AUTOSOL

eACM™

High Performance, Flexible Communication, Hyper Connectivity

eACM™ turns any field device such as field computers, radios & switches into lightweight, MQTT-enabled edge gateways.

MQTT-Enabled Edge Gateways for Faster Data

eACM can translate native RTU and PLC protocols into the highly-efficient MQTT protocol and send report-by-exception data to any MQTT broker. eACM also supports the MQTT Sparkplug B specification, which allows for data to be back-filled for higher resolution or to restore data after a comms outage. Lastly, eACM provides a platform for functional applications to run on the edge of your network to make the most out of your infrastructure.

eACM Real-Time Polling

eACM provides an extremely convenient and efficient way to transmit more data, more frequently, and with less overhead. When deployed in the field, eACM acts as a local polling engine, handling the poll-response between itself and the device as fast as every 50 milliseconds.

eACM EFM

eACM can collect electronic flow measurement (EFM) data from the edge and deliver it to your measurement team via MQTT Sparkplug B (SPB). eACM polls the RTU and collects the history records. It then sends the data over MQTT SPB to ACM. Once in ACM, the data can be published through the channels currently enjoyed by your organization such as Flow-Cal Transaction Queue, CFX files, etc. eACM's EFM collection method works alongside ACM's method, allowing clients to maintain existing practices while simultaneously integrating new technologies.

Key Features

- Supports **communication with multiple protocols** simultaneously.
- Supports **communication with multiple end-devices** simultaneously.
- **Backfills data to your system** after losing connection.
- MQTT **uses up to 90% less bandwidth** than traditional poll-response.
- **Allows edge applications to run** using RTU or PLC data.
- Can **prioritize data flows** between multiple masters for serial networks.
- eACM is portable and light enough to **fit onto most edge computing devices.**
- **Collects EFM data** for ROCs

Backfill

If eACM loses connection to the broker, it will continue polling and store the data locally on the device it is installed on. Once the connection is re-established, eACM then sends the stored data up. To the left, the outcome of this process can be seen. The left graph is a communications outage with eACM in the field. The right graph is a communications outage without eACM.

Data Collected Locally Via eACM and Published Via MQTT

08/01 (14:29:09) – **08/01** (17:29:09)
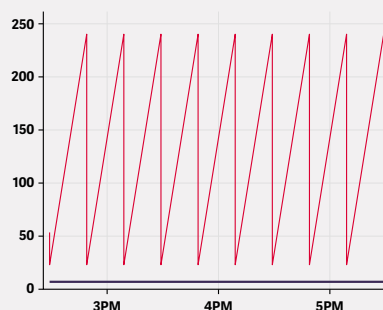
Data Collected Remotely Via Traditional Polling

08/01 (14:29:09) – **08/01** (17:29:09)
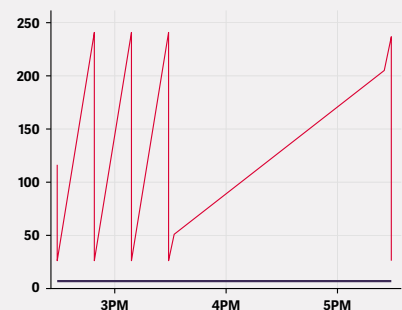
Compatibility

Real-Time Protocols

- ABB Totalflow
- Allen Bradley ControlLogix (CIP)
- GE-SRTP
- DNP3 / FB Series

EFM + Real-Time Protocols

- Emerson (Fisher) FloBoss
- Emerson (Fisher) ROC

Real-Time Modbus Protocols

eACM functionality can be expanded by developing additional interfaces with any Modbus device. Specific protocols currently provided with the eACM software are:

- Modbus RTU/ASCII/TCP
- Daniels
- Enron
- Flow Automation
- AutoPilot
- Omni
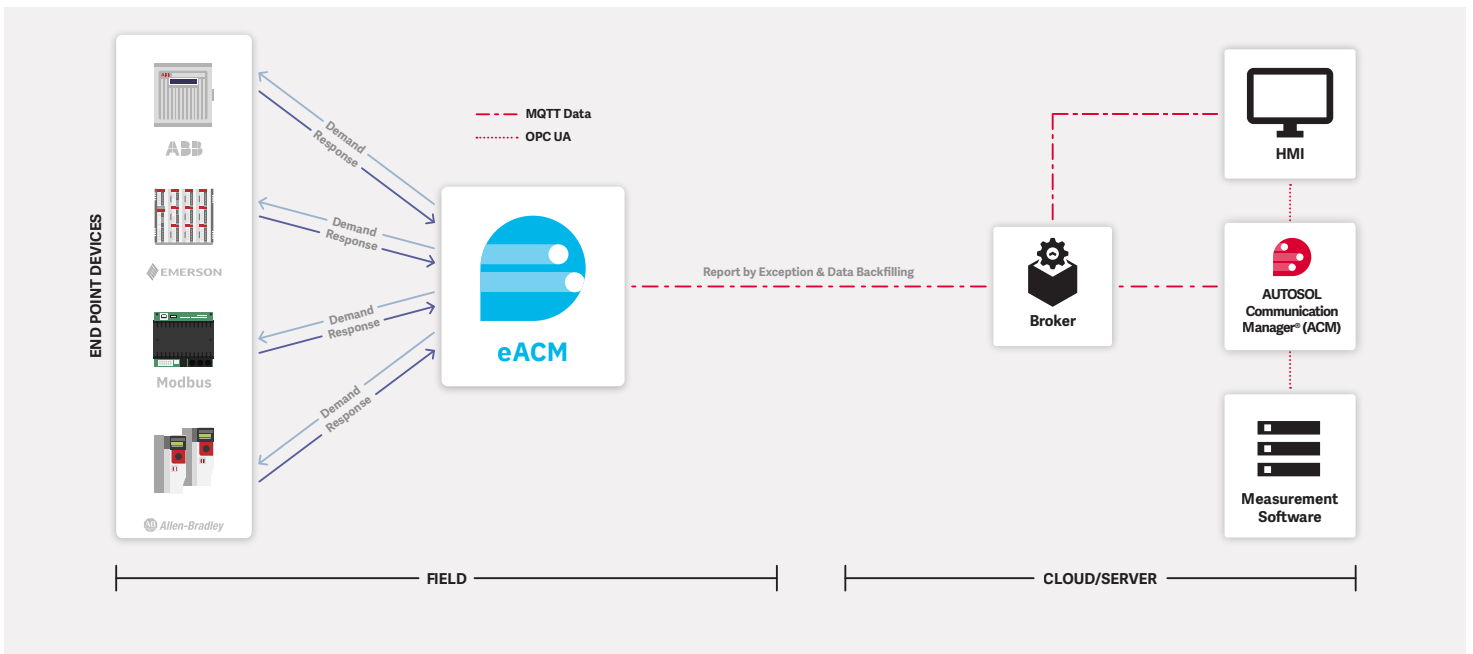
Protocols Under Development

- DF1/ABTCP
- ABB Totalflow with EFM

Other protocols added by request

Tested Hardware*

- Dell EMC EGW-5200
- FitPC fitlet2
- MOXA 3100
- MOXA UC8100
- MOXA V2201
- RAD SecFlow-1
- RAD SecFlow-2
- Raspberry Pi
- Stratus ztC Edge
- XetaWave XetaEdge
- XetaWave XetaEdge9

Other hardware can be tested

Easy to configure, easy to deploy, easy to manage.

It can be difficult to track, configure and license hundreds of eACM installations once they are deployed in the field. That's why multiple eACM devices can be managed from one server-side mass-management application called AUTOSOL App Manager.

AUTOSOL App Manager allows users to change configuration settings across their system. It also tracks, displays and lets users control the status of deployed applications as "Running" or "Stopped." As new eACM boxes are deployed, they can be synced with the manager app and licensed remotely.

Specifications are subject to change without notice.

Legacy compatible across systems.

Although eACM utilizes the full potential of MQTT, not every SCADA system is compatible with the technology. For those HMIs and services that want MQTT data, but rely on ODBC or OPC-DA connections, AUTOSOL ACM is the solution.

Residing on-prem or in the cloud, ACM converts the MQTT Sparkplug B data into OPC.

Learn more about eACM

AUTOSOL

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