	Name CSV File		
Service Security	No Periodic Mappings		
Security Zones	→ Create new Periodic Mapping		
TABASES			
Connections Drivers			
Store and Forward			
ARMING	Note: For additional details on configuration, see the documentation here		
General Journal			
Notification			
On-Call Rosters			

A new Periodic History Mapping can be added by clicking on the "Create New Periodic Mapping..." link.

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Licensing			
Modules	TLP Definitions EFM Mappings		
Redundancy			
Gateway Settings	Configuration Mappings Periodic Mappings		
TWORKING			
Email Settings	New Periodic Mapping		
ECURITY			
Auditing	Main		
Service Security			
Security Zones	Name FB107 Periodic Mapping The name of this Periodic Mapping		
ATABASES			
Drivers	CSV File Browse FB107-Orifice_Turbine_Meter_Periodic_Hist	story_Mapping-V1_0.csv	
Store and Forward	The CSV file for this Periodic mapping		
ARMING			
Journal	Creat	te New Periodic Mapping	
Notification			
Schedules			
GS			
History	Note: For additional details on configuration, see the documentation here		
Realtime			
PC-UA SERVER Certificates			

Main Properties

- Name
 - $^{\circ}\;$ This is the friendly name of the Periodic Mapping being created
- CSV File
 - $^{\circ}~$ Click the 'Browse' button to select CSV file for this Periodic Mapping

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Q Search	Trial Version 1:33:32 We're glad you're test driving our software. Have fun.	Activate Ignition
SYSTEM Overview Backup/Restore Licensing Modules Projects Redundancy Gateway Settings NETWORKING Gateway Network Email Settings SECURITY Auditing	EFM Emerson ROC Settings	
Users, Roles Service Security	Name CSV File	
Security Zones	FB107 Periodic Mapping FB107-Orifice_Turbine_Meter_Periodic_History_Mapping-V1_0.csv	delete
DATABASES Connections Drivers Store and Forward	→ Create new Periodic Mapping	
ILARMING General Journal Notification On-Call Rosters	Note: For additional details on configuration, see the documentation here	
Schedules TAGS History		

Emerson ROC Device Connection

Device connection for Emerson ROC module can be configured via OPC-UA SERVER. Selecting OPC-UA SERVER Devices opens respective configuration page as shown below:

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Ignition						USER MANUAL SUPPOR
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Q Search	Trial Version 1:28	:39 We're glad you're te	st driving our software. Have fun.			Activate Ignition
Overview	Devices					
Backup/Restore	Devices					
Modules	Name	Туре	Description	Enabled	Status	
Projects	Ne Devices	.)pc	Description		otatao	
Redundancy	NO Devices					
Gateway Settings	→ Create new Device					
NETWORKING						
Gateway Network Email Settings						
SECURITY						
Auditing						

New Emerson ROC device can be created by following the 'Create new Device...' link and choosing 'EFM Emerson ROC' device as shown below:

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Overview Backup/Restore Licensing	Add Device Step 1: Choose Type		
Modules Projects Redundancy Gateway Settings	Allen-Bradley Logix Driver Connect to Allen-Bradley Logix family devices, including devices with firmware v21+.		
NETWORKING Gateway Network Email Settings	Allen-Bradley MicroLogix Connect to MicroLogix 1100 and 1400 series PLCs.		
SECURITY Auditing Users, Roles	Allen-Bradley PLC5 Connect to PLC5s via Ethernet.		
Service Security Security Zones DATABASES	 Allen-Bradley SLC Connect to SLC 5/05s via Ethernet. 		
Connections Drivers Store and Forward	O DNP3 Driver Connect to a DNP3 outstation.		
ALARMING General Journal Notification	EFM Emerson ROC Connect to EFM Emerson ROC devices		
On-Call Rosters Schedules	Legacy Allen-Bradley CompactLogix Connect to CompactLogix firmware v20 and prior processors.		

This opens the 'New Device' configuration mage for EFM Emerson ROC Device:

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Q Search	Trial Version			Activate Ignition
SYSTEM Overview Backup/Restore Licensing Modules	New Device	2		
Projects	General			
Gateway Settings	Name			
NETWORKING Gateway Network Email Settings	Description			
SECURITY Auditing	Enabled	☑ (default: true)		
Service Security Security Zones	Connectivity			
DATABASES Connections Drivers Store and Forward	Protocol Type	Choose One		
ALARMING General	Hostname	Hostname/IP address of the device.		
Journal Notification On-Call Rosters Schedules	TCP Port	TCP Port of the device.		
TAGS History Realtime	ROC Unit Code	Station Address Unit Code of the ROC unit		
OPC-UA SERVER Certificates > Devices	ROC Group Code	Station Address Group Code of the ROC unit		
Settings OPC CONNECTIONS Servers	Host Unit Code	Station Address Unit Code of the host (this driver)		
Quick Client MOBILE Settings	Host Group Code	Station Address Group Code of the host (this driver)		
ENTERPRISE ADMINISTRATION	Periodic Mapping	- none -		

General

- Name ° Device name
- Description Device description
- Enabled
 - Device enabled

Connectivity

- Protocol Type

 Specific Protocol Type of the device
 ROC
 ROC_PLUS
- Hostname or IP address of the device
- TCP Port TCP Port of the device.
- ROC Unit Code
- Station Address Unit Code of the ROC unit ROC Group Code
- Station Address Group Code of the ROC unit • Host Unit Code
 - Station Address Unit Code of the host (this driver)

- Host Group Code
- Station Address Group Code of the host (this driver)
- Periodic Mapping
- Select a Periodic History Mapping (see above) if History polling will be enabled
- Configuration Mapping
- Select a Configuration Mapping (see above) if any Configuration, Event, or History polling will be enabled
- Add All TLP Definitions
 - If selected, all TLP definitions configured within the module (see above) will be automatically added to this Device configuration. This is
 a convenient way to easily add TLP definitions to a Device without having to manually add them after the Device has been initially
 configured. If the module contains one or more TLP definitions that are not compatible with the device being configured, leave this
 option disabled and configure the TLP Definitions manually after the device has been configured.

Security

- Security Enabled
 - Whether security is enabled on the ROC device
- Operator ID
- A three character operator ID
- Password
- A four digit password
 Access Level Enabled
 - Whether of not the Access Level is enabled for the above operator on the ROC device
- Access Level
 - The Access Level to use (0-5) if enabled

Date/Time

- Date Time Offset
- The date time offset of the ROC clock from the Ignition system running this driver in seconds
- Sync ROC RTC
 - Whether or not to synchronize the RTC clock with local time from the Ignition system
- Sync Expression
 - The Quartz Cron expression to use to schedule the synchronization of the ROC RTC (default: "0 0 0 * * ?")

Records

- Alarm Scan Rate
 - ° The rate in seconds that alarm records are scanned
 - ° Set to -1 to disable alarm scanning (default)
- Event Scan Rate
 - $^{\circ}~$ The rate in seconds that event records are scanned
 - Set to -1 to disable event scanning (default)
- Minute History Scan Rate
 - ° The rate in seconds that minute history records are scanned
- Set to -1 to disable minute history scanning (default)
- Periodic History Scan Rate
 - The rate in seconds that periodic history records are scanned
 - Set to -1 to disable periodic history scanning (default)
- Daily History Scan Rate
 - The rate in seconds that daily history records are scanned
 - Set to -1 to disable daily history scanning (default)

Sparkplug

- Group ID
 - An ID representing a logical grouping of Edge Nodes and Devices
- Edge Node ID
 - An ID representing an Edge or Network (EoN) Node
- Device ID
 - An ID representing a Device

Advanced

- Serial Number
 - The serial number to include in Records for uniqueness. Can be manually configured (example: '0001234556') or a TLP can be specified to be read from the device (example: '[15,0,14]').
- History Time Stamp
- If enabled the history time stamp will be at the beginning of the period (leading), otherwise at the end of the period (trailing)
- Read Delay
 - The Polling Read Delay in milliseconds when polling response may be slow (recommend when using a terminal server)

When all EFM Emerson ROC devices are configured, the Devices page will look as shown below:

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SYSTEM Overview Backup/Restore	Devices					
Licensing Modules	Name	Туре	Description	Enabled	Status	
Projects Redundancy Gateway Settings	FloBoss 107	EFM Emerson ROC		true	Connected	More 💌 🛛 edit
NETWORKING Gateway Network Email Settings	→ Create new Device					
SECURITY Auditing Users, Roles Service Security						

To finish configuring Emerson ROC device, the following three things (as detailed in EFM Emerson ROC Quickstart document) need to be done:

- Specify TLP Definitions (only if the "Add All TLP Definitions" was not enabled)
 Provide TLP Templates by importing TLP-template CSV file
 Configure TLP Poll Groups by importing TLP-poll-group CSV file

When this is done, the 'Devices' configuration page will show the 'Status' of each device set to 'Connected'.