AcuLink 810
Data Acquisition Server

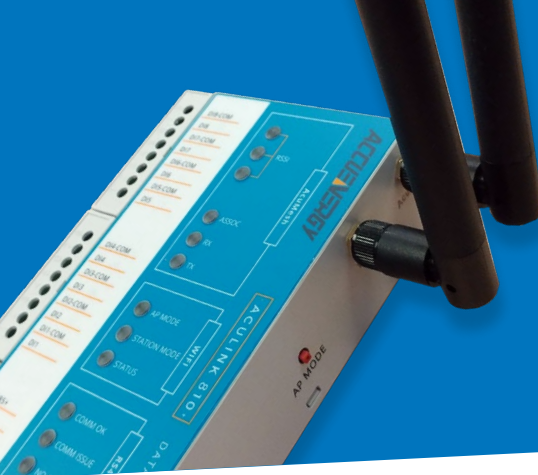- Ethernet Gateway for Modbus RS485 and Digital Output Devices
- Access Energy Information Remotely via Web Server, or Push to IP-based Master Devices or Software
- Data Acquisition and Logging with 8GB On-Board Memory
- Embedded Web-server for Real-Time Data and Easy Configurations
- Controller/Master System can Poll Data from all RTU Devices via Modbus-TCP/IP Protocol
- Dual Ethernet RJ45 Port and WiFi Communication Channels
- Enhanced Cybersecurity for Critical Infrastructure Deployment
- Compact DIN Rail Mount Design
- Track Energy Usage and Peak Demand
- Quick and Simple Software-Free Setup

CE cULus TÜV CERT ISO9001 Certified

ACCUENERGY

INTRODUCTION

The Accuenergy's AcuLink 810 is a data acquisition gateway and server designed to collect data meters and sensors and distribute them to various energy management systems.

Energy and sensor data are available to be stored locally or transferred to remote servers and controllers via IP-based network.

DATA COLLECTION

AcuLink polls and logs data in user-defined interval from downsteam devices. All data logs are time-stamped and store in onboard memory that are available to be downloaded from webpage or posted to remote server.

Data posting/pushing is available in HTTP, HTTPs, FTP in CSV or JSON format via Ethernet RJ45 port or WiFi network. External cellular modem can be connected to enable data post via cellular network.

- 32 Modbus RTU devices via RS485 port

- Additional 32 Modbus-RTU devices via USB port

- 100 Modbus-TCP/IP devices via network

- 8 Digital Inputs for pulse counter

EMBEDDED WEB SERVER

Access real-time and logs from connected devices with AcuLink 810 web interface for an intermediate view of all collected devices with summary details, setup, alarms, and configurable upload channels.

- Web-server accessible via ethernet or WiFi

- SSL and TLS1.2 compliant with enhanced cybersecurity protection

- Access each devices real-time measurement reading

- Configure communication for downstream devices and upload channels

- Over/Under alarm monitoring for connected devices

- No software required – all configurations are available in webpages

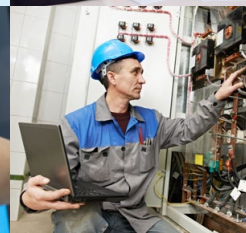## COMMUNICATION CHANNELS AND INTEGRATION

The AcuLink 810 has wide range of compatibility with existing software systems and control systems.

- Protocols supported: HTTP, HTTPs, FTP, SMTP, NTP

- Log file format supported: CSV and JSON

- Easily integrate with any energy management system, billing software, efficiency analysis services.

- Support Modbus gateway function that allows all RTU devices to be polled by remote Modbus master directly

- Dual RJ45 ethernet ports and WiFi connection enables simply connection to network and secure separate network connection

- USB: USB expansion port, available for serial converter to expand the communication channel

APPLICATIONS

AcuLink 810 is an adaptable and integral tool in data collection enabling user to see a more complete picture in essential power and energy applications such as;
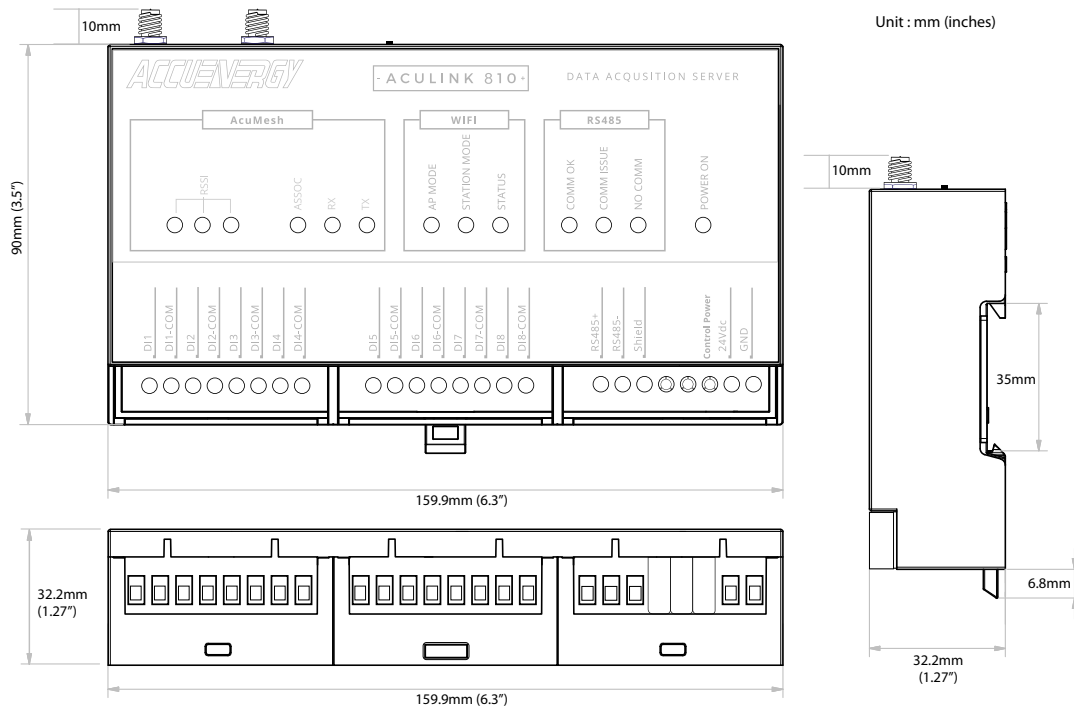
- **Building Automation Systems**
- **Energy Management Systems**
- **SCADA Systems**
- **Measurement & Verification**
- **Remote access energy information**
- **Energy Audits**
- **Facility Monitoring**
- **Campus Monitoring**
- **Sub Metering**
- **Performance contracts and Benchmarking**
- **Demand Response**
- **LEED / Energy Star Certification**
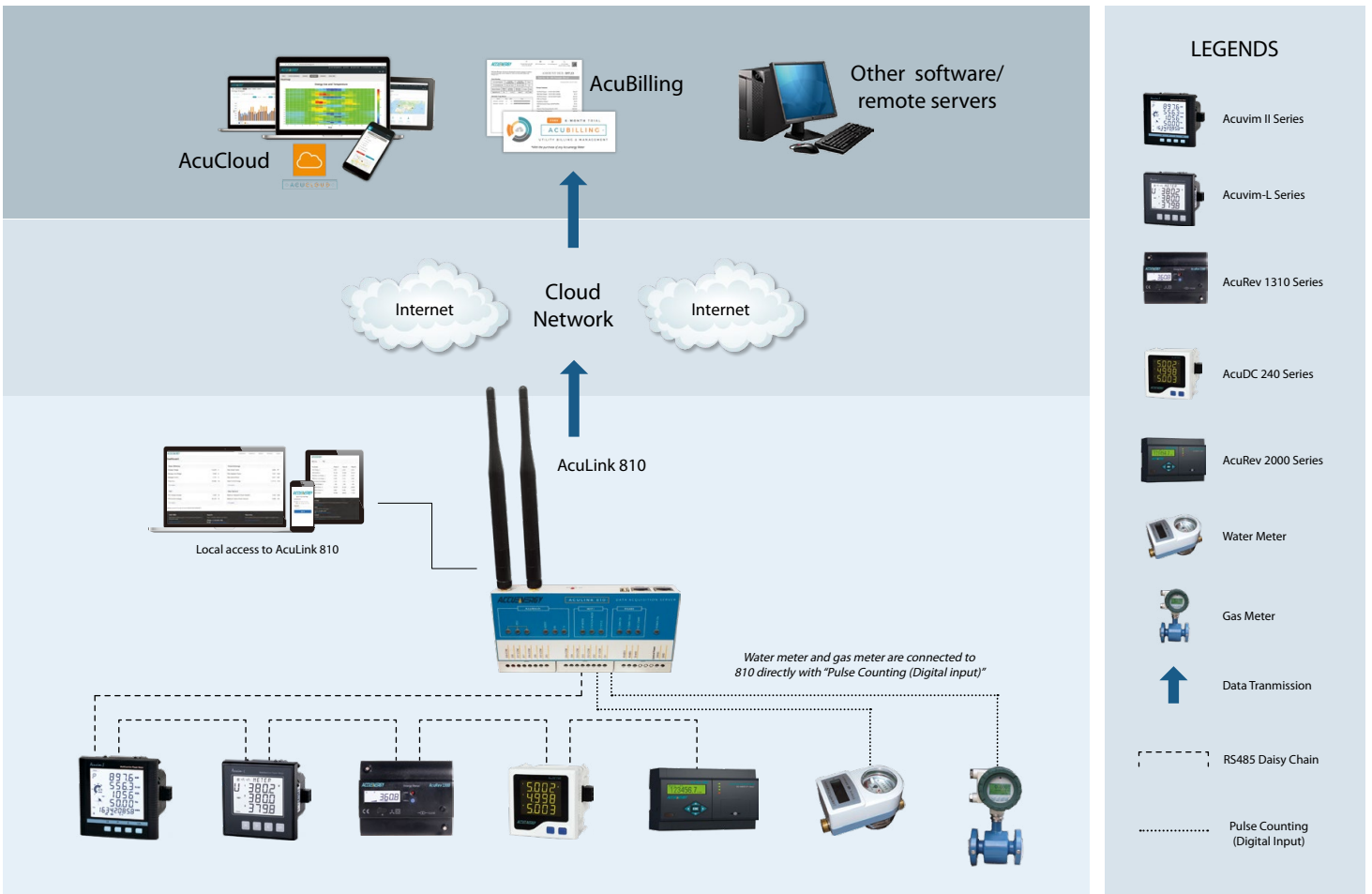- **Cost Allocation**

COMPACT DESIGN

AcuLink 810's compact design allows for a more seamless deployment into existing systems; dependable design and resilient temperature range (-40 to 80℃) paired with simple industry standard DIN Rail design;

DIMENSIONS

Unit : mm (inches)

90mm (3.5")

10mm

10mm

35mm

6.8mm

159.9mm (6.3")

32.2mm (1.27")

159.9mm (6.3")

32.2mm (1.27")

ACCUENERGY   · ACULINK 810 ·   DATA ACQUSITION SERVER

AcuMesh   WIFI   RS485

RSSI   ASSOC   RX   TX   AP MODE   STATION MODE   STATUS   COMM OK   COMM ISSUE   NO COMM   POWER ON

DI1   DI1-COM   DI2   DI2-COM   DI3   DI3-COM   DI4   DI4-COM   DI5   DI5-COM   DI6   DI6-COM   DI7   DI7-COM   DI8   DI8-COM   RS485+   RS485-   Shield   Control Power 24Vdc   GND

ARCHITECTURE DIAGRAMS

AcuBilling

Other software/
remote servers

AcuCloud

Cloud
Network

Internet   Internet

AcuLink 810

Local access to AcuLink 810

Water meter and gas meter are connected to
810 directly with "Pulse Counting (Digital input)"

LEGENDS

Acuvim II Series

Acuvim-L Series

AcuRev 1310 Series

AcuDC 240 Series

AcuRev 2000 Series

Water Meter

Gas Meter

Data Tranmission

RS485 Daisy Chain

Pulse Counting
(Digital Input)

HARDWARE SPECIFICATIONS	
Memory	8GB Onboard
LEDs	Power, WiFi, AcuMesh, RS485, Ethernet

POWER	
Power Supply	24VDC, 500mA
	*This unit is to be sourced by a Class 2 power supply with the following output: 24VDC, 500mA min not to exceed 8A
Isolation	RJ45 Ethernet 1500Vrms RS485 2500Vrms Digital Input 5000Vrms

COMMUNICATION	
Protocols	Modbus-RTU, Modbus-TCP/IP, HTTP, HTTPs, FTP, SMTP, NTP, BACnet-MS/TP, BACnet-IP, SNMP, Mbus, MQTT, AWS IoT, Google JWT
Ethernet	2 x RJ45 10/100M Ethernet, full half duplex, auto polarity
USB	USB expansion port USB 2.0 Host
WiFi	802.11 b/g/n, 2.4GHz
Serial Port	RS-485 Modbus, supports up to 32 external devices (expandable) Baud rate: 9600-115200bps

INPUTS	
Digital Input	8 pulse counters
Input Voltage Range	8-28Vdc
Input Current (Max)	8mA
Start Voltage	15V
Stop Voltage	5V
Pulse Frequency (Max)	100Hz, 50% Duty Ratio (5ms ON and 5ms OFF)

PHYSICAL	
Size	6.3" x 3.5" x 1.23" (159.9mm x 90mm x 32.2mm)

ENVIRONMENT	
Operating temperature	-25°C to 70°C, 90% RH, non-condensing

ORDERING INFORMATION

Part Number:

AcuLink 810-X	—— Standard Data Acquisition Server

AcuLink 810-900	—— Built-in 900MHZ AcuMesh

AcuLink 810-868	—— Built-in 868MHZ AcuMesh

Accessories:

AcuLink-Acumesh-PSU	—— DIN-rail 100-240Vac to 24Vdc power supply

ACCUENERGY
Make Energy Usage Smarter