



**ENTERPRISE-LEVEL  
REAL-TIME DATA GATEWAY**

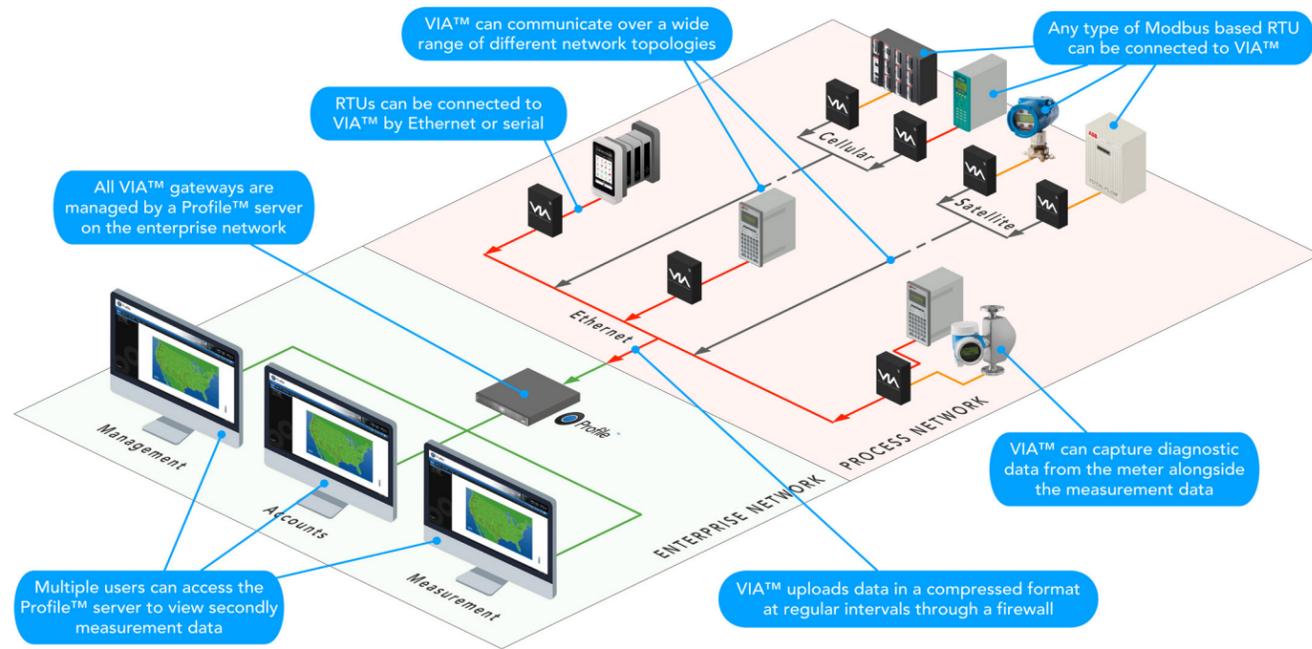
[www.ambrit.com/via](http://www.ambrit.com/via)



# ENTERPRISE-LEVEL REAL-TIME DATA GATEWAY

When it comes to analysing measurement data, every second counts. Real-time data provides a fascinating insight into the underlying quality of the measurement, without which it is impossible to reconstruct events if problems occur and accurately perform mismeasurements. Flow computers generate a wealth of data but historically, due to technical limitations and a primary focus on SCADA, the bulk of this valuable measurement data has been discarded or locked away at the metering station.

VIA™ is a compact, DIN rail mounted embedded computer purpose-designed to capture real-time Modbus data from flow computers and RTUs. Because VIA™ is situated next to the RTU, it can poll at high speed without bandwidth restrictions or other network limitations, and data collection is more robust as local networking is simpler and less prone to communications outages. VIA™ can also collect the diagnostic data from modern meters, overlaying it on top of the measurement data to provide a comprehensive view of the overall process. All data is timestamped and stored securely within VIA™ so every value can be traced back to the original source.



## Enterprise-wide access to measurement data

Measurement data shouldn't be limited to the engineers and technicians at the metering station. Accurate, real-time data is essential for everyone within the company, including operators, accounting and management, to perform their roles. There is often a requirement for third parties from outside the company – e.g. customers, auditors and government agencies – to have access to the measurement data too. But often the IT policies designed to block unauthorised users from gaining control over the process also prevent users at the enterprise level from accessing the data that they need.

VIA™ solves this problem by capturing real-time measurement data locally and uploading it at regular intervals to a Profile™ server on the enterprise network over a secure one-way authenticated uplink. VIA™ encrypts and compresses the data, ensuring it is correctly sized for the available network bandwidth and doesn't interfere with other mission critical applications like SCADA. Once in the Profile™ database, any user with the right level of access can gain access to the data they need, safely stood off from the tightly controlled process network.

## Modernize legacy RTUs without replacing them

The industry is filled with legacy RTUs that have been installed over many years, long before the IIOT revolution. Whilst these devices may still be reliable and do their job on a day-to-day basis, their communications and security capabilities do not live up to modern requirements.

Traditionally, replacing them would present a huge engineering challenge that would be technically and cost prohibitive. VIA™ has been designed as a drop-in update that immediately endows any Modbus RTU with state-of-the-art communications, security and a modern user interface – without affecting the rest of the overall system.

## Centralized management and updates

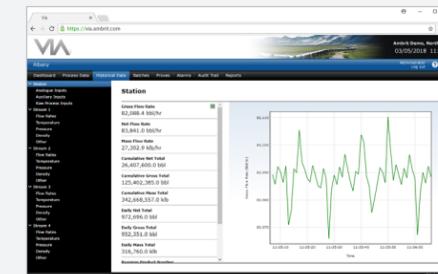
VIA™ gateways are managed from a central Profile™ server on the enterprise network. Setup could not be easier – simply connect an RTU to VIA™ by Ethernet or serial and the connect VIA™ to the process network. VIA™ will automatically download its configuration settings from the the Profile™ server and start collecting data.

Profile™ allows administrators to update VIA™ configurations – and even install security patches and firmware updates – remotely. It will also actively monitor the network to ensure that all VIA™ gateways are fully operational at all times.

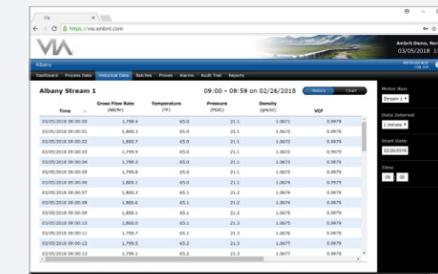


## Built-in HMI

VIA™ has a powerful built-in web server capable of serving a high quality dynamic HMI with real-time updates every second, real-time charts, alarms, audit events and reports, plus access to historical secondly data.



Real-time data



Historical data



Historical chart

## Collaborative

Real-time measurement data captured by VIA™ can be made available to any user on the network.

## Accountable

All data from the flow computer is timestamped and recorded in VIA™ so every value can be individually traced.

## Secure

Data is encrypted and transferred back to the enterprise network via a one-way authenticated uplink.

## Networkable

VIA™ can communicate over a wide range of different network topologies and connect to RTUs by Ethernet or serial.

## Adaptable

Any type of Modbus-based RTU can be connected to VIA™. There is no need to replace legacy RTUs.

## Intuitive

VIA™ gateways have a unique auto-configuration setup and are managed centrally from the enterprise network.



## ENTERPRISE-LEVEL REAL-TIME DATA GATEWAY

VIA™ is an industrial data gateway which overcomes the communications and security limitations of legacy RTUs, enabling real-time measurement data to be securely collected and distributed to the enterprise network.

Historically, industrial RTUs have prioritized real-time access from control systems over the management of measurement data, despite the central role that high quality historical data plays in demonstrating that measurements are accurate and reliable, piecing together previous process conditions, performing mismeasurements, and predicting future performance of equipment and processes. Most RTUs also have a poor security track record and are not able to meet today's cyber security challenges.



VIA™ is a compact, DIN rail mounted embedded computer that sits alongside a flow computer or RTU, meaning it can poll at high speed without being restricted by bandwidth or other network issues. Real-time data is passed up to the enterprise network securely, enabling authorized users across the company, and authorized third parties, to access this valuable data.

VIA™ automatically transforms the capabilities of legacy RTUs and flow computers, endowing them with the latest communications technology, extending their local data storage and hardening them with the latest security and encryption techniques. This approach allows existing infrastructure to be upgraded to the latest technology cost-effectively, with minimum engineering and without having to disrupt complex and critical control systems.

VIA™ allows measurement data to be used in many futuristic and exciting ways. It provides a reliable conduit into big data systems so vast amounts of data can be collected from the field for detailed analysis by enterprise based expert systems.



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## Specifications

CPU	1Ghz Quad Core ARMv7 Cortex-A9
Memory	1GB DDR3
eMMC Flash Storage	32GB
FRAM	128KBits
Secure Key Storage	Yes
10/100/1000 Ethernet	2 x Ethernet ports
Serial	2 x RS485 or RS232
Wifi	b/g/n
Bluetooth	4.0
USB	2 x USB ports
Cellular Modem	Optional
Real Time Clock	Yes
Power Backup	20 seconds
Operating Supply Voltage	10-28V
Temperature Range	-20°C to 70°C (-4°F to 158°F)
Dimensions	Width 105 mm (4.13") Height 123 mm (4.84") Depth 34mm (1.34")
DIN Rail Mountable	Yes
Web Server	Optional

Specifications may vary



## Metrology™

VIA™ feeds real-time data to the Metrology™ suite of web enabled metrology asset management applications:

### Inventory™

Equipment and location database

### Profile™

Data collection and reporting

### Approve™

Meter performance management

### Calibrate™

Calibration management

### Inspect™

Audit management and reporting

### Record™

Inventory and event logbook



All components are interactive and web enabled, sharing data and events to provide a complete solution to metrology asset management.

Further information on VIA™ is available from Ambrt's web site:

[www.ambrt.com/via](http://www.ambrt.com/via)