

TABLE OF CONTENTS

	Introduction / Eagle Research Corporation.....	Page 3-5
	Linear Meter Measurement	Page 6-7
	Electronic Flow Corrector (EFC)	
	Pressure Monitoring	Page 8-9
	Electronic Pressure Recorder (EPR)	
	Differential Meter Measurement	Page 10-11
	Electronic Flow Meter (EFM)	
	Process Control and Measurement	Page 12-13
	Remote Terminal Unit (RTU)	
	E-Series® Expansion & Protection Peripherals	Page 14-15
	E-Series® Processor/Extender Board Technical Specifications.....	Page 16-17
	Process Concept	Page 18
	Panel Design and Fabrication.....	Page 19
	MPplus II Series®	Page 20
	Volume Corrector MVC	
	MPplus II Series®	Page 22-23
	Pressure Monitor MPM and Circular Charting and Graphing	
	MPplus II Series® Processor Board Overview.....	Page 24-25
	Cathodic Protection	Page 26
	Transfer Prover	Page 27
	Power Supplies	Page 28
	Communications	Page 29
	Software: Talon, Field Manager, Web Data Hosting	Page 30-35
	Water/Wastewater	Page 36
	Service & Support, Training, Safety & Environmental Compliance ...	Page 37
	Remote Automation Solutions	Page 38-39

OVERVIEW



ABOUT US



FIELD TO FRONT OFFICE SOLUTIONS™

Since 1976

All hardware and software products are proudly written, manufactured and supported in the USA.

QUALITY POLICY - "WE CARE"

Eagle Research Corporation® is committed to reliably delivering products and services on the cutting edge of technology, at a competitive cost, while also maintaining the highest level of quality through the dedication and empowerment of all employees to consistently improve the integrity of our products and provide excellent customer service.

WARRANTY STATEMENT

Eagle Research Corporation® offers a hardware warranty that covers defects in materials and workmanship for its manufacturers' branded products.

This warranty shall remain in effect for a period of (4) four years from the date of shipment from the Eagle Research Corporation facility.



For over 40 years, Eagle Research Corporation® has provided automation and telemetry solutions for remote monitoring, control, and data acquisition throughout all segments of the natural gas industry, as well as for commercial water/wastewater and industrial processing. Products include Volume Correctors, Accumulators, Pressure Recorders, Remote Terminal Units (RTU's), Cathodic Protection Monitors and Portable Transfer Provers. Software for SCADA (Supervisory Control and Data Acquisition) and data collection are available to offer customers a true field to front office solution. The Talon™ family of products, available in three levels from client/server to lite versions are completely scalable as required, based on the number of polling devices and users. Talon Enterprise™, Talon SCE™ (Single Computer Edition) and Talon Lite™ are situated in the marketplace to service all sectors of the natural gas industry as are the instruments for Upstream, Midstream and Downstream sectors. For those companies not desiring their own host solutions, web data services are available to give peace of mind that operations data is available when needed.

Eagle Research Corporation® was founded in 1976 as a local supplier of personal computers. As the need for real time remote data began to develop, Eagle Research began developing process control products for the local coal mining industry. The telemetry industry both changed and grew substantially over time and Eagle Research met the challenge and began supplying some of the natural gas industry's first microprocessor-based flow computers and RTUs. We continue to be a leading supplier today through continual growth and development. We now have distribution not only throughout the continental U.S., but in more than 20 countries worldwide. Despite our growth, we still take great pride in our reputation of offering superior service, support, and product reliability regardless of customer size or location.

Headquartered in Hurricane West Virginia, Eagle Research Corporation® is right in the middle of the Appalachian Basin, one of the largest natural gas shale deposits in North America. We continue our commitment to our customers and the local economy by declining to outsource critical components and software development. We manufacture all circuit boards in-house with state-of-the-art Printed Circuit Board (PCB) manufacturing equipment. We also utilize the latest in surface mount PCB manufacturing techniques, environmental test chambers, and calibration equipment, as well as electrical surge and ESD testing standards to insure robust product reliability. We manufacture all products to the most stringent industry standards. All products are tested at every point of the manufacturing process, raising customer confidence to a new level.

Product performance, design, and manufacturing reliability allow us to give the industries' longest warranty of 4-years. Complementary IoT devices such as cellular, satellite and radio add to the versatility and adaptability of our products. Field Manager™ software, offered as a free download to users, allows field set-up, data collection, charting, and calibration of the entire product line with a single piece of software.

Eagle Research Corporation® has an extensive staff of electrical, software, and mechanical engineers who develop in-house hardware and software solutions for our customers. We are constantly researching and developing innovative products to meet customer and industry demands. Our experienced sales staff, applications engineers, and field service technicians, can provide a full service one-stop experience from project concept and design to turn-key installation and start-up. The "Field to Front Office" approach brings data from the most remote locations straight to you.

Upstream - Exploration & Production



Products

- RTUs
- Flow Computers
 - Orifice
 - Coriolis
 - V-Cone

Applications

- Measurement
- Well Pad Automation
- Tank Fluid Level Monitoring
- Emergency Shut Down
- Artificial Lift
- Compressor Monitoring

Midstream - Pipeline, Gathering, & Storage



Products

- RTUs
- Flow Computers
 - Ultrasonic
 - Turbine
 - Rotary
 - Coriolis
 - V-Cone

Applications

- Measurement
- Flow and Pressure Control
- Valve Automation
- Data Recording
- Injection/Withdrawal Monitoring and Control

Downstream - Distribution, Commercial & Industrial



Products

- RTUs
- Volume Correctors
- Pressure Recorders
- Accumulators
 - Fixed Factor
 - Volumetric Pulse
- Cathodic Protection Monitoring
 - Rectifier
 - Test Points
- Transfer Prover

Applications

- Measurement and Control
- Commercial and Industrial
- Line Break and Isolation
- Gate Station Automation

Data Collection - Software & Communications



Products

- Field Manager™
- Talon™ Family
 - Lite
 - SCE
 - Enterprise
- SCADA Solutions
- Web Data Solutions

Communications

- Analog Phone
- Radio
- Cellular Ethernet
- Satellite
- Wired Ethernet



- Volume Correction
 - Index Mount for Instrument Drives
 - Pole/Wall Mount for Meters with Pulse Output Capability, or when using a Remote Pulsar
- Time Stamped and Archived Historical Records
- Analog or Pulse Output Signal to Odorizers
- Auto Adjust Algorithm Built-in
- User Configurable Alarming
- Pre-Configured for MODBUS Polling of Ultrasonic Meters and Gas Chromatographs
- Various Built in Control Methods
 - PID
 - Flow and Pressure Control with Overrides
- Various Communications Options

● Cellular Ethernet	● Satellite
● Analog Phone	● USB
● Radio	● Serial
● Wired Ethernet	

“The process of measuring uncorrected gas volume and applying pressure and temperature correction along with supercompressibility.”

The EFC Volume Corrector uses the innovative E-Series® processor board to take an uncorrected pulse input, pressure, and temperature information to provide corrected gas volume and flow rate. The reversible design of the Composite Vertical Index (CVI) allows selection of either clockwise or counter-clockwise meter rotation. The CVI is also available in a bidirectional version.

The EFC includes an internal pressure transducer, integral RTD temperature probe, and external display in the standard product offering. It can be interfaced to a wide variety of communication devices such as radio, cellular, and satellite modems.



HIGHLIGHTS

- Measurement Based on AGA & API standards
- Universal Meter Mounting Plate
- Unidirectional and Bidirectional Flow Accumulation
- Live Pressure and Temperature
- Multi Meter Run Capable
- Battery, Solar, and UPS Options
- Live, Min/Max, and Historical Archiving
- Flexible Configuration and Ease of Operation
- Simple Start-up for Fast ROI (Return on Investment)
- Support for the Following Communications Protocols
 - ERC HexASCII (Native)
 - MODBUS RTU
 - MODBUS ASCII
 - MODBUS TCP

APPLICATIONS

- Custody Transfer Integrity
- Commercial and Industrial Metering
- Flow, Pressure, and Run Sequencing Control
- Complete Gate Station Automation
- System Alarming for Pressure, Flow, Volume and More
- Fully Programmable Process Library Support
- Odorization



- Time Stamped and Archived Historical Records
 - Daily
 - Hourly
 - Minutely - 1, 2, 5, 10, 15, 30
 - Secondly - 1, 2, 5, 10, 15, 30, 60
- Configurable Sample Rates
- Various Communications Options
 - Cellular
 - Analog Phone
 - Radio
 - Satellite
- Wall and Pipe Mounting
- Solar, AC, Internal Alkaline or Lithium Power Solutions



“Allows for immediate response to pressure events when equipped with remote communications.”

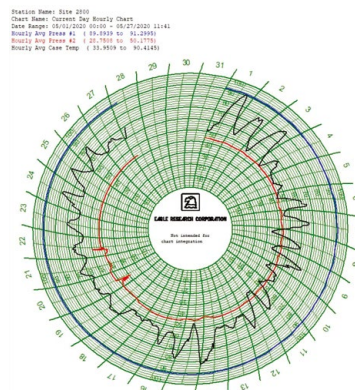
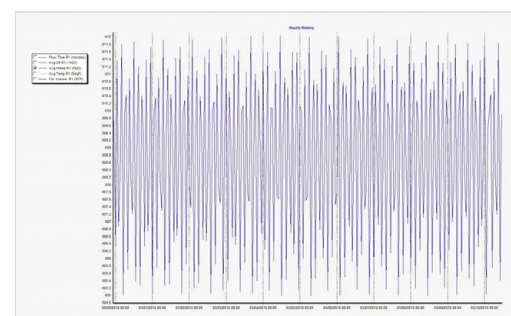
The E-Series® Electronic Pressure Recorder (EPR) provides real time pressure monitoring information using a simple configuration, yet has the flexibility for expansion (up to eight individual pressure measurements and two temperature measurements).

Communication options include Ethernet, USB, cellular, radio, and satellite for data acquisition, control, and alarming with call-out. A variety of power options, specifically designed for each application requirement, are available as well. Optional hardware peripherals such as analog output modules, serial ports, and various expansion boards can be selected to provide added capabilities.

Circular Chart Replacement

The E-Series® EPR is an excellent choice for replacing paper charts at regulator stations throughout your system. Historical archiving and trending using any of the Eagle Research software packages allows easy graphical viewing of pressure fluctuations at regulator stations and load analysis of the system used by engineering departments. Charts can be viewed in circular or linear formats.

Hourly History



HIGHLIGHTS

- Live Pressure and Temperature
- Multi-Pressure Capable
- Battery, Solar, and UPS Options
- Small Footprint for Easy Locating
- Live, Min/Max, and Historical Archiving
- Circular Charting
- Flexible Configuration and Ease of Operation
- Cross Platform Compatible and Programmable
- Support for the Following Communications Protocols
 - ERC HexASCII (Native)
 - MODBUS RTU
 - MODBUS ASCII
 - MODBUS TCP

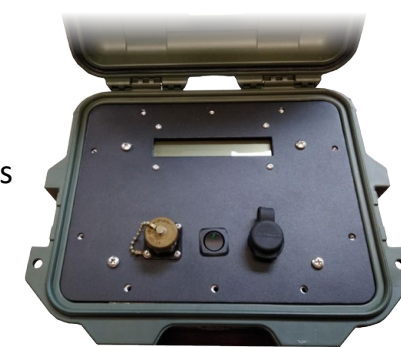
APPLICATIONS

- Regulator Station Monitoring
- Chart Replacement
- Pressure Control at Critical Points
- System End Point Monitoring for Load Studies
- System Alarming for Pressure, Temperature and More
- Automated Pressure Control from One Station to Another using the Talon™ Family of Software and Point Transfer Features

PORTABLE PRESSURE RECORDER

Eagle offers a Portable version of the EPR for pressure testing in the field. This allows temporary pressure measurement in locations of the gas system where permanent installations are not practical or required.

- Temporary Field Pressure Testing
- Capture Pressure Profiles for Studying System Spikes and Droops
- Case Color Options
 - Black
 - Olive Green
 - Yellow
- Graphing
 - Live and Historical Trending using any of ERC's Software Packages



The E-Series® EFM provides orifice flow measurement by integrating differential pressure, static pressure, and temperature, with adjustments for specific gravity and gas composition. The EFM offers a variety of multi-variable transmitters to accommodate user needs for unidirectional and bidirectional applications. AGA 3 and 5 capable, as well as AGA 8 (Detailed and Gross Methods I & II.) The integral multi-variable transmitter (MVT) provides for a compact package with direct or pole mount options.



Shown with Optional Keypad

ACCURACY

Flow Temperature RTD

- Range: -40 to 160°F, +/- 1°F)

Yokogawa EJX910A MVT

- Static Pressure (SP): 3600 PSIA
- Differential Pressure (DP): +/- 400" H2O
- Reference Accuracy: (SP) 0.1%, (DP) 0.04%

Note: Detailed specification Sheets available upon request

“Offering both the performance and stability required in the most rigorous environments for the measurement of gas flow for custody transfer, wellhead control, and monitoring.”

ACCURACY

Flow Temperature RTD

- Range: -40 to 160°F, +/- 1°F)

Honeywell MVX800 Series MVT

- Static Pressure (SP)
 - MXG870 (4500 PSIG)
 - MXA845 (1500 PSIA)
- Differential Pressure (DP): +/- 400" H2O
- Reference Accuracy: (SP) 0.0375%, (DP) 0.04%

Honeywell MVX700 Series MVT

- Static Pressure (SP):
 - MXA745 (1500 PSIA)
- Differential Pressure (DP): +/- 400" H2O
- Reference Accuracy: (SP) 0.0550%, (DP) 0.0525%



Note: Detailed specification Sheets available upon request

HIGHLIGHTS

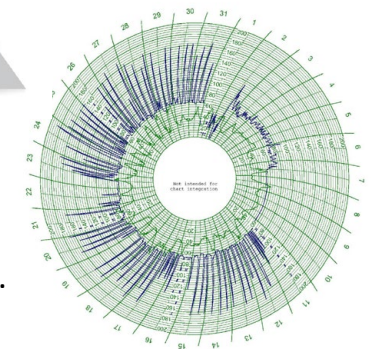
- Measurement Based on AGA & API standards
- Integrated Multi-Variable Transmitter (Unidirectional and Bidirectional Flow Ready)
- RTD for Temperature Measurement
- Absolute or Gauge Pressure
- Multi Meter Run Capable
- Connectivity to Gas Chromatograph and Moisture Analyzer Systems via Serial or Ethernet
- Flexible Configuration and Ease of Operation
- Programmable for a Wide Range of Applications
- Support for the Following Communications Protocols
 - ERC HexASCII (Native)
 - MODBUS RTU
 - MODBUS ASCII
 - MODBUS TCP

APPLICATIONS

- Custody Transfer Integrity
- Circular Chart Replacement
- Complete Well Pad Automation
 - Measurement
 - Emergency Shutdown
 - Flow Sequencing
 - Tank Fluid Levels
 - Safety and Compliance Alarming
- Plunger Lift
- Storage Well Automation

CIRCULAR CHARTING

The E-Series® EFM can be used for replacing paper charts on traditionally orifice meter runs. Circular charting (pictured at right) can be generated using Field Manager™ software.





- Valve Control
 - Flow and Pressure
 - Main Line
 - Isolation
- Run Switching Logic
- User Defined Logic
- Remote Telemetry
- Chromatograph Interface
- Odorizer Interface
- PID Control Ready

“Remote terminal units (RTU’s) provide measurement and control in the harshest environments. Expandable I/O and programmable functionality provide a total solution for small to large operations.”

The E-Series® Remote Terminal Unit (RTU) can be configured to serve as a drop-in replacement for existing units with controls, functions, hardware, and features chosen from our extensive list of options and our program library. Inside the RTU, the user will find the high-speed E-Series® processor Printed Circuit Board Assembly (PCBA) that can be used for an endless array of applications. Also available in panel and rack mounting formats, the RTU is delivered pre-configured and completely tested to insure quick error free start-up.



HIGHLIGHTS

- Fully Programmable
- Access to a Large Process Library and Pre-Configured Applications
- AGA Compliant
- Support for Multiple Meter Runs and Control Schemes on One Platform
- Available in Pre-wired Enclosures or Custom Panels
- Simple Start-up for Fast Return on Investment (ROI)
- Cross Platform Compatible
- Support for the Following Communications Protocols
 - ERC HexASCII (Native)
 - MODBUS RTU
 - MODBUS ASCII
 - MODBUS TCP

APPLICATIONS

- Complete Automation for All Industry Segments: Upstream, Downstream and Midstream
- Gate Station Automation
- Multi-Run Metering Stations
- Custody Transfer Points
- Compressor Stations
- Tank Fluid Levels
- Well Pad Automation
- Custom Applications



All E-Series® expansion modules come packaged for DIN rail mounting. All have pluggable terminal blocks to allow for easy wiring or change out.

ANALOG OUTPUT MODULE

The E-Series® Analog Output (E-AO) Module provides three two-wire, loop-powered, optically isolated outputs. The module interfaces with the E-Series® product line to provide 4-20mA outputs for flow rates, pressures, and numerous other process variables.

The E-AO can be added to the I²C serial expansion bus when multiple outputs are required.



- (3) Precision 12 Bit A/D, Isolated 4-20mA Outputs
- Switch Addressable
- Status LED indicates Health and Addressing
- Multiple E-AO Modules can be Added

ANALOG INPUT MODULE

The E-Series® Analog Input (E-AI) Module offers four additional analog inputs via I²C bus. These inputs can be configured for 4-20mA or 1-5VDC by simply adding or removing a dropping resistor. An external loop supply can be used.



- (4) Additional 16 Bit A/D Analog Inputs for Pressure, Temperature, Feedback from Controls, etc.
- All Inputs are Surge Protected
- Multiple E-AI Modules can be Added

EXPANSION SERIAL PORT MODULE

The E-Series® Expansion Serial Port (E-ESP) Module provides an additional serial port for the E-Series® processor. The module can be used as RS-232, RS-485 four wire, or RS-485 two wire with baud rates up to 115,200 bps. Up to four E-ESP modules can be added for additional serial ports.



- Extra Serial Port for the E-Series® Processor
- Serial Ports (RS232 / RS485)
- Baud Rates up to 115,200
- Up to (4) E-ESP Modules can be Added

SYSTEM PROTECTION MODULE

The System Protection Module (SPM) protects connected devices from external transients. This is done by providing a specific path for harmful currents to flow to earth ground when transient potentials exceed set maximum levels for power, signal, and communication lines. This bypasses sensitive electronic circuitry in the connected field device.

Available in

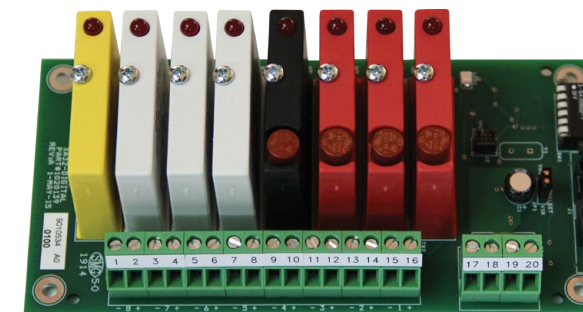
- 9010555 SPM 4 Channels, 8V
- 9010556 SPM 4 Channels, 35V
- 9010557 SPM 4 Channels, 200V



- Four Channel Protection in One Module
- Short Circuit Protection that Automatically Resets When the Short is Removed
- Four Stages of Protection: Inductance, High Energy Clamp, Fast Second-Stage Lower Energy Clamp, and Capacitance
- Pluggable Terminal Blocks for Easy Field Termination
- Multiple Versions are Available for Protecting High Speed Communications, Analog Inputs, Power and Phone Lines
- DIN Rail Mounted

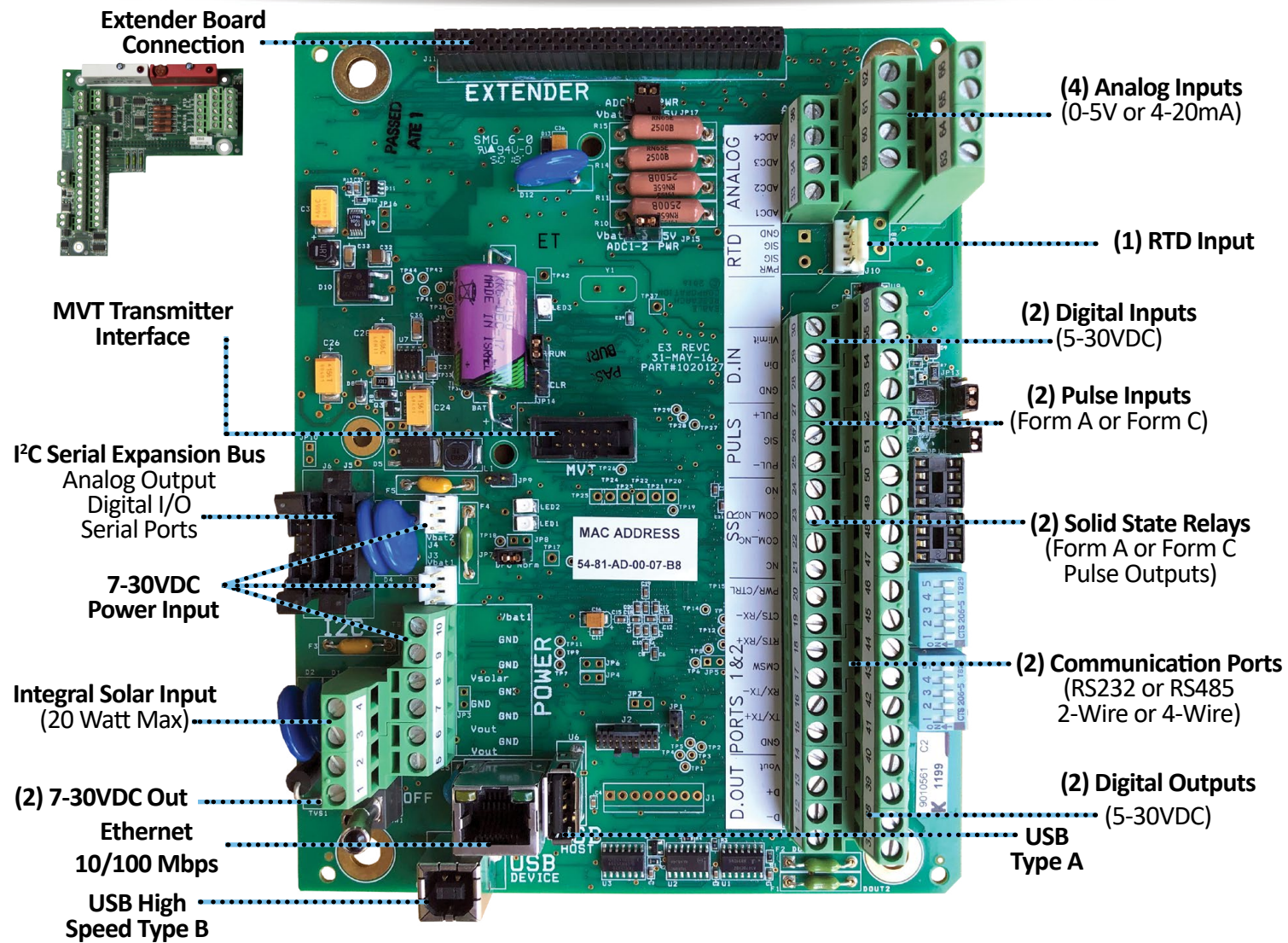
OPTO CARD

The E-Series® Digital I/O card provides up to 8 additional digital input or output channels that can be configured for any combination of DC Output, DC Input, AC Output, or AC Input. Each OPTO module slot contains an integrated status LED. Digital output modules come with a replaceable internal fuse. Each position can be configured by placing the desired module in the slot and performing a simple configuration change with software or a keypad, if installed.

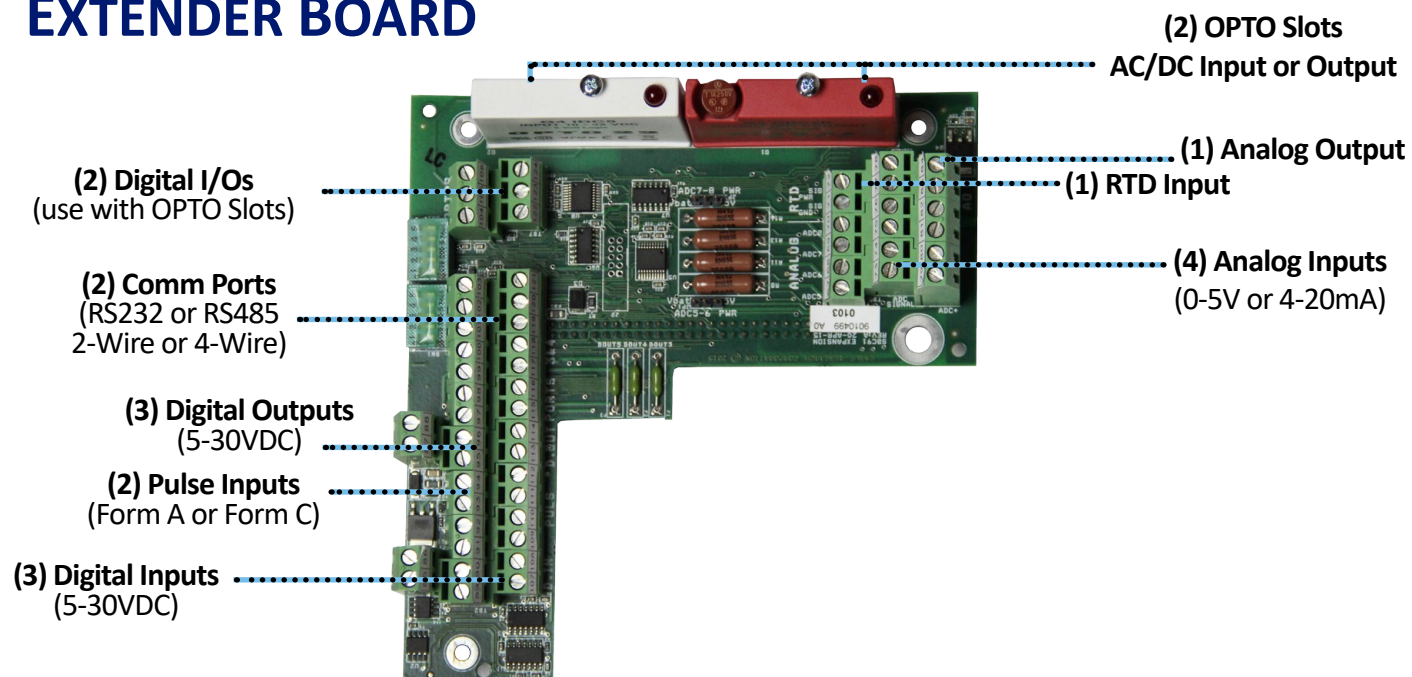


- (8) Slots/Positions
- OPTO Slots can Provide any Combination of Relay, DC Out, DC Input, AC Output, and AC Input
- Each OPTO Module Comes with a Built in Status LED
- Output OPTO Modules Come with a Replaceable Internal Fuse
- Cards are Addressable for Expanded Use
- Panel Mount
- Slim Package Design

E-SERIES® PROCESSOR BOARD



EXTENDER BOARD



TECHNICAL SPECIFICATIONS

Features

- Enclosure: Rugged, UV Resistant Polycarbonate, Hinged & Lockable
- Mounting: Pole, Wall
- Integrated Static Pressure Transducer(s) (PSIA or PSIG)
- Integrated Temperature Probe (Various Lengths)

Display Options

- Single Line Alphanumeric Static
- Four Line Alphanumeric, Scrolling
- Magnet Scroll or Optional Push Button

Operating Temperature

- -40°C to +70°C (-40°F to +160°F)

Power

- Input Power: 7 to 30 VDC
- Integrated Solar Charger: up to a 20W Panel

Performance

- Processor: ARM-Dual Core 32 Bit at 48 MHz
- SRAM Memory: 4MB
- SPI Flash Memory: 4MB
- Support for Months/Years of Data Storage, Dependent on Configuration
- A/D: 16-Bit Analog to Digital Conversion with Optional HART Signal Filtering
- Serial Speeds up to 921600 BPS (may be Limited by Field Hardware)

Accuracy (over -20 °F to 140 °F including linearity, hysteresis and repeatability)

- Pressure Measurement ±0.25% of Full Scale
- Temperature Measurement ±1.0°F
- Computation (At reference conditions) ±0.3% of Corrected Volume Reading
- Combined (Pressure, Temperature & Computation) ±0.42%

Long Term Stability

- Press. Measurement ±0.5% of Full Scale per Year
- Temp. Measurement ±0.5°F per Year
- Combined (Pressure, Temperature & Computation) ±0.36% per Year

Optional Higher Accuracy Versions Available

AVAILABLE INPUT & OUTPUT (I/O)

Available On-Board

- Optional USB Host & USB Device Ports
- Optional Ethernet Port (8 - Simultaneous Connections)
- (2) Serial Ports (RS232 / RS485) with On-Board Power Control for Communications Devices
- (4) Analog Inputs (4-20mA/1-5VDC) with optional HART filtering
- (1) RTD (Temperature Probe)
- (2) Form A / Form C Pulse Inputs
 - Select 3.3VDC or 24VDC Operation
 - High and Low Speed Selection
- (2) Form C Solid State Relays
- (2) Digital Outputs
- (2) Digital Inputs

Optional Expansion Modules

- Serial Port (RS232 / RS485) with On-Board Power Control for Comm Devices (9010552)
- 3 Channel Analog Output Module (9010551)
- 8 Channel Optically Isolated Digital I/O Module (9010534)

Communications & Data Collection

- USB & Serial Field Laptop Interface
- Ethernet TCP-IP (Supports Simultaneous Connects)
- Land Line Telecom Modem
- Cellular
- Satellite (LEO & GEO)
- Radio (Spread Spectrum & Licensed Frequency)
- AMI-AMR Interface Support
- Protocols: ERC-HexASCII (Native), MODBUS, & MODBUS TCP

OPTIONAL EXTENDER BOARD (9010499)

- (2) Serial Ports (RS232 / RS485)
- (4) Analog Inputs (4-20ma / 1-5VDC)
- (1) RTD (Temperature Probe)
- (2) Form A / Form C Pulse Input
 - High and Low Speed Operation
- (3) Digital Outputs
- (3) Digital Inputs
- (2) OPTO 22 G4 Package Slots
 - IAC, IDC, OAC, & ODC
- (1) Analog Output (4-20ma)

PROCESS CONCEPT

The process concept allows users to create, program, view and edit specific items in master loads ,otherwise known as a process database. A Process is a group of related data that is associated with a single, basic task, such as calculating gas corrected volumes or storing historical data. Almost all of the data that is required to perform a task is part of one process. A process is divided into Sections, with each section being subdivided into individual values referred to as Items. Items may be used to store real-time values, operation options, calculation results or other process variables.

The Process, Section, Item (PP-SS-II) format can be thought of as a three-dimensional spreadsheet with the terms Process, Section, and Item corresponding to Page, Column, and Row. Therefore, each item may be considered as a cell in a spreadsheet.

Looking at the example below, each tab in the spreadsheet represents a Process. The columns represent the different Sections within the process and the rows represents the different Items within each section. There is a maximum of 16 sections allowed in each process and a maximum of 16 items within each section. Note that some processes and sections will have fewer than 16.

A unique process type is used to distinguish each process in the library. Any combination or number of processes can be combined to provide virtually limitless programming possibilities on one single hardware platform. Pointers are used to fetch data from many processes to store as history for retrieval by a SCADA system.

SS	Section 01	Section 02	Section 03	Section 04	Section 05					
01	Location	1009.005	Frac Last Sample	-1	Process Status	70	AGA 8 Gross Err Flag	900	Pulser ptr PPSSI	40401
02	Process type	50	Last Supr Update Tim	37008	Flow Rate MCH	0	Last flow time	36787	Stat press ptr PPSSI	50304
03	Units Mode	0	Supr Update Interval	0	Energy Flow Rate	0	Spare	0	Temp ptr PPSSI	20308
04	Enable 1=Enabl 0=Dis	1	Last C' Update Time	37008	Pressure PSI	70	Energy flow Acc Mult	10	Spec grav ptr PPSSI	50307
05	Password	*****	C' Update Interval	0	Flow Temp DEG	71.4365234	Base Pressure		Base Pressure	14.7299995
06			Corr Pul#1 Addr.Chan	1.1000002	Uncorr Flow rate	0	Base Temp DEG		Base Temp DEG	60
07			Flow Rate Calc Mode	1	Specific gravity	0.60000002	Meter Correction Fac		Meter Correction Fac	1
08			Out Cubic Unit/Pulse	1000	BTU Content	1000	Corr Flow Acc Mult.		Corr Flow Acc Mult.	1000
09			Low Pulse Output Acc	0	Corr Pul#2 Addr.Chan	0	Atmos Pressure		Atmos Pressure	14.3999996
10			UnCor Flow Acc Mult.	1000	Analog Input Config	0	% CO2		% CO2	0
11					Flowing Time Minutes	11.1333332	% N2		% N2	0
12							% O2		% O2	0
13							Pounds H2O		Pounds H2O	0
14							BTU Override		BTU Override	1000

Master Database List

Individual Process

Tab Process Representation

Extensive Process Library in Talon Lite

"Pointers" Move Process Variables

CUSTOM PANELS

Recognizing that the needs of our customers may sometimes require more than our standard product offerings, UL certified panels are available to be designed to aide in meeting those needs. We work with the customer from conception, through design, installation and start up, to insure that all requirements are met. Flexible RTU programming using the process database concept of configuration can address even the most sophisticated applications. Use of the expanded architecture of the XA32/5™ or E-Series® processor platforms provides the ability to terminate numerous analog and digital I/O points in a single location for processing. The keypad and display allow the customer to easily and quickly modify set-points and much more, locally at the RTU.



Optional Redundancy Available



Monitoring and control of various systems can require interfacing with a wide variety of equipment and ancillary systems. A properly designed panel such as the one pictured to the left provides an interface for multiple types of on-site equipment such as pumps, motors, valves and more. Human/Machine Interface (HMI) Screens allow the user to configure and operate local equipment as well as depicting the processes in operation. Remote communications using a wide variety of media such as telephone, cellular, radio, and satellite, can be designed into the enclosure for remote monitoring and control of the site. Programming the RTU, Eagle Research makes use of the highly customizable process programming concept. Drawing from a library of 90+ individual process modules, almost any measurement or control application can be configured. Customized View/Configure screens can be built that permit operators to tailor information and alarm events to suit specific needs using the Talon™ Family of software solutions.



Making use of the E-Series® and XA32/5™ processors offers customers a solid, reliable and proven hardware platform to develop applications.

HIGHLIGHTS

- Ultra-Low-Power processor for extended battery life of up to 10 years. *Life based on configuration
- Four (4) total pressure transducer(s) (2 High-Accuracy Digital and 2 Analog strain gauge)
- Optional Low-Power cellular modem or other IoT connectivity
- Versatile IoT sockets for a future-proof design
- Fully process programmable
- Simple start-up for fast Return on Investment (ROI)
- AMI/AMR compatibility with equipment from industry leading manufacturers
- Measurement based on AGA and API standards
- Flexible mounting options: Instrument Drive, Wall Mount or Pole Mount
- Lightweight 6"x 6"x 5" outdoor rated polycarbonate enclosure with quick-release latches (Other sizes available up to 18"x 16"x 10" to accommodate a variety of options)
- Simple configuration using any Eagle software platform, which includes Field Manager, Talon Lite, Talon SCE, and Talon Enterprise.
- Support for ERC-HexASCII and all MODBUS protocols without adding additional hardware



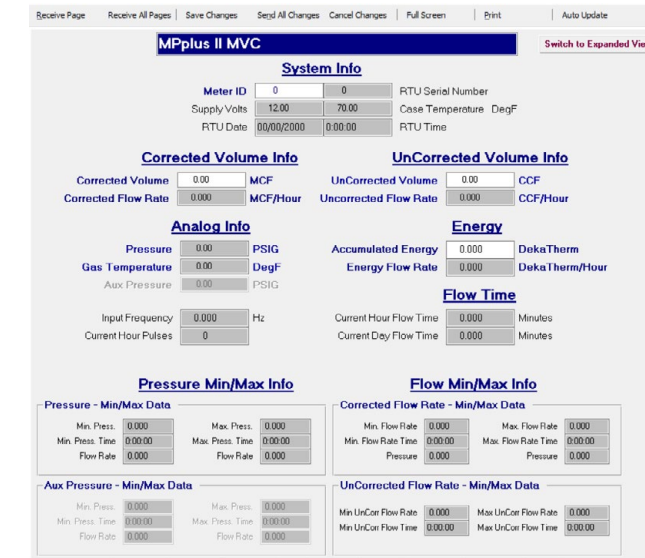
“Perfect solution for natural gas distribution companies who are looking for a compact, robust, and user-friendly corrector to accommodate their measurement needs.”

APPLICATIONS

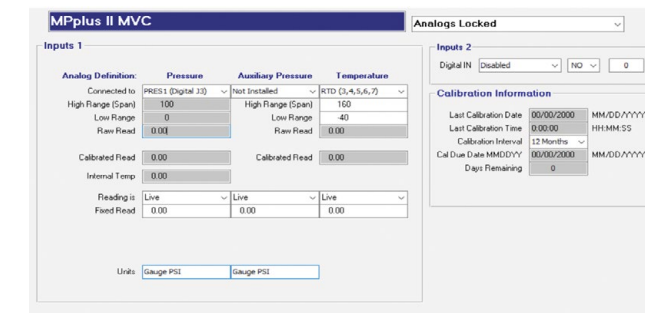
- Positive Displacement Meters
- Custody Transfer Integrity
- Commercial & Industrial Metering
- AMR/AMI Compatibility
- Volume/Pulse Accumulator Versions
- Ultrasonic Metering

INDEX OPTIONS

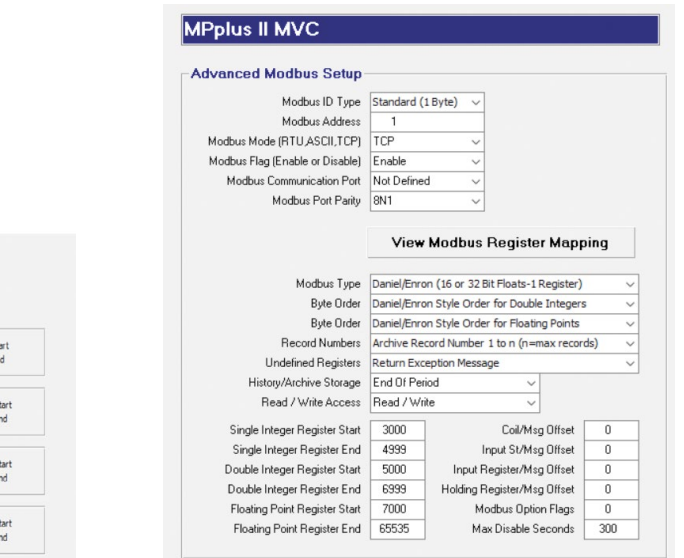
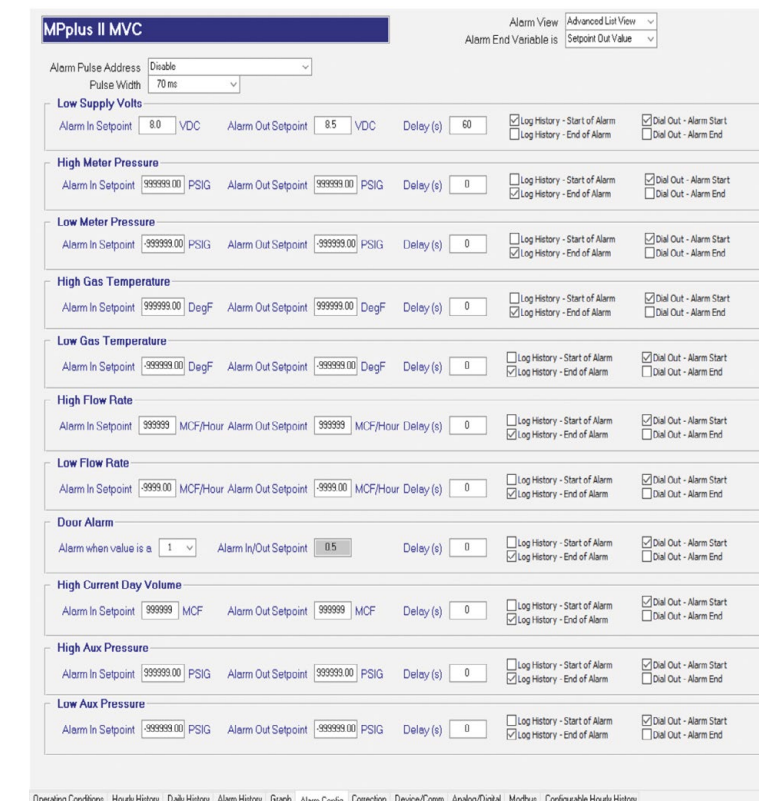
- Composite Vertical Index (CVI) for Meters with 10ft³ and Above Mechanical Drives
- Horizontal Cast Index for Meters with 5ft³ and Above Mechanical Drives
- Universal Mounting Plate for Turbine and Positive-Displacement Meters
- Available for Single or Bi-directional Meter Rotation
- Adaptable for Clockwise or Counterclockwise Drive Rotation



Operating Conditions (Standard View)



Operating Conditions (Expanded View)



HIGHLIGHTS

- Live, Min/Max, and Historical Archiving
- Ultra-Low-Power processor for extended battery life of up to 10 years. *Life based on configuration
- Four (4) total pressure transducer(s) (2 High-Accuracy Digital and 2 Analog strain gauge)
- Optional Low-Power cellular modem or other IoT connectivity
- Versatile IoT sockets for a future-proof design
- Simple start-up for fast ROI
- Circular Charting with Field Manager™ or Talon®
- Flexible mounting options: Pole or Wall Mount
- Lightweight 6"x 6"x 5" outdoor rated polycarbonate enclosure with quick-release latches (Other sizes available up to 18"x 16"x 10" to accommodate a variety of options)
- Support for ERC-HexASCII and all MODBUS protocols without adding additional hardware
- Fully programmable



“Pressure monitoring device with an ultra-low power processor and high accuracy digital transducer”

APPLICATIONS

- Mechanical Chart Replacement
- Regulator Station Monitoring
- System Alarming for Pressure and Temperature
- System End Point Monitoring for Load Study
- Capture Pressure Profiles for Studies of System Drops and Drooping

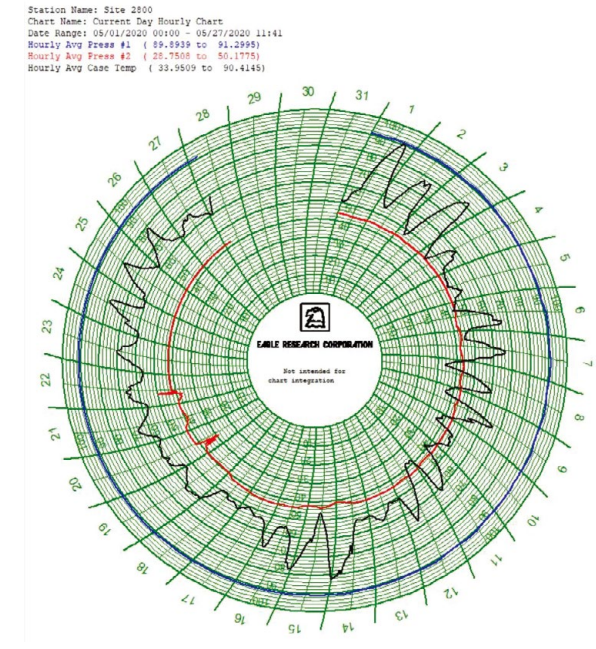
COMMUNICATION OPTIONS

- External USB
- RS232 or RS485
- LTE Cellular Modems
- M1 Network Cellular Modems
- BT Interface
- Zigbee Digi XBee Radio
- Iridium Satellite
- Analog Dial-Up Modem

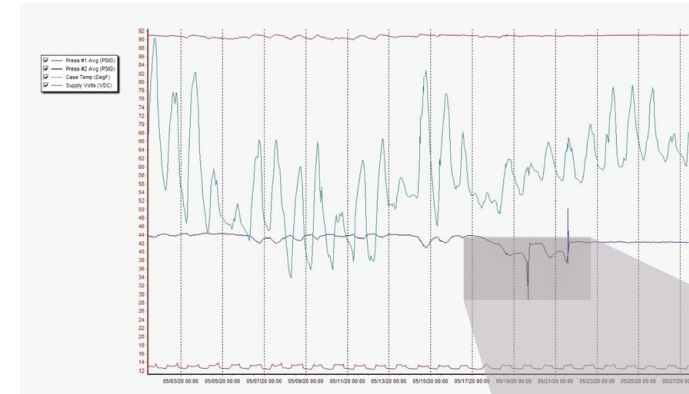
CIRCULAR CHARTING AND GRAPHING

CIRCULAR CHARTS

- Configure up to 10 Pens
- 20 Pen Colors Available
- Selectable Line Width
- Customizable Heading Text
- Quick Select Data Ranges



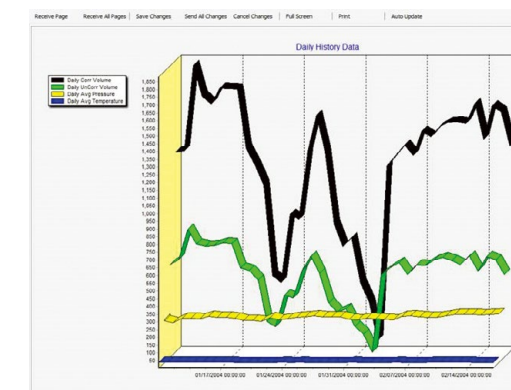
Circular Charting



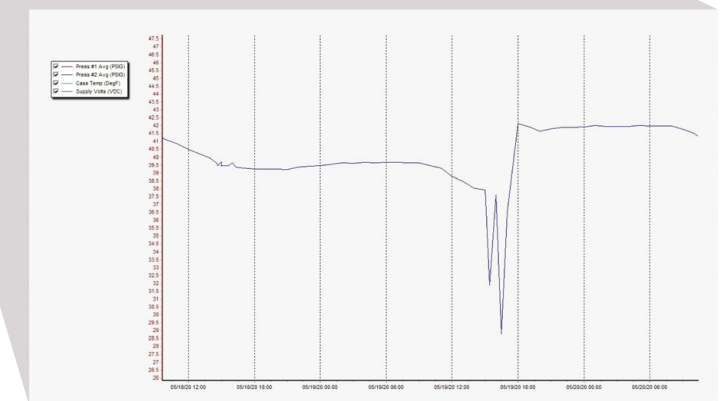
Linear Graph

LINEAR GRAPHS

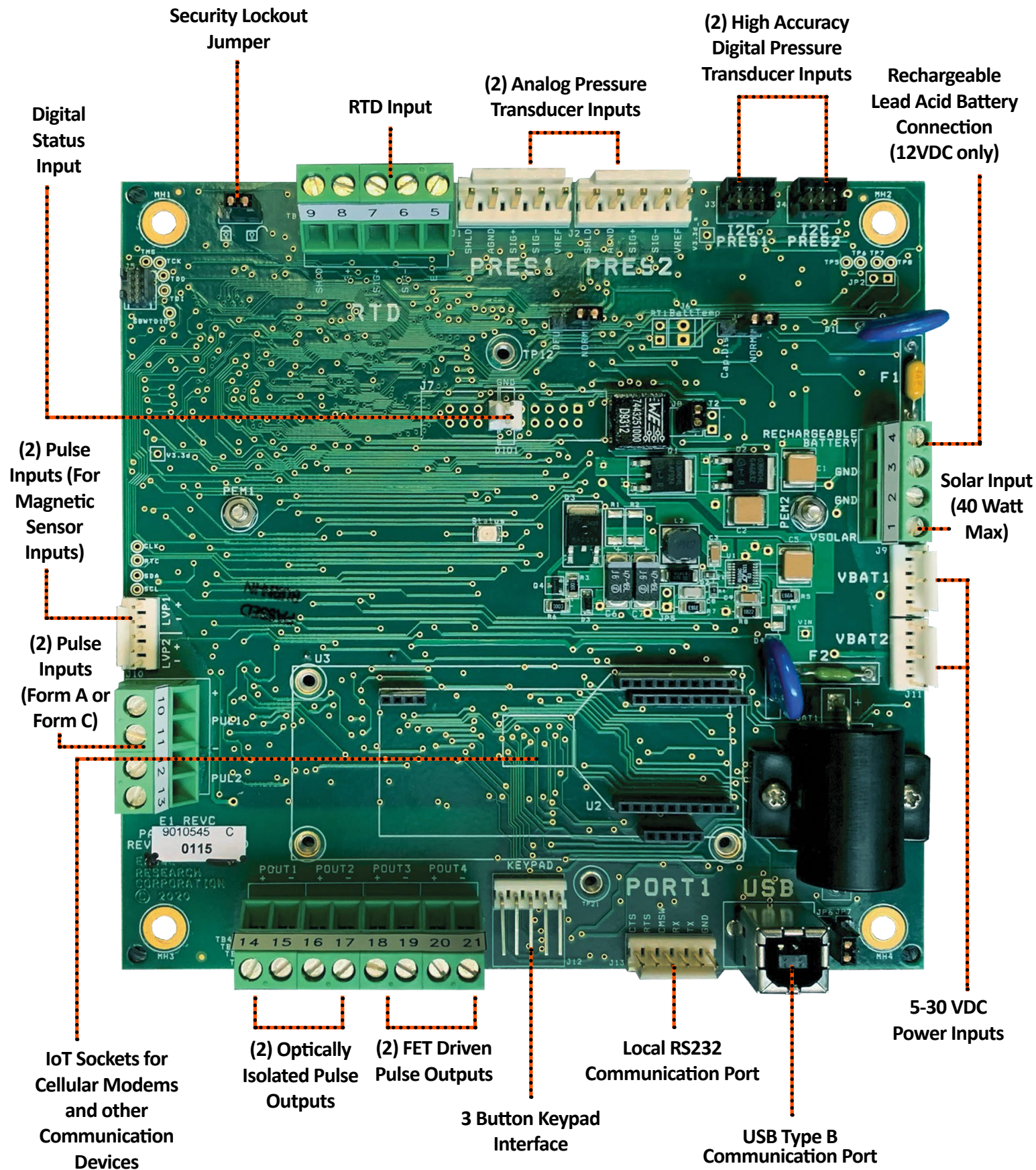
- Quick Select Legend
- Auto Scaling
- Easy Zoom



3D Linear Graph



Zoomed-in View of Pressure Drop



TECHNICAL SPECIFICATIONS

Performance

- Processor: Ultra-Low-Power Arm® Cortex®-M4 32-bit MCU with hardware floating point support
- SRAM Memory: 2MB, supports multiple months/years of Data Storage depending on configuration
- Flash Memory: 1MB, for Firmware Storage
- 16-Bit Analog to Digital converter

Available On-Board

- USB Device port
- (1) Serial port (RS232) for local communications or communication devices
- (1) Additional communications port for cellular modems or other communications devices
- (4) Pressure Inputs ((2) high-accuracy digital and (2) analog strain gauge)
- (1) RTD (Temperature Probe)
- (2) Form A / Form C pulse inputs
 - Software selectable high or low speed operation
- (4) Form A Pulse Outputs
 - Support for cut-wire alarm
- Maximum Power Point Tracking (MPPT) based solar charger supports up to a 40W solar panel

Ambient Humidity

- 0 to 95% non-condensing

Operating Temperature

- -40°C to +71.11°C (-40°F to +160°F)

Power Monitoring

- Supply voltage monitoring through A/D with configurable low supply voltage alarm

Backup Battery

- Replaceable 3.6 Volt lithium battery (with low voltage detection) to back up database, date/time and historical records when main power is removed

POWER OPTIONS

- Input power: 5 – 30 VDC
- Alkaline 6 “D” Cell battery pack
- Lithium 10.8V pack
- Rechargeable 12V Lead Acid for Solar Applications

ACCURACY SPECIFICATIONS

(Standard) High-Accuracy Digital Pressure Transducer:

- Accuracy over -40°F to 185°F (including linearity, hysteresis and repeatability)

Pressure Measurement	0.1% of full scale
Temperature Measurement	±0.5°F

■ Long Term Stability

- Pressure Measurement ±0.05% of full scale/year typical

(Optional) Strain Gauge Analog Transducer:

- Accuracy over -20°F to 140°F (including linearity, hysteresis and repeatability)

Pressure Measurement	0.25% of full scale
Temperature Measurement	±0.5°F

■ Long Term Stability

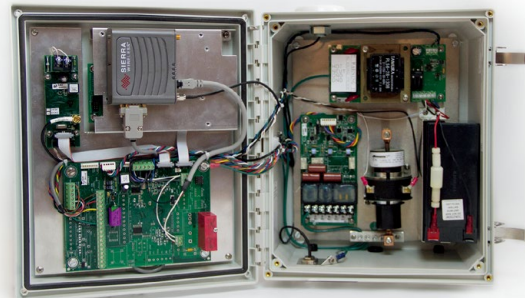
- Pressure Measurement ±0.5% of full scale/year

* Detailed specification sheet available on request

XARTU/1™ CATHODIC PROTECTION

The XARTU/1-CP™ is designed to provide pipeline operators with a complete range of functions for remote monitoring, data acquisition, and control of cathodic protection systems used on buried steel pipelines, including:

- Proper Operation of Pipeline Rectifiers
- Current (I) Information to Assist the Operator in Minimizing the Potential for Catastrophic Pipeline Failures
- Historical Information for Reporting Purposes that can be Used to Aid in Meeting the Requirements of 49 CFR Part 192 for Monitoring - Pipeline Potential, Current, AC/DC Voltages, and Critical Bonds
- Remote Communications via Telephone, Cellular (TCP/IP), Radio or Satellite
- Alarms with Real Time Call out with an Optional Communication Module
- GPS Rectifier Interruption
- Measure up to 6 Pipe to Soil Voltages
- Graphic Trending of Pipe to Soil Potentials to Help Identify Problem Areas



The XA™ Series Cathodic Protection Monitor provides for reliable monitoring and control of CP rectifiers and test points. The XARTU/1-CP™ greatly reduces time spent doing periodic checks of rectifiers by allowing remote monitoring of rectifier station voltage, rectifier current, pipe/structure-to-soil potentials and critical bonds. Monitor status is reported using any of today's wide variety of wireless methods of communications including LEO Satellite, Spread Spectrum Radio, CDMA, GPRS/GSM, and LTE Cellular. An optional on-board modem is available as well for land-line telephone service.

The XARTU/1-CP™ can be configured to call-in alarms and remotely interrupt CP units in a synchronized manner, eliminating the need for site visits. Control actions can be scheduled in the unit.

Interruption Relays Options

Eagle Research Corporation® provides options for normally closed cathodic interruption relays in either a mercury or solid state relay design.



Switching Relay Specifications:

- Load: 100 Amps AC at 120 Volts
- Load: 90 Amps AC at 208 Volts
- Load: 90 Amps AC at 240 Volts
- Load: 100 Amps DC at 1-48 Volts
- Load: 50 Amps DC at 120 volts



Solid State Specifications:

- Load: 90 Amps AC from 24-280 Volts

XARTU-TP™ TRANSFER PROVER



The Transfer Prover is a portable system designed to provide accurate field proving for rotary, turbine, and diaphragm meters. Its compact design allows the prover to be transported to field locations without the need for a dedicated vehicle or multi-person work crews.

The prover system's low power demand design allows testing and blower operation using a standard AC/DC inverter, as opposed to the need for a dedicated AC circuit or gas generator. Each prover is shipped from the factory with a traceable NIST (National Institute of Standards and Technology) test report from CEESI (Colorado Engineering Experiment Station Inc.) with the proof data values from the report already entered into the Prover.

Portable Proving System Package Includes:

- Prover Electronics XARTU-TP™
- Detachable High Frequency Pulser
- Master Meter
- Quick Connect Temperature Probe
- Quick Connect Pressure Tubing
- Remote Push Button for a Manual Pulse Option
- Blower with Quick Connect 10' Hose
- Rugged Pelican Case with Formed Foam Insert



User-friendly Features:

- Automatic and Manual Run Modes
- Weatherproof Menu Driven Keypad
- Easy to Read 4 Line Display
- Fully Supported in Field Manager™ Software
- No Computer Needed for Data Collection

Master Meter Models:

- Rotary Models 11C, 15C, 3M, 5M, 7M

Blower Specifications:

- Portable and Lightweight
- 110 VAC (Gas Models on Request)
- Net Weight with Hose - 21 lbs.

Prover Electronics XARTU-TP™ :

- Rugged - Weather Tight Enclosure
- Car Charger, AC/DC Charger and Battery
- Two (2) Temperature Inputs
- One (1) Pressure Inputs

Operating Modes Supported:

- Self Test
- Leak Test
- Proof Test
 - All Calculations for the Proof are Automatically Done by the XARTU-TP™

XAUPS - AC UNINTERRUPTIBLE POWER SUPPLY WITH COMMS OPTION



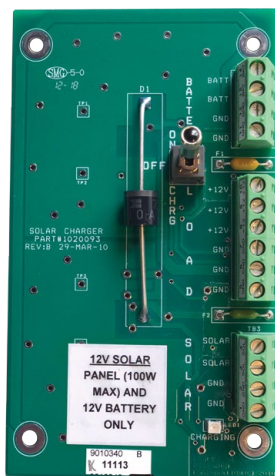
PWR60

- Input 120 VAC or 240 VAC, 50-60 Hz., 0.5 Amps, 60 W Max., Fused
- DC Output, 13.8VDC at 1.5 Amps
- Onboard Battery Charger, 1.8 Amps, Pulse Width Modulated, Voltage Limited
- Power Fail Status Analog Output Signal
- Low Battery Status Digital Output Signal
- Automatic DC Output Shutdown when Battery Voltage drops below 10.0 VDC
- Overcurrent and Surge Protection

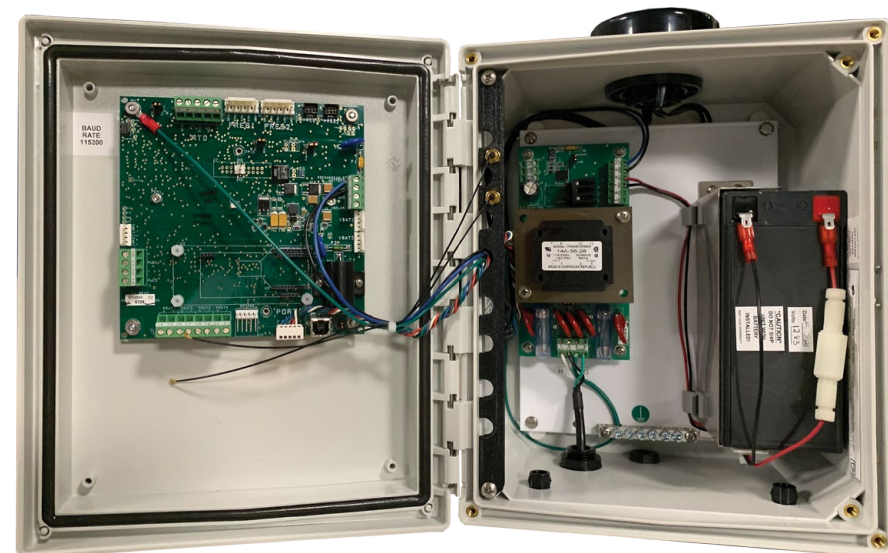


SPS - SOLAR POWER SUPPLY

- Input, 100 Watt Max Solar Panel
- Output Supplies an RTU rated at 2amps
- Onboard Battery Charger Rated at 6.5Amps Voltage Limited
- Overcurrent and Surge Protection

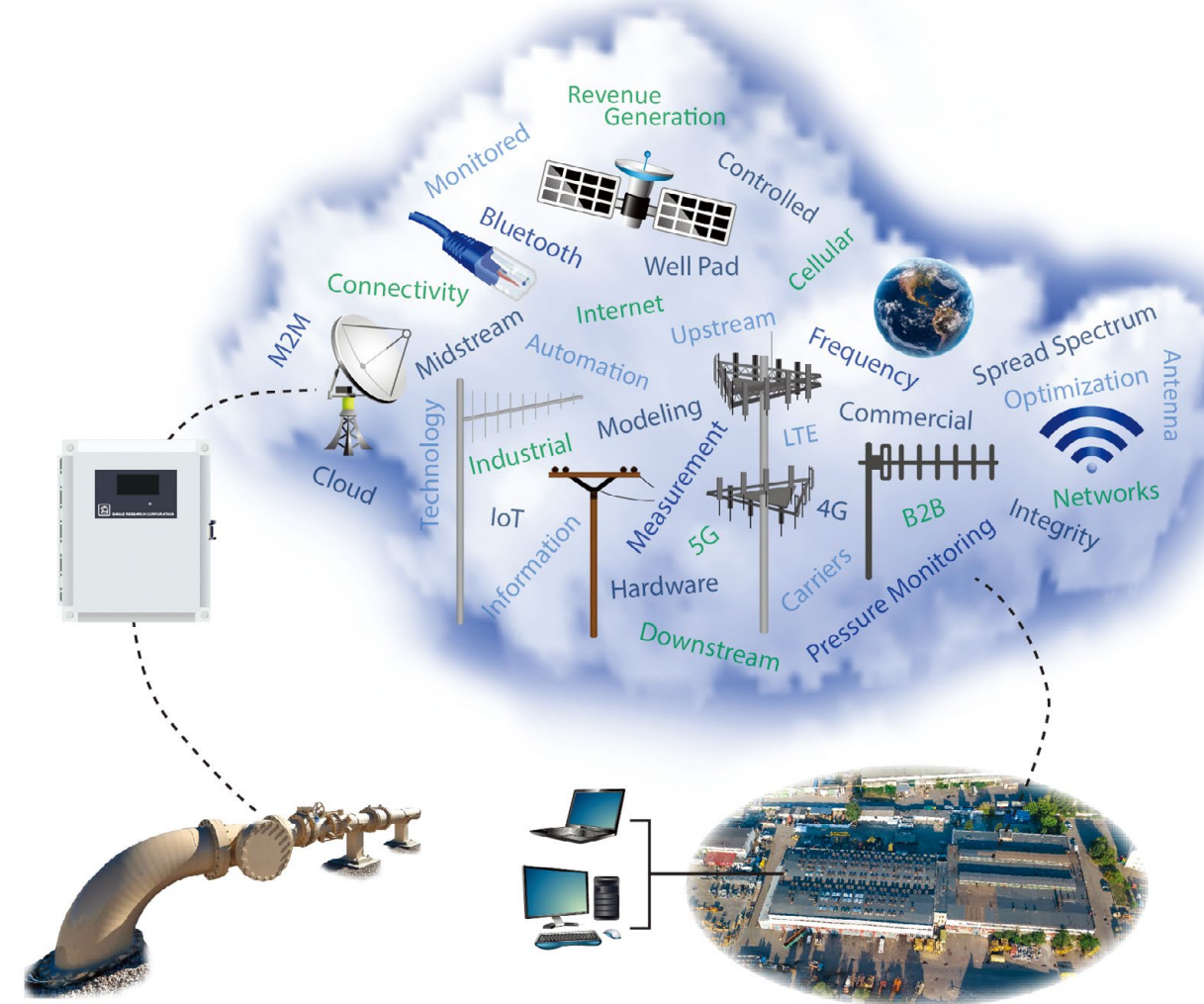


CHARGE CONTROLLER BOARD



The growth of the wireless communications industry has brought with it a corresponding level of increased complexity in choosing the most efficient and cost effective solution for transferring data from the field to the front office. Eagle Research serves as a value added resource to assist customers in determining what solutions are available, who the available carriers are, and what pricing structure to use for the communications type and frequency of polling required. All Eagle Research Corporation® products can be shipped wireless ready or with the customers selected wireless device pre-installed.

Many factors determine the choice of wireless communications infrastructure, e.g. frequency of data polling, Alarm call-outs from the RTU, required antenna choices, and site power requirements to name a few. We are available to assist our customers with all their needs and requirements to make the transition to wireless data as seamless and cost effective as possible.



Working with a knowledgeable partner, the operator has numerous options available to improve the bottom line by using tightly integrated TCP/IP and/or other communication methods. Eagle Research has had a big part in leading the transition of the natural gas industry to wireless communications. Eagle Research remains on the cutting edge of today's communications technology, filling the void for all industries served. We offer nearly every means of communications as an addition to our hardware platforms to better assist companies in selecting what is best suited for them.

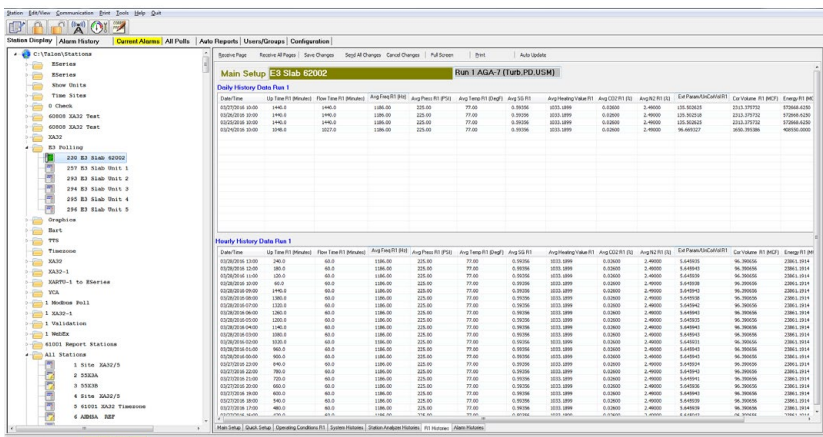
TALON™ SOFTWARE FAMILY

Whether the concern is natural gas distribution, gas pipeline transmission, or well head production, the Talon™ family of software products gives the users the ability to create a powerful scalable system that meets their specific needs. The flexible design of the software provides the option to purchase only those modules needed today, with the ability to expand the system by adding new modules for future growth.

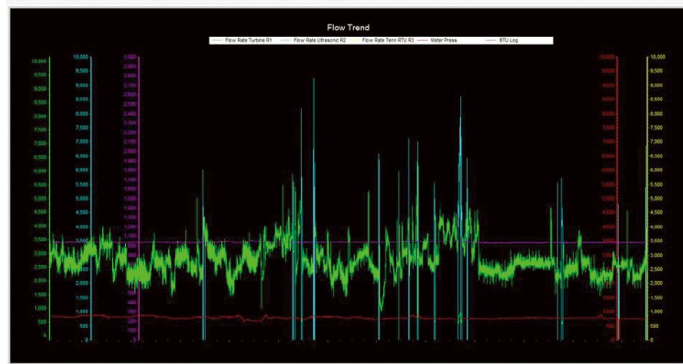
TALON LITE™

Talon Lite™ is a cost effective, scaled-down version of Talon SCE™, designed for use as a laptop programming tool or a small scale data collection system.

Station Tree (with Grouping and Labeling)



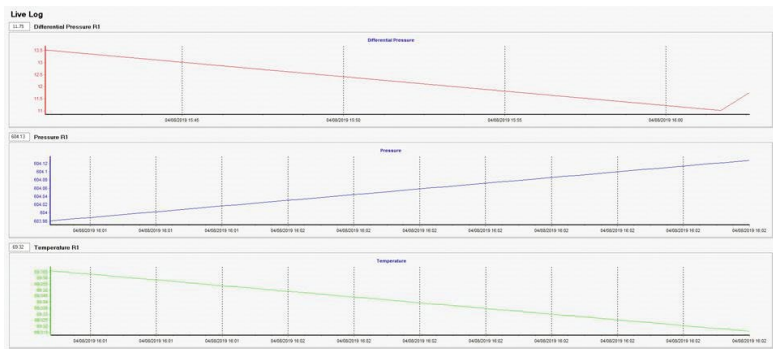
Archive Trending (with Zooming Capability)



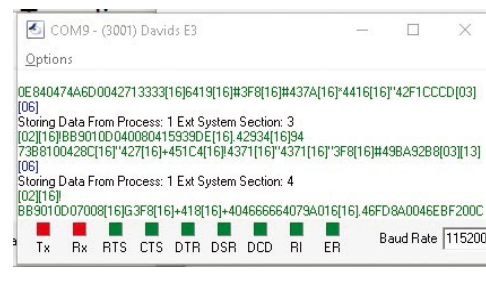
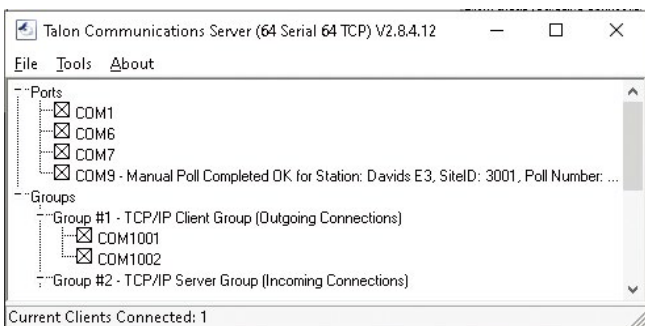
Task Scheduler (for Auto-Polling)

Site ID	Station Name	Port #	Poll Name	Port #	Next Time	Last Time	Last Status	Poll Interval
0954	Woods #1150	1	All History Poll	GRP2	03/28/2016 02:30:00PM	03/28/2016 01:43:10PM	Success	0d 1h 0m 0s
55	Chimney Rock Compressor	1	All History Poll	GRP1	03/28/2016 02:36:13PM	03/28/2016 02:31:00PM	Failed	0d 1h 0m 0s
9525	WVW C3 Discharge MTR	1	All History Poll	GRP2	03/28/2016 02:36:30PM	03/28/2016 02:32:00PM	Failed	0d 1h 0m 0s
4796	629	1	All History Poll	GRP2	03/28/2016 02:36:13PM	03/28/2016 02:36:00PM	Failed	0d 1h 0m 0s
9566	Golden Creek	1	All History Poll	GRP2	03/28/2016 02:37:25PM	03/28/2016 02:32:20PM	Failed	0d 1h 0m 0s
3080	Back Line DD-8 CO2 Truck	3	CH2DM	GRP2	03/28/2016 02:45:00PM	03/28/2016 02:30:52PM	Success	0d 1h 15m 0s
3079	DD-7A H2S Line	3	CH2DM	GRP2	03/28/2016 02:45:00PM	03/28/2016 02:31:54PM	Success	0d 1h 15m 0s
3078	DD-7 Front Line	3	CH2DM	GRP2	03/28/2016 02:45:00PM	03/28/2016 02:32:40PM	Success	0d 1h 15m 0s
9632	OPS #1	1	All History Poll	GRP2	03/28/2016 02:47:00PM	03/28/2016 02:32:43PM	Success	0d 1h 15m 0s
706	Waste Treatment	1	All History Poll	GRP1	03/28/2016 02:47:00PM	03/28/2016 02:32:50PM	Success	0d 1h 15m 0s
3250	Horseshoe #1	1	All History Poll	GRP2	03/28/2016 02:47:00PM	03/28/2016 02:32:50PM	Success	0d 1h 15m 0s
20	QF Compressor	1	All History Poll	GRP2	03/28/2016 02:58:00PM	03/28/2016 02:01:29PM	Success	0d 1h 0m 0s
3702	Boston Whaler	1	All History Poll	GRP1	03/28/2016 03:00:00PM	03/28/2016 11:01:16AM	Success	0d 4h 0m 0s
3703	Sage M8	1	All History Poll	GRP1	03/28/2016 03:00:00PM	03/28/2016 11:18:54AM	Success	0d 4h 0m 0s
3723	Hicksville	1	All History Poll	GRP1	03/28/2016 03:00:00PM	03/28/2016 11:24:40AM	Success	0d 4h 0m 0s
3703	S. Adams	1	All History Poll	GRP1	03/28/2016 03:00:00PM	03/28/2016 11:30:02AM	Failed	0d 4h 0m 0s
3005	Herkens #3	1	All History Poll	GRP2	03/28/2016 03:00:00PM	03/28/2016 02:00:20PM	Success	0d 1h 0m 0s
3006	Herkens Lumber #	1	All History Poll	GRP2	03/28/2016 03:00:00PM	03/28/2016 02:00:20PM	Success	0d 1h 0m 0s

Live Log Trending



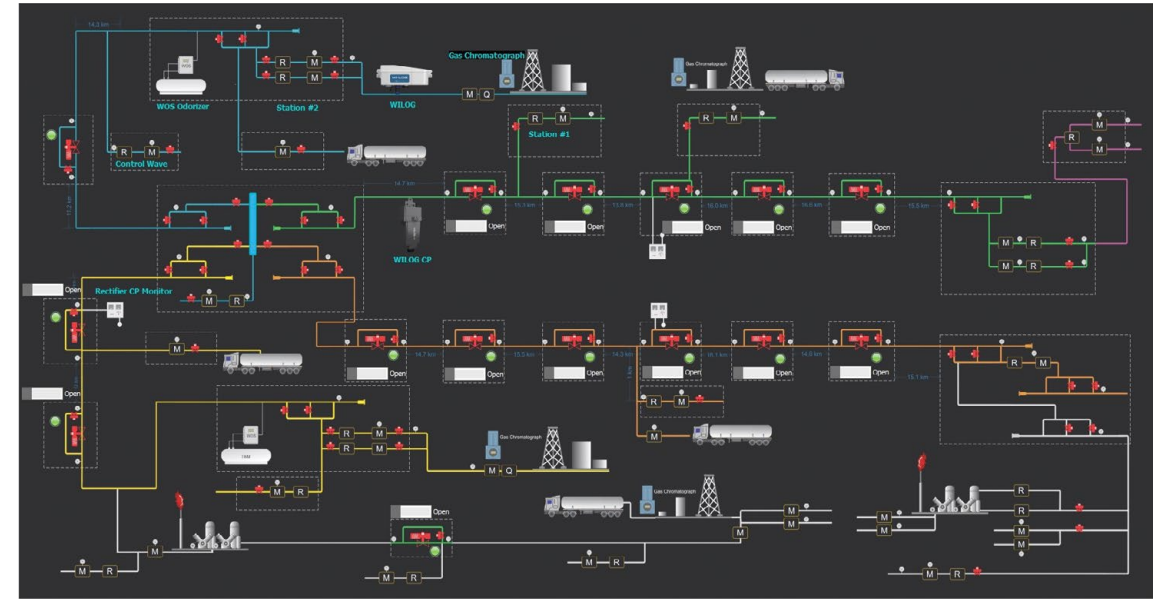
Communications Eavesdrop



- Process Programming
- Master Load Creation and Management
- SCADA and Data Collection System Supporting Both Serial and TCP/IP Ports (Incoming and Outgoing)
- Data Trending, Scheduling, and Auto Reporting
- Circular Charting Capability
- Edit Form Text and Graphics Editing

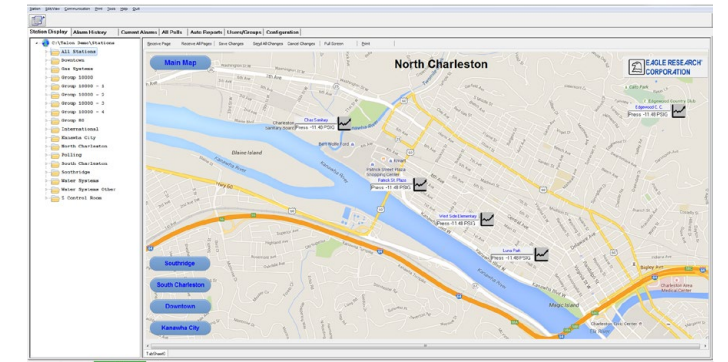
TALON SCE™ (SINGLE COMPUTER EDITION)

Talon SCE™ is designed to be a full function SCADA/Data collection system for companies not needing an enterprise-wide application, or as a compliment for use with currently deployed systems.

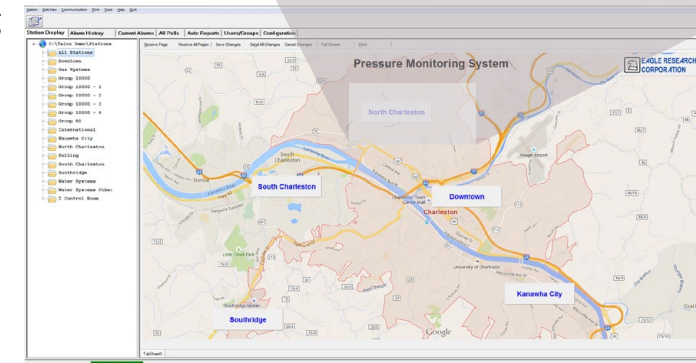


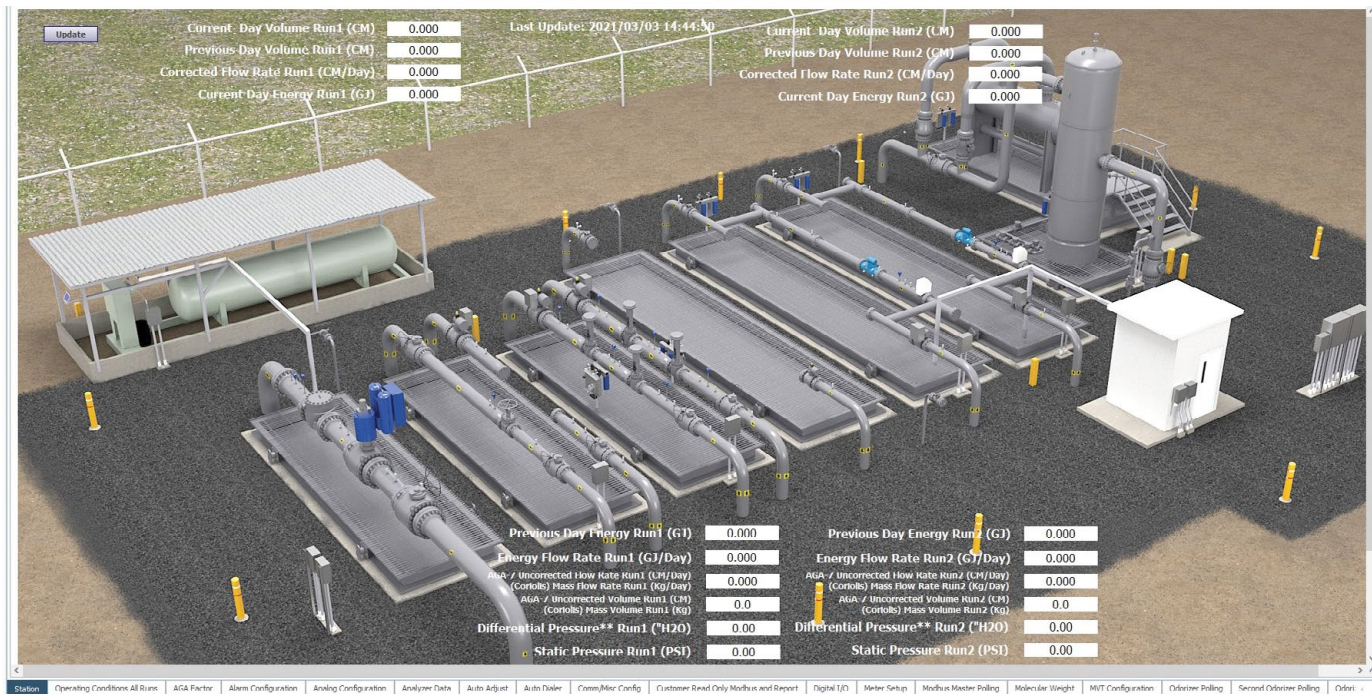
Station	Press	DJP	Mcid	Acum	Station	Press	DJP	Mcid	Acum
Station 31	320	30.0	1464	558	Station 9	320	30.0	1464	556
Station 32	320	30.0	1464	558	Station 12	320	30.0	1464	557
Sta 32-1	210	30.0	1464	556	Station 42	320	30.0	1464	558
Station 33	320	30.0	1464	558	Station 22	320	30.0	1464	557
Sta 33-1	200	0.0	0	0	Station 13	320	30.0	1464	557
Station 3	2	0.0	0	0	Sta 24-1	200	0.0	-14	200
Station 1	34	0.0	0	-14	Station 24	320	30.0	1464	557
Station 2	2	0.0	0	0	Station 25	320	30.0	1464	557
Station 4	320	30.0	1464	556	Sta 1-1	32453	RC 4*	200	
Sta 1-1	32453	RC 4*	200		Station 23	320	30.0	1464	557
Station 7	119	0.0	0	280	Station 39	320	30.0	1464	558
Station 47	0	0.0	0	0	Station 6	320	30.0	1464	556
					Station 16	320	30		
					Station 8	320	30.0	1464	556
					Station 10	320	30.0	1464	557
					Station 12	320	30.0	1464	557
					Station 17	320	30.0	1464	557
					Station 18	320	30.0	1464	557
					Sta 10-1	200	200		
					Station 7	320	30.0	1464	558
					Station 20	0	0.0	0	17650
					Station 34	320	30.0	1464	558
					Station 11	320	30.0	1464	557
					Sta 20-1	0	200		
					Station 86	320	30		
					Station 19	320	30.0	1464	557
					Station 21	320	30.0	1464	557
					Station 44	320	30.0	1464	558

HMI - Screen design using images, maps, and tables

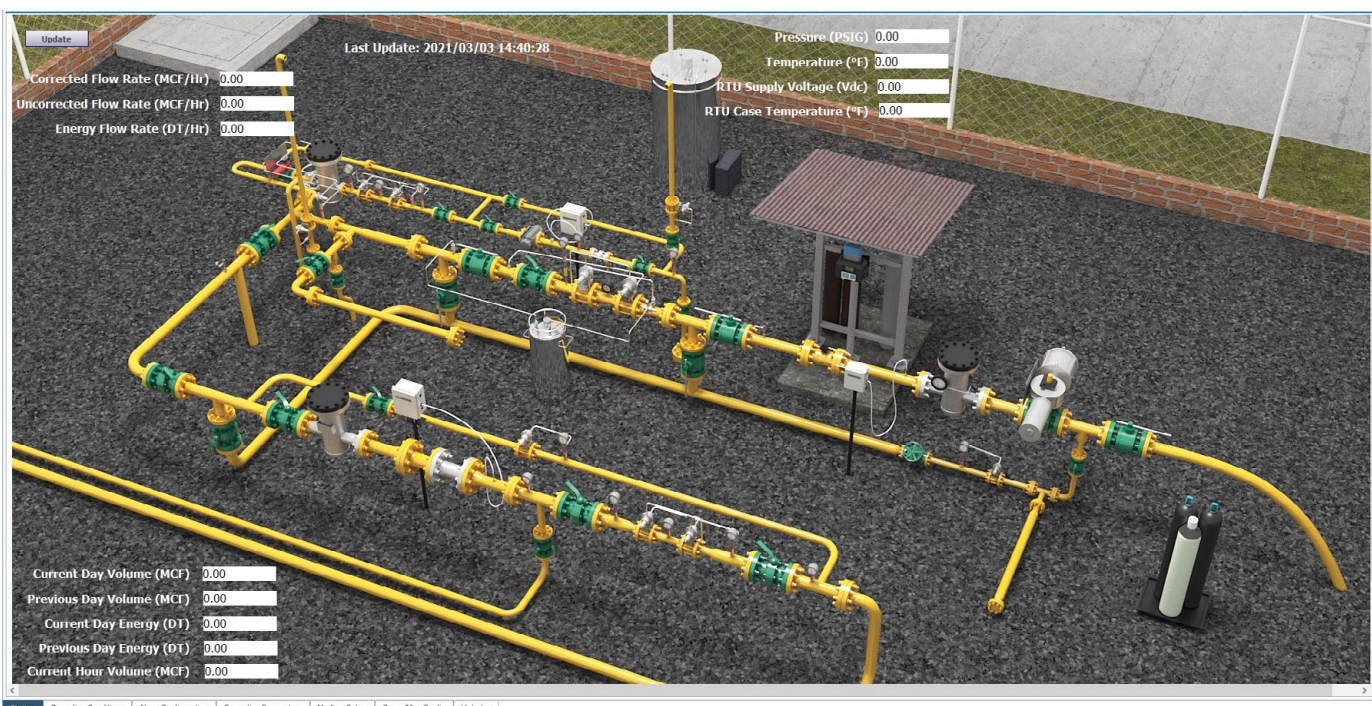


- Single Computer Edition
- SCADA and Data Collection System Supporting Both Serial and TCP/IP Ports (Incoming and Outgoing)
- Expandable for Future Polling Requirements
- Data Trending
- Automated Reports and Polling Scheduler
- Multi-Pen Historical Quick Trend Graphing
- Alarm Viewer
- Data Import Utility

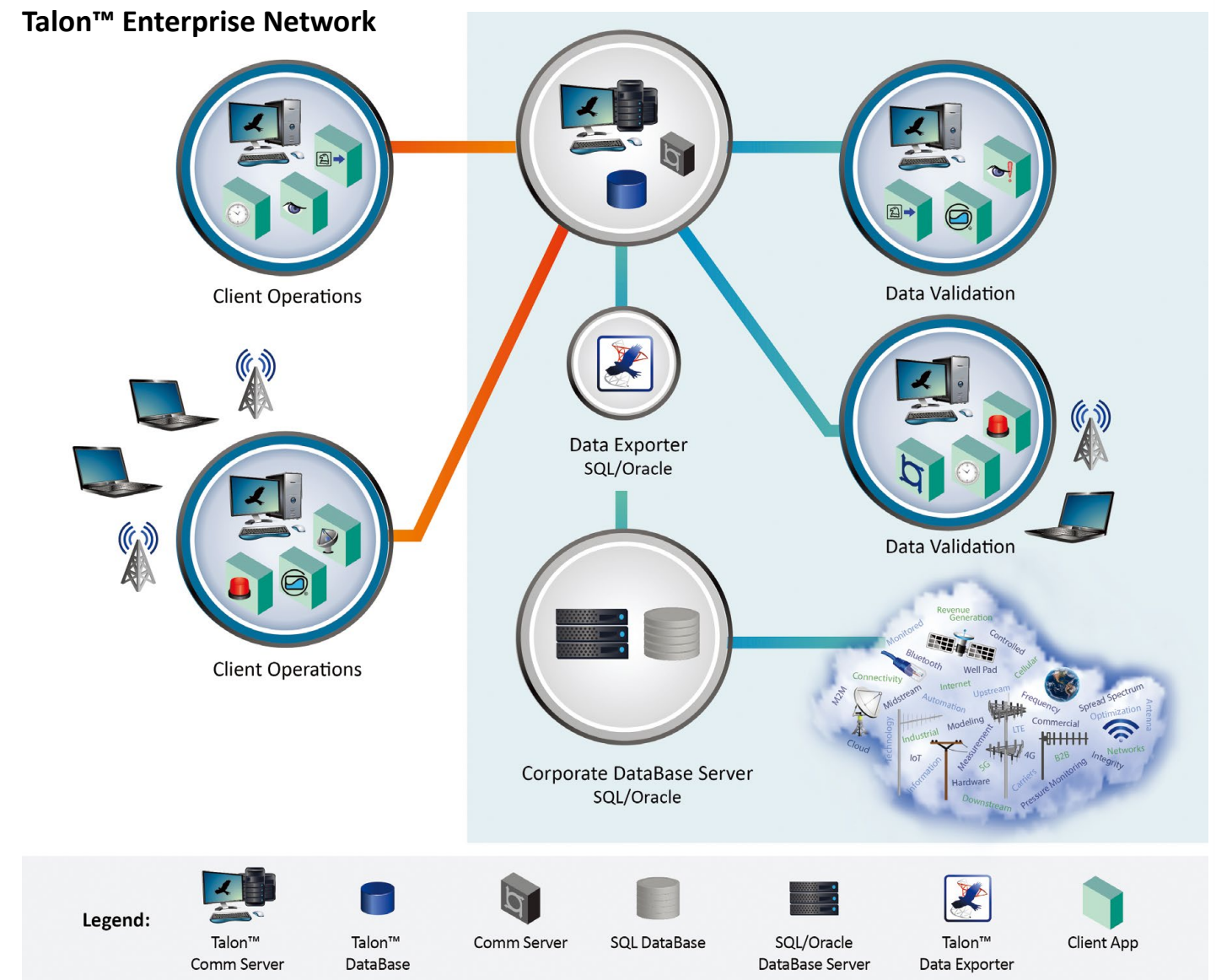




Talon Enterprise™ provides a company-wide server based network platform to perform the functions often segregated into separate SCADA and Electronic Measurement Systems. The Talon™ family of software gives the user the ability to create a powerful host platform that meets local and distributed data collection requirements. The modular and flexible service-oriented architecture offers the option to purchase only the specific modules needed, and the ability to expand the system with additional features by adding new modules as system requirements change. Software modules can be configured and deployed across a Wide Area Network (WAN) and Local Area Network (LAN) for central office and field operations. In the current energy industry environment, many company assets are scattered across state and international boundaries. Having the ability to distribute Talon Enterprise™ Client modules across the network infrastructure puts collection and management of the data closer to the source, resulting in improved overall system performance.



Talon™ Enterprise Network



SOFTWARE

Overview:

- Windows® Operating Systems: Server 2019, 2016, and 2012 R2; Windows® 8.1 and 10
- Multi-Level User Password Access
- Modular Design for Scalable Deployments
- Communications Server for COMMS Management
- Support for Single Server, Corporate, or Distributed Wide Area Network
- Multi-PC LAN Support Through Drive Mapping
- Client – Server Database Version
- Support for MS SQL® and Oracle®
- Base Components
 - Desktop Explorer, Scheduler, Reporting Tool and Auto Report Writing
 - Process Programming Support

Embedded Graphics:

- Add Graphic Objects to Create User Screens for Data Presentation
- Add Photos and Diagrams
- Information Grouping

No Limitations:

- Add Graphics, Live Data and ActiveX Controls to Provide Live Integration with Many Popular Platforms

Related Services:

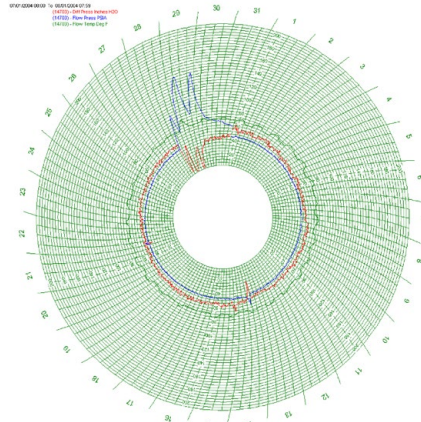
- Specification Development
- Custom Screen Design and Report Writing
- System Start-up
- Web Publishing
- Various Levels of Training

FIELD MANAGER™ v1 and v2

Field Manager™ is a Windows® based configuration application designed to support all of Eagle Research Corporation® field devices on one common platform. Field Manager™ provides an easy to use group of functions to assist the user in configuring the field device, gathering data, viewing alarms, and calibration. It also features a variety of other useful tools for troubleshooting. Communication with the field device is through Ethernet, USB, RS232 laptop cable, or using an optional wireless interface. A library of database configurations simplifies the identification of standard device types in the field. The software matches the field device to a corresponding device type automatically and displays the appropriate set-up forms for the user. Other features include circular charting and linear graphing. Eagle Research has designed a new Field Manager, Version 2.X.X.XX, (referred to as v2) and will keep the previous Field Manager, Version 1.X.X.XX available (referred to as v1).

Features & Benefits

- Auto Unit Identification
- Calibration Wizards
- Simple Historical Data Collection
- Direct, Dial-Up, or TCP/IP Based Connection
- Easy Tab Navigation
- Live Graphing on select process items
- Circular Chart Design
- Data Export Synchronization to the Talon™ Family
- Export Historical Records as Excel®, CSV, or Copy to Clipboard



Circular Charting v1 and v2

The Virtual Keypad provides the same access to field device operating and debug modes as the hardware keypad versions (built in and hand-held). It can be used to perform functions which are normally executed from the field device keypad. Debugging, Data Entry, History Viewing, Real-Time Monitoring of Values, etc.

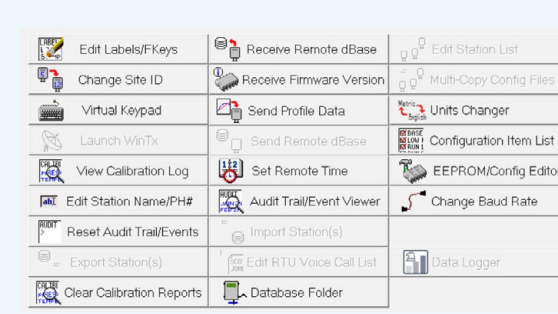


Virtual Keypad v2

Virtual Keypad Functions

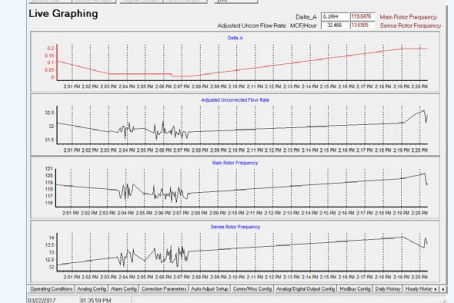
- Check and/or Clear Alarms
- Access Configuration, Calibration, and Debug Modes
- Access Different Labels Configured in the Field Device
- Work with System Passwords
- View the Firmware Version and Device Serial Number

FIELD MANAGER v1 GRAPHICS



Tools Menu

Tool Bar



Live Graphing with Zoom function

WEB DATA HOSTING

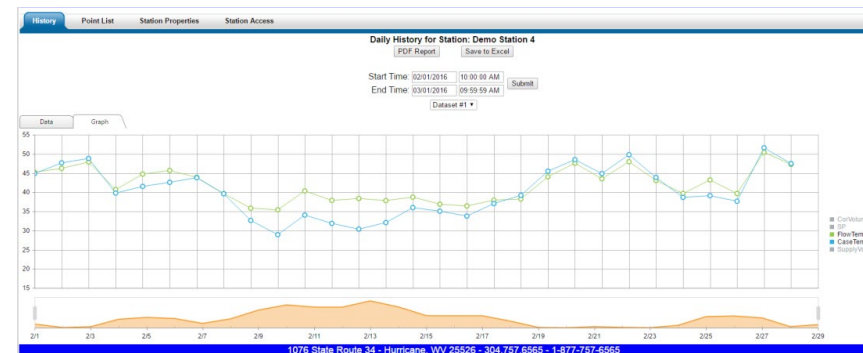
Web-based remote monitoring allows the user to collect critical information from their electronic flow measurement equipment without the need for local personnel, saving staffing and maintenance dollars. Eagle Research continues to provide the latest communications options at competitive prices. In addition to the many options available for data sharing, Eagle Research also provides a web data hosting website that allows subscribers to view their companies measurement and other operational data online from any computer or hand-held device.

Please contact your sales representative for more information. Follow the link below to see a Web Hosting demo. Log in information: **Username: demo** and **Password: demo**



<http://scada.eagleresearchcorp.com>

STATION NAME	LAST UPDATE TIME	CURRENT DAY VOLUME	PREV DAY VOLUME	DIFF. PRESSURE	PRESSURE	Temperature	VOLTAGE
Demo Station 11	Dataset #1: 10/28/19 11:57 AM				55.12	66	13.45
Demo Station 1	Dataset #2: 2/11/19 02:41 PM	89	63		62.99	46.77	9.03
Demo Station 2	Dataset #1: 2/11/19 02:24 PM	45	353	16.32	63.66	45.5	13.04
	Dataset #2: 2/11/19 02:24 PM	132	991		64.37	60	13.04
	Dataset #3: 2/11/19 02:25 PM	0	0		139.87	60	11.63
Demo Station 3	Dataset #1: 2/11/19 02:25 PM	0	43493.42		129.07	60	
	Dataset #2: 2/11/19 02:25 PM	0	0		10.12	54.38	



- **Graphing** - graphs the available data for the station of interest.
- **Zoom In/Out** - allows for zooming in to areas of specific interest.
- **Panning** - helps move around the data easily.
- **Automatic Scaling** - keeps the data of interest in an easy to read format for the evaluation of trends and relationships.

Typical Web Data is Updated Four Times a Day to Include:

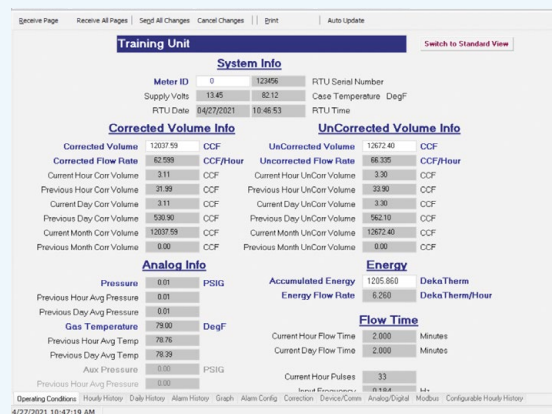
Instantaneous Values:

- Flow Rate
- Line Pressure
- Differential Pressure

Historical Values:

- Flow Rate
- Volume
- Average Pressure
- Average Temperature
- Instantaneous Voltage

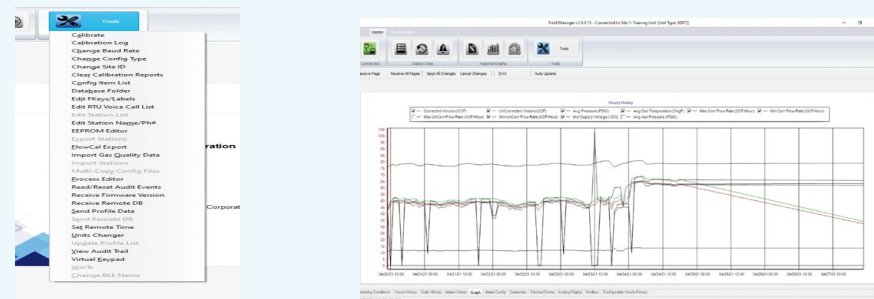
FIELD MANAGER v2 GRAPHICS



Edit Menu



Tool Bar



Live Graphing with Zoom function

Eagle Research Corporation® is meeting the needs of the water/wastewater industry by providing quality products and professional services. Eagle Research is uniquely positioned as a complete turn-key provider of SCADA solutions, and is widely recognized in the industry as a premier manufacturer of Remote Terminal Units (RTUs) and integrated telemetry systems.

Complete Automation From Field to Front Office

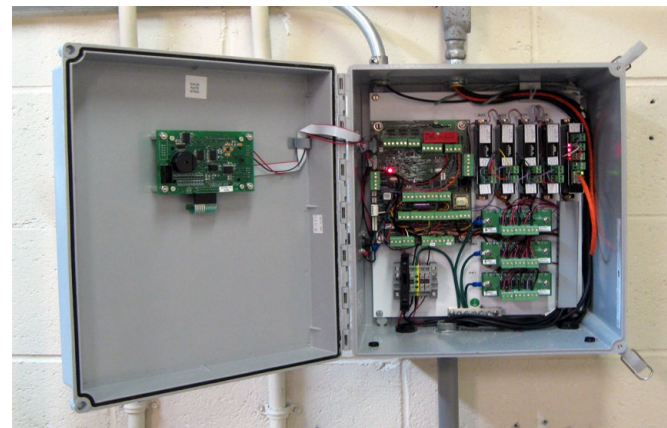


Wastewater Industry

- Lift Station RTU: Monitor and control up to 4 pumps for a lift station (with control panel)
- Retrofit - Lift Station RTU: Telemetry retrofit to existing lift station

Water Industry

- Tank RTU: Monitor up to 3 Tank Levels
- Booster Pump RTU: Monitor/Control up to 3 pumps with remote Tank level indications



Filter Controller

- Monitor/Control
- Filter Level
- Influent Valve
- Effluent Valve
- Surface Wash Valve
- Backwash Valve
- Filter-to-Water Valve
- Influent/Backwash Rate

Plant Automation RTUs

- Signal Interface
- Rate Controller
- Chemical Feed
- Raw Water Pump
- HS Pump

The Talon™ Family of software and hardware provides SCADA solutions for water plant automation, water distribution, and wastewater systems. The field RTU equipment for Tanks, Booster Pumps or Lift Stations consists of an Eagle processor, a keypad and display, as well as a power supply, a 12 to 24 volt DC to DC converter for transmitter power, battery, optical isolation modules for digital connections, surge protection, and communication equipment. The RTUs are available in polycarbonate or metal enclosures, depending on your application.

The Eagle RTU is an intelligent, compact, rugged, and reliable industrial computer designed for real-time remote data acquisition and control.

SERVICE & SUPPORT

At Eagle Research Corporation®, we take pride in our ability to offer superior customer service and support to our entire customer base regardless of size or location. Great care is taken from the initial design phase of a product, to final assembly and testing to insure dependability and a long life of field service. As a testament to the design reliability, all manufactured products are backed by a manufacturer's warranty of four years.

Our Service and Support departments are dedicated to providing the highest level of technical support to the customer in the field. Both are easily accessible via phone where you will be guided to the appropriate party or department by an actual operator. During normal business hours, call toll free at **1.877.757.6565**, or email us at the following addresses.

Technical Support: support@eagleresearchcorp.com
Return Material Authorization: rma@eagleresearchcorp.com

Our field Services group can perform installation, on-site service, calibration, and start-up, making your project completely turn-key when needed. Send Field Service Inquires to: fieldservices@eagleresearchcorp.com

CUSTOMER TRAINING

Regularly scheduled factory training is available on all our hardware and software products. Training is structured so that customers can attend sessions that are most relevant to their level of knowledge, training, and expertise. Depending on the number and knowledge level of the employees a customer needs trained, Eagle will provide customized modules tailored to their specific requirements. These can be taught at the customer's facility to minimize employee travel time and expense, or at the factory to get access to various team members and witness the manufacturing process first-hand, or virtual during the pandemic, and possibly after. Hands-on training is also available on a variety of field products such as the Transfer Prover. During training, students are provided the necessary manuals, hardware, cables and software needed to get a truly hands-on experience (during virtual training these items will be shipped to you if needed). Although a laptop computer can be provided, students are encouraged to bring their own to the training sessions, allowing exercises done during training to be saved for future reference. Sessions will typically last between two and three days when held at the Eagle Research facility. Staff engineers and support technicians regularly participate and present at the sessions, affording customers access to various levels of in-house expertise. Our staff would be pleased to work with any customer to address specific training needs. During the virtual sessions, a combination of prerecorded and live video presentations are used to provide customers unable to attend in person the best training possible.

For more information on our regular scheduled training or to schedule your own session, please visit www.eagleresearchcorp.com/services/training
Send Training Inquires to: training@eagleresearchcorp.com.

SAFETY & ENVIRONMENTAL COMPLIANCE

Our commitment to the customer includes the safety of our employees, whether at our location or on the customer's premises. A dedicated safety staff and membership in those organizations promoting strong health, safety, and environmental compliance, continue to show our dedication to our customers. These organizations include "ISNetworld" and "Team Alert" as well as our own internal "HSE" (Health, Safety and Environmental) programs. Eagle Research Corporation® also has many products certified by UL and CSA.



Large Selection of Natural Gas Applications

- Pressure & Flow Control
- Single and Multi-Run Measurement
- Linear and Differential Measurement
- Run Sequencing
- Compressor Control
- Plunger Lift Control
- Valve Control
- Storage Automation
- Odorization Control
- Data Loggers

To Name a Few...

Available Power Options

- Solar UPS with Battery Back-up
- AC/DC Power Systems with Battery Back-up
- Replaceable Alkaline Battery Pack
- Disposable Lithium Battery Pack

Sized by Application...

Upstream, Midstream, and Downstream

Flexible Communications Options

- Satellite
- Cellular
- Direct Wire Ethernet
- Unlicensed Radio
- Licensed Radio
- Telephone Modem
- Direct Wire Serial (RS232 and RS485)
- USB
- BT Interface

...Per Customer Needs

Data Collection & Presentation Methods

- Talon™ Software Family
- Field Manager™ Software
- Compatible with Many Other Industry Leading SCADA and Data Collection Packages

Defining Field to Front Office Solutions...

Eagle Research Corporation® is a manufacturer of quality Flow Computers, Volume Correctors, Pressure Recorders, Remote CP Rectifier Monitors, and RTUs for the natural gas industry. We offer integrated wireless solutions including cellular, satellite, and radio, in conjunction with our Talon™ Software Family for SCADA and Data Management. The Eagle Research Corporation® headquarters and manufacturing plant is located in Hurricane, West Virginia, with a factory representative network stretching across the US and International outlets worldwide.

Upstream



Midstream



Downstream



Distributed worldwide and proudly made in the U.S.A.

For more information, scan this QR code with your smartphone or visit our website at:
www.eagleresearchcorp.com