

# EAGLE RESEARCH CORPORATION®

## PRODUCT FAMILIES



*Field to Front Office Solutions™*

## 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 - Transportation, 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



### Products

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

- Telephone Modem
- Radio
- Cellular
- Satellite
- Ethernet

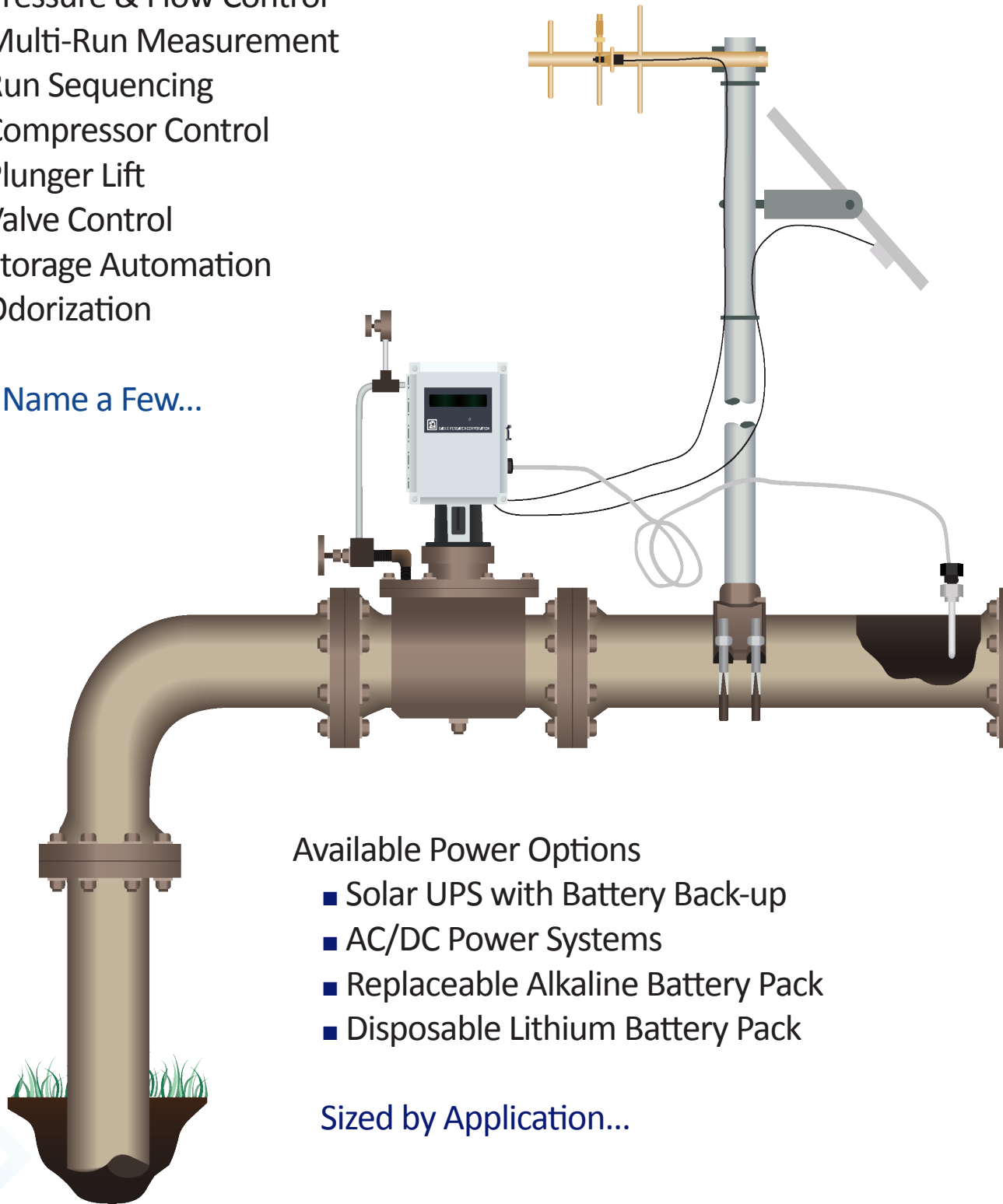


# REMOTE AUTOMATION SOLUTIONS

## Large Selection of Natural Gas Applications

- Pressure & Flow Control
- Multi-Run Measurement
- Run Sequencing
- Compressor Control
- Plunger Lift
- Valve Control
- Storage Automation
- Odorization

To Name a Few...

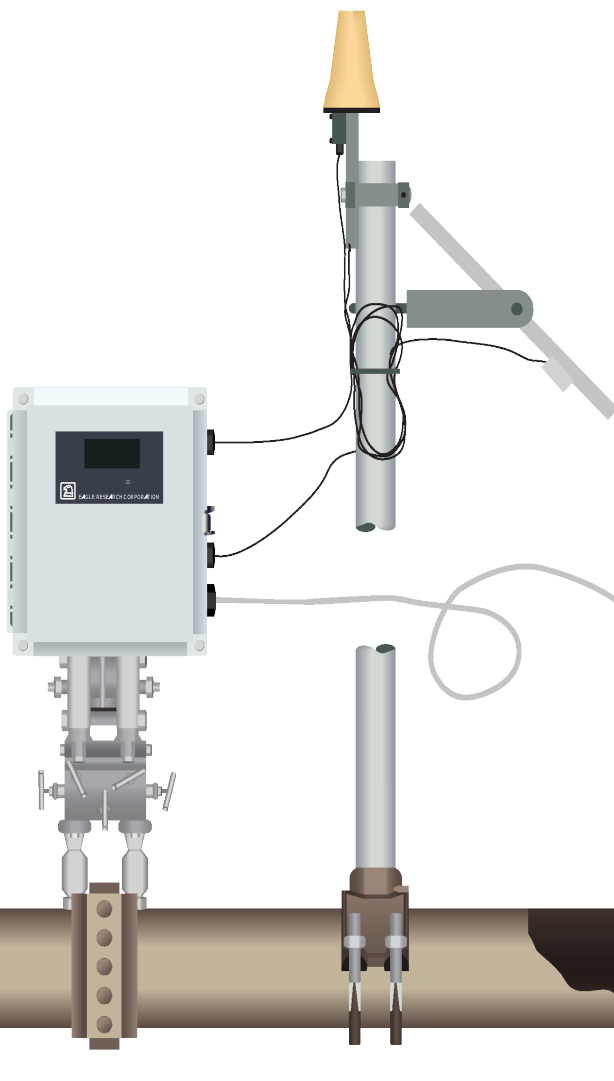


## Available Power Options

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

Sized by Application...

# Upstream, Midstream & Downstream



## Flexible Communications Options

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

...Per Customer Needs

## Data Collection & Presentation Methods

- Talon™ Software Family
- Field Manager™ Software
- Field Manager Plus™ Software
- Compatible with Many Other Industry Leading Host Packages

Defining Field to Front Office Solutions...



# ELECTRONIC FLOW CORRECTOR



The EFC-CVI Volume Corrector uses the innovative E-Series™ E3 processor board to take uncorrected pulse inputs, pressure, and temperature information to provide corrected gas volume. The reversible design of the Composite Vertical Index (CVI) allows selection of either CW or CCW meter rotations. The CVI is also available in bi-directional versions for reverse volume accumulation.

The EFC-CVI includes an internal pressure transducer, an integral RTD temperature probe and an 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

- Full AGA & API Compliance and Support
- Universal Meter Mounting Plate
- Uni and Bi-Directional 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 Serial and TCP

## APPLICATIONS

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

# ELECTRONIC PRESSURE RECORDER

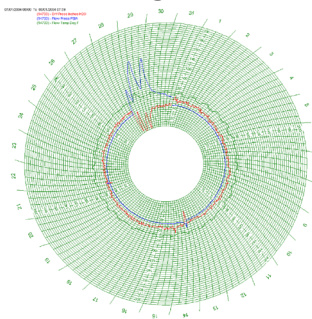
The EPR Pressure Recorder provides real time pressure monitoring information using a simple configuration, yet is driven by a fully functional RTU that has the flexibility for expansion - up to eight individual pressure measurements and two temperature measurements.

Communication options include Ethernet, USB, cellular, radio, and satellite for data acquisition, control, and alarms. A variety of power options, specifically designed to application requirements, are available as well. Optional hardware peripherals such as isolated analog output modules, serial ports, and various expansion boards can be selected to provide more capabilities.



## 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 with Field Manager Plus™



- Flexible Configuration and Ease of Operation
- Cross Platform Compatible and Programmable
- Support for the Following Communications Protocols
  - ERC HexASCII (Native)
  - MODBUS Serial and TCP

## APPLICATIONS

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

# REMOTE TERMINAL UNIT

The E-Series™ RTU (Remote Terminal Unit) can be configured to serve as a drop-in replacement for existing units, or as original units with controls, functions, hardware, and features chosen from our extensive menu of options and program library. Inside the RTU the user will find the E-Series™ E3 processor that can be used for an endless array of applications. Available in panel and rack mounting schemes, the RTU is delivered pre-configured and completely tested to insure quick error free start-up.



## HIGHLIGHTS

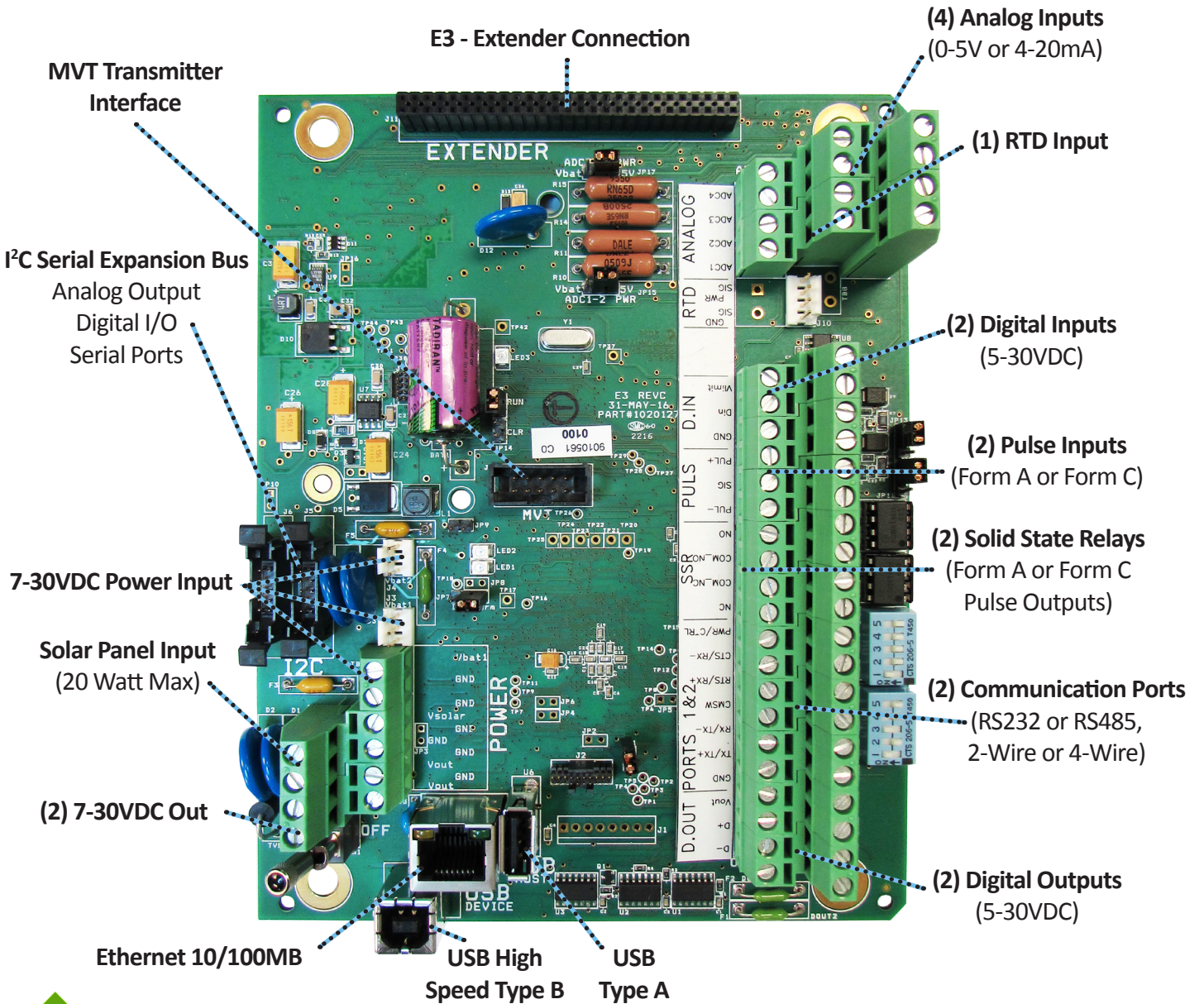
- Fully Programmable
- Access to Large Process Library and Pre-Configured Applications
- AGA and API Compliant
- Support for Multi-Meter Runs and Control Schemes on One Platform
- Available in Pre-wired Enclosures or Custom Panels
- Simple Start-up for Fast ROI
- Cross Platform Compatible
- Support for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

## APPLICATIONS

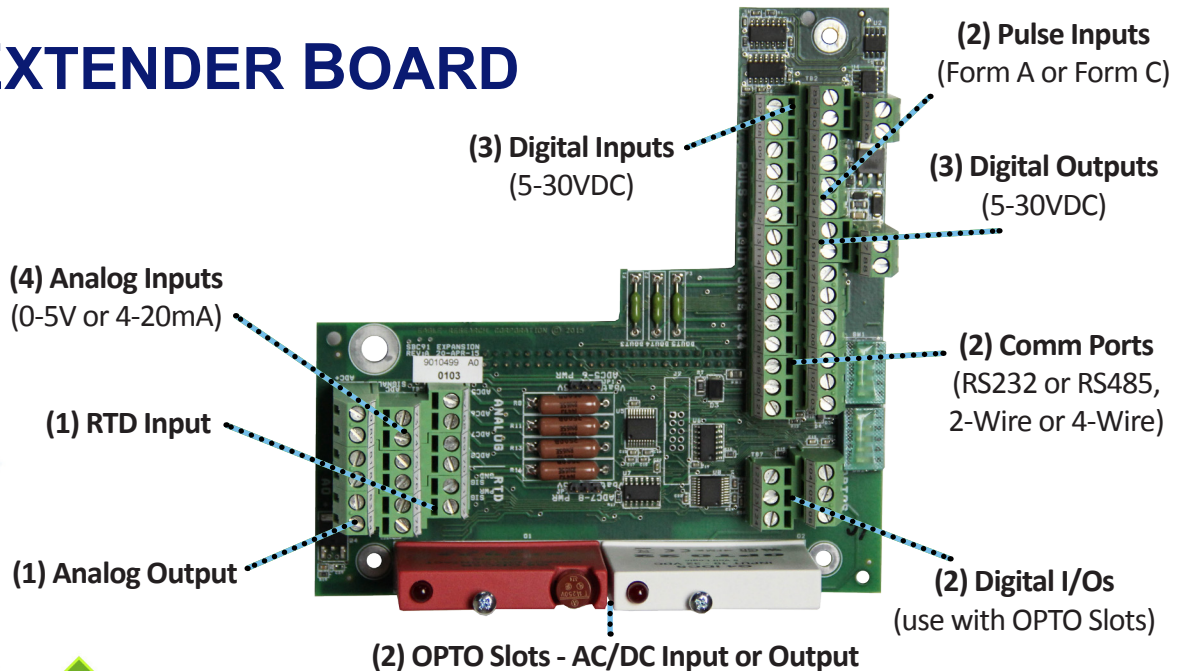
- Complete Automation for All Industry Segments: Upstream, Downstream and Midstream
- Gate Station Automation
- Multi-Run Metering Stations
- Custody Transfer Points
- Compressor Stations
- Tank Fluid Levels
- Well Pad Automation
- Custom Applications



# E3 PROCESSOR SERIES



## EXTENDER BOARD



## EXPANSION & PROTECTION PERIPHERALS

### ANALOG OUT



The E-Series™ Analog Out (E-AO) provides three two-wire, loop-powered, optically isolated, 4-20mA outputs. The module interfaces with the E-Series™ product line to provide 4-20mA or 1-5VDC outputs for flow rates, pressures, or numerous other control and monitoring process variables.

The E-AO can be added to the I<sup>2</sup>C serial expansion bus when multiple outputs are required.

### EXPANSION SERIAL PORT



The E-Series™ Expansion Serial Port (E-ESP) provides additional serial ports for the E3 processor. The module can be used as RS-232, RS-485 four wire and RS-485 two wire with baud rates up to 115,200 bps. Up to four E-ESP modules can be used to allow four additional serial ports.

### SYSTEM PROTECTION MODULE



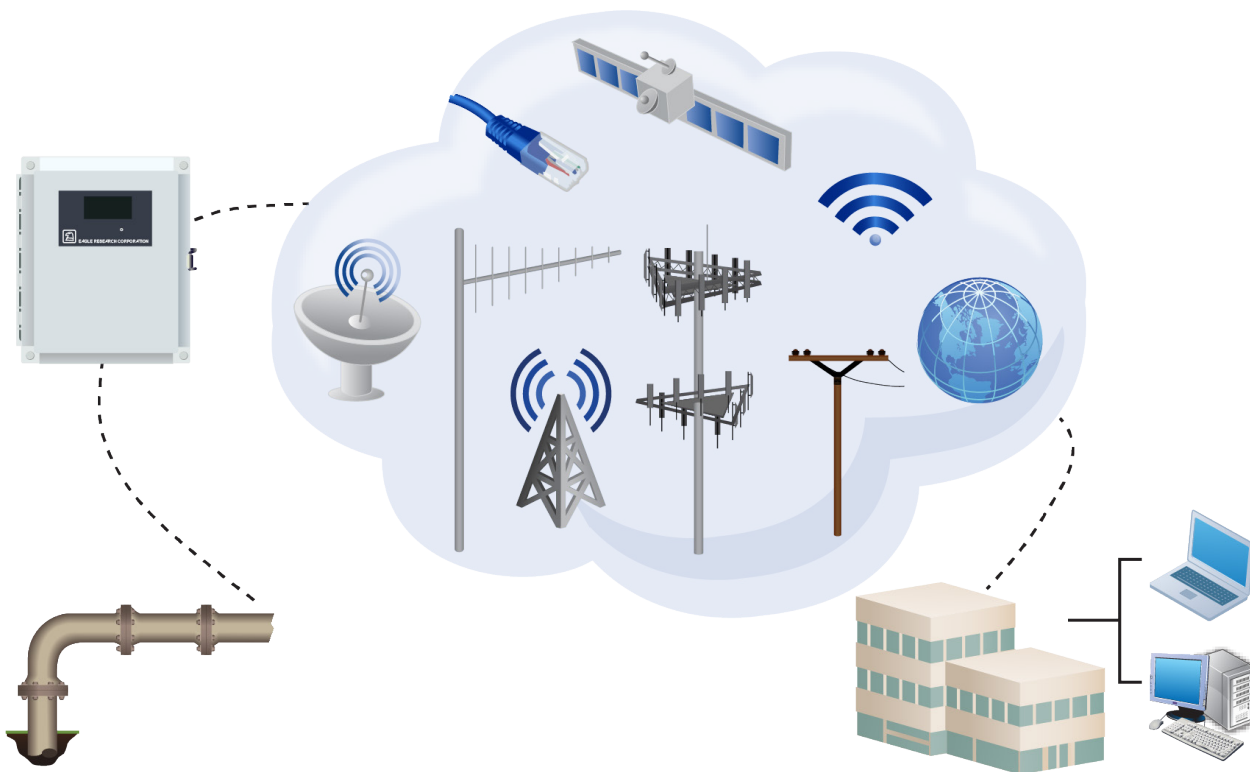
The System Protection Module (SPM) protects connected devices from external transients. This is done by providing a specific path for stray currents to flow to earth ground, in cases where transient potentials exceed the normal levels in power, signal, and communication lines. The SPM provides a safe path to earth ground, bypassing sensitive electronic circuitry in the connected field device. Available in 35VDC, 12VDC, and 8VDC models.



# COMMUNICATIONS

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 to transfer data from the field to front office. Eagle Research serves as a value added resource in assisting 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. All Eagle Research Corporation® products can be shipped wireless ready and with the wireless device pre-installed to customer specifications.

Many factors determine the choice of wireless communications infrastructure, i.e. frequency of data availability needs and alarms, required antenna choices, and site power requirements. Eagle Research is available to assist its customers with all of 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 other communication methods. Eagle Research is leading the way in the transition of the natural gas industry to wireless communications. With the addition of our Remote I/O product, wireless sensors of many different types can be implemented. 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.



# TALON™ SOFTWARE FAMILY

Whether the concern is natural gas distribution, gas pipeline transmission, or well head production, the Talon™ family of software gives the users the ability to create a powerful scalable system that meets their specific needs. Its flexible design provides the option to purchase only those modules needed, and the ability to expand a system with additional features by adding new modules with 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 for a small scale data collection system.

The screenshot shows the Talon Lite software interface. On the left is a tree view of stations, including 'E-Series', 'Time Sites', 'Polling', 'Graphics', 'Bart', 'TTS', 'Timezone', and 'All Stations'. The main window displays two data tables:

**Daily History Data Run 1**

Date/Time	Up Time R1 (Minutes)	Flow Time R1 (Minutes)	Avg Freq R1 (Hz)	Avg Press R1 (PSI)	Avg Temp R1 (DegF)	Avg SS R1	Avg Heating Value R1	Avg CO2 R1 (%)	Avg N2 R1 (%)	Ext Param/Unit/Val R1	Cu Volume R1 (MCF)	Energy R1 (M)
03/27/2016 10:00	144.0	144.0	118.00	225.00	77.00	0.9356	1033.1899	0.2600	2.4000	135.502625	2313.37572	572668.6250
03/28/2016 10:00	144.0	144.0	118.00	225.00	77.00	0.9356	1033.1899	0.2600	2.4000	135.502625	2313.37572	572668.6250
03/29/2016 10:00	144.0	144.0	118.00	225.00	77.00	0.9356	1033.1899	0.2600	2.4000	135.502625	2313.37572	572668.6250
03/30/2016 10:00	144.0	144.0	118.00	225.00	77.00	0.9356	1033.1899	0.2600	2.4000	135.502625	2313.37572	572668.6250

**Hourly History Data Run 1**

Date/Time	Up Time R1 (Minutes)	Flow Time R1 (Minutes)	Avg Freq R1 (Hz)	Avg Press R1 (PSI)	Avg Temp R1 (DegF)	Avg SS R1	Avg Heating Value R1	Avg CO2 R1 (%)	Avg N2 R1 (%)	Ext Param/Unit/Val R1	Cu Volume R1 (MCF)	Energy R1 (M)
03/27/2016 13:00	240.0	60.0	118.00	225.00	77.00	0.9356	1033.1899	0.2600	2.4000	5.64993	96.390556	23861.1914
03/28/2016 12:00	120.0	60.0	118.00	225.00	77.00	0.9356	1033.1899	0.2600	2.4000	5.64993	96.390556	23861.1914
03/29/2016 11:00	120.0	60.0	118.00	225.00	77.00	0.9356	1033.1899	0.2600	2.4000	5.64993	96.390556	23861.1914
03/30/2016 10:00	60.0	60.0	118.00	225.00	77.00	0.9356	1033.1899	0.2600	2.4000	5.64993	96.390556	23861.1914

The screenshot shows the Talon Scheduler Console with a table of scheduled tasks:

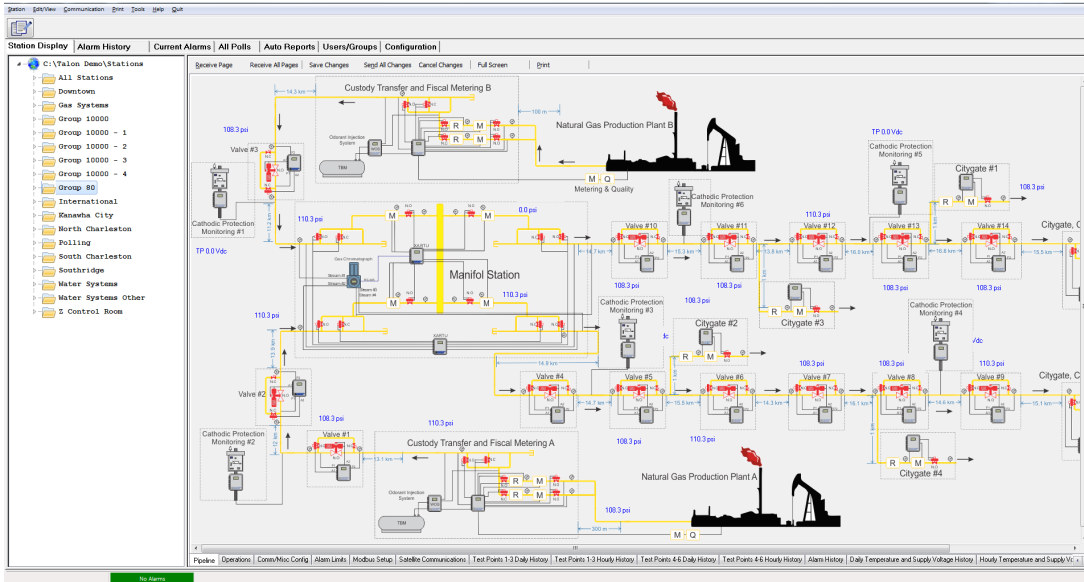
Site ID	Station Name	Poll #	Poll Name	Port #	Next Time	Last Time	Last Status	Poll Interval
4954	Weese #1110	1	All History Poll	GRP2	03/28/2016 02:30:00PM	03/28/2016 01:43:03PM	Success	0d 1h 0m 0s
6	Stewart Winley	1	All History Poll	GRP2	03/28/2016 02:36:13PM	03/28/2016 02:36:43PM	Failed	0d 1h 0m 0s
55	Chimney Rock Compressor	1	All History Poll	GRP1	03/28/2016 02:36:13PM	03/28/2016 02:31:58PM	Failed	0d 1h 0m 0s
5915	Krow CS Discharge HTR	1	All History Poll	GRP2	03/28/2016 02:36:30PM	03/28/2016 02:35:56PM	Failed	0d 1h 0m 0s
4755	629	1	All History Poll	GRP2	03/28/2016 02:36:31PM	03/28/2016 02:36:00PM	Failed	0d 1h 0m 30s
9566	Golden Creek	1	All History Poll	GRP2	03/28/2016 02:37:25PM	03/28/2016 02:32:24PM	Failed	0d 1h 30m 0s
3080	Back Link CD-8 CO2 Truck	3	DH10M	GRP2	03/28/2016 02:45:00PM	03/28/2016 02:30:52PM	Success	0d 1h 15m 0s
3079	CD-7A Middle Unit	3	DH10M	GRP2	03/28/2016 02:45:00PM	03/28/2016 02:31:54PM	Success	0d 1h 15m 0s
3078	CD-7 Front Unit	3	DH10M	GRP2	03/28/2016 02:45:00PM	03/28/2016 02:32:48PM	Success	0d 1h 15m 0s
9632	CFS #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 02:32:56PM	Success	0d 1h 15m 0s
5250	Hickenbottom #1	1	All History Poll	GRP2	03/28/2016 02:47:00PM	03/28/2016 02:33:39PM	Success	0d 1h 15m 0s
20	QF Compressor	1	All History Poll	GRP2	03/28/2016 02:50:00PM	03/28/2016 02:01:27PM	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
3701	Sugar Mill	1	All History Poll	GRP1	03/28/2016 03:00:00PM	03/28/2016 11:15:54AM	Success	0d 4h 0m 0s
3723	Hocanda	1	All History Poll	GRP1	03/28/2016 03:00:00PM	03/28/2016 11:24:40AM	Success	0d 4h 0m 0s
3703	S. Atlantic	1	All History Poll	GRP1	03/28/2016 03:00:00PM	03/28/2016 11:30:02AM	Failed	0d 4h 0m 0s
1605	Hankins #3	1	All History Poll	GRP2	03/28/2016 03:00:00PM	03/28/2016 02:00:26PM	Success	0d 1h 0m 0s
1608	Hankins Lumber #	1	All History Poll	GRP2	03/28/2016 03:00:00PM	03/28/2016 02:00:26PM	Success	0d 1h 0m 0s

- 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
- Includes Circular Charting Capability
- Edit Form Text and Graphics Editor

The screenshots show the Talon Communications Server interface. The left window displays a tree view of communication groups, including 'COM5001', 'COM5002', 'Group B6 - TCP/IP Client Group', 'Group B7 - Standard Serial Port Group', 'Group B8 - Standard Serial Port Group', 'Group B9 - TCP/IP Server Group', and 'Group H10 - TCP/IP Client Group'. The right window shows the configuration for 'COM10001 - (230) E3 Slab 62002', including options for 'Message Received on entry to MsgReceived', 'Storing Data From Process', 'History Process', and 'Reading History Process'. It also shows a 'Baud Rate' field and a 'Save Snapshot' button.

# TALON SCE™ (SINGLE COMPUTER EDITION)

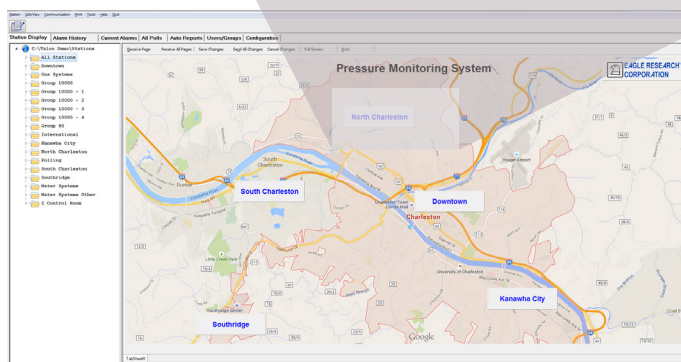
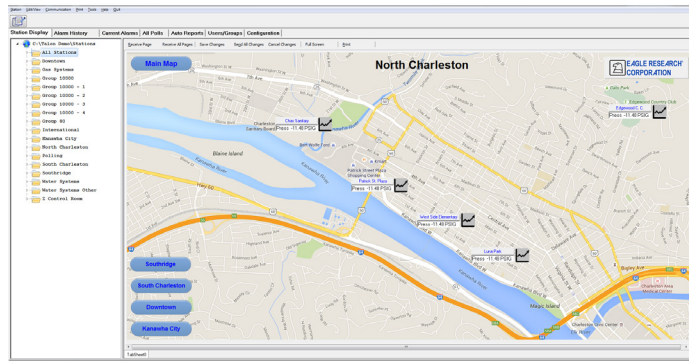
Talon SCE™ is designed to be a full function SCADA/Data collection system for companies not needing an enterprise-wide application, or as a compliment for use with currently deployed systems.



Station Display | Alarm History | Current Alarms | All Polls | Auto Reports | Users/Groups | Configuration

Station Press DIP Mcfd Acum

Station	Press	DIP	Mcfd	Acum	Station	Press	DIP	Mcfd	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				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				Station 13	320	30.0	1464	557
Station 3	2	0.0	0	0	Station 14	320	30.0	1464	557
Station 1	34	0.0	0	-14	Sta 24-1	295			
Station 2	2	0.0	0	0	Station 24	320	30.0	1464	557
Station 4	320	30.0	1464	556	Station 25	320	30.0	1464	557
Sta 1-1	32463	RC 4"	200		Station 23	320	30.0	1464	557
Station 7	119	0.0	0	280	Station 38	320	30.0	1464	558
Station 47	0	0.0	0	0	Station 5	320	30.0	1464	556
Sta 8-1	200				Station 16	320	30		
Station 8	320	30.0	1464	556	Station 15	320	30	1464	557
Station 10	320	30.0	1464	557	Station 17	320	30.0	1464	557
Sta 10-1	200	205			Station 18	320	30.0	1464	557
Station 37	320	30.0	1464	558	Station 20	0	0.0	1	70550
Station 34	320	30.0	1464	558	Sta 20-1	0	205		
Station 11	320	30.0	1464	557	Station 36	320	30		
Sta 11-1	200				Station 19	320	30.0	1464	557
Nich Odor Alarm	Alarm				Station 21	320	30.0	1464	557
Berea Odor Alarm	Alarm				Station 44	320	30.0	1464	558



- Single Computer Edition
- SCADA and Data Collection System Supporting Both Serial and TCP/IP Ports (Incoming and Outgoing)
- Expandable Based on Polling Interval Needs
- Data Trending
- Automated Report and Polling Scheduler
- Multi-Pen Historical Quick Trend Graphing
- Alarm Viewer
- Data Import Utility

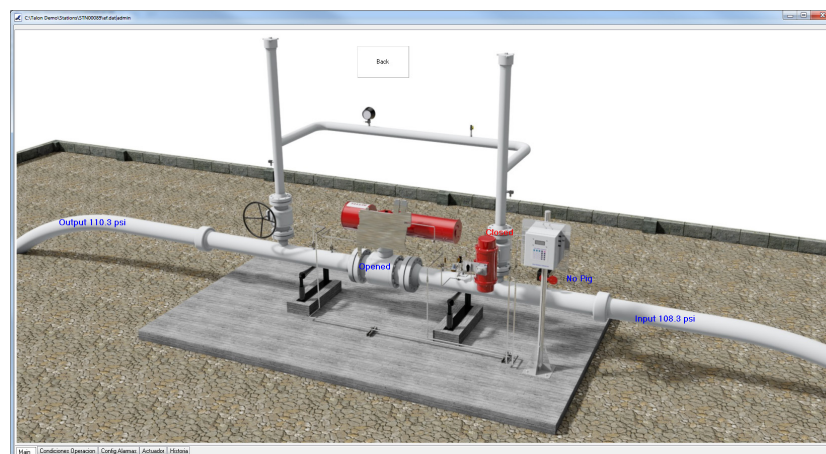
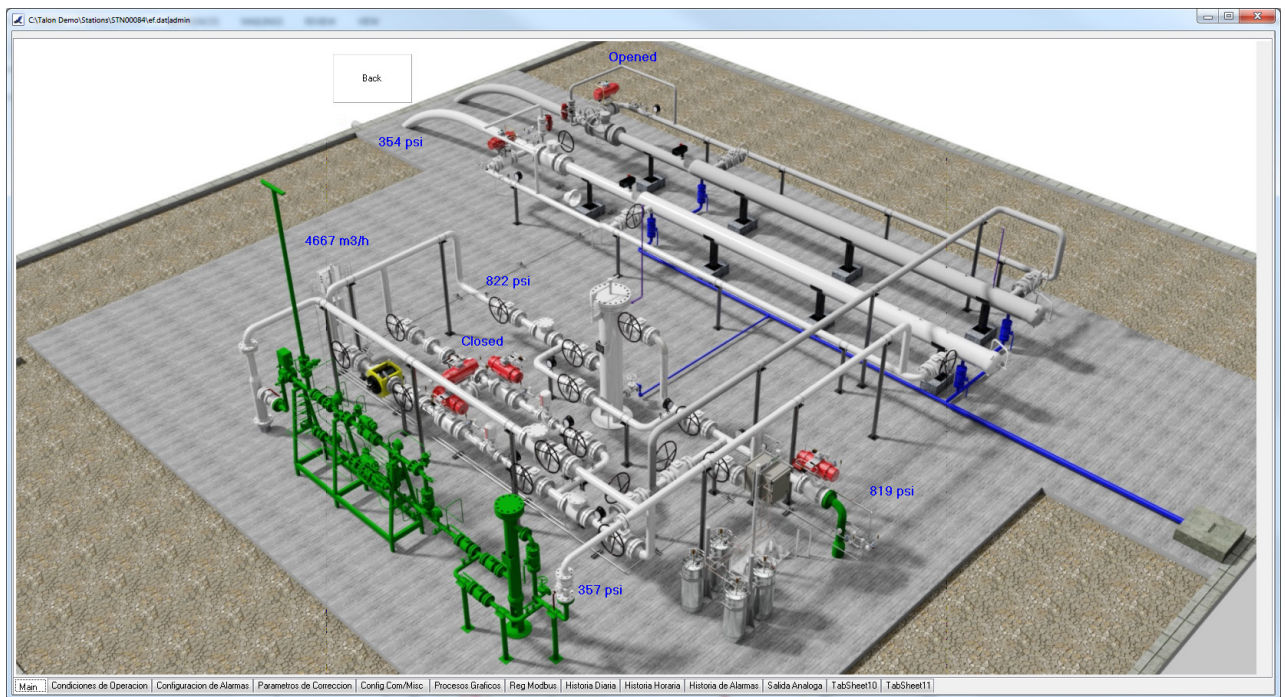


# TALON ENTERPRISE™

Talon Enterprise™ provides a company-wide server based network platform to perform the functions that are 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 specific and distributed data collection requirements.

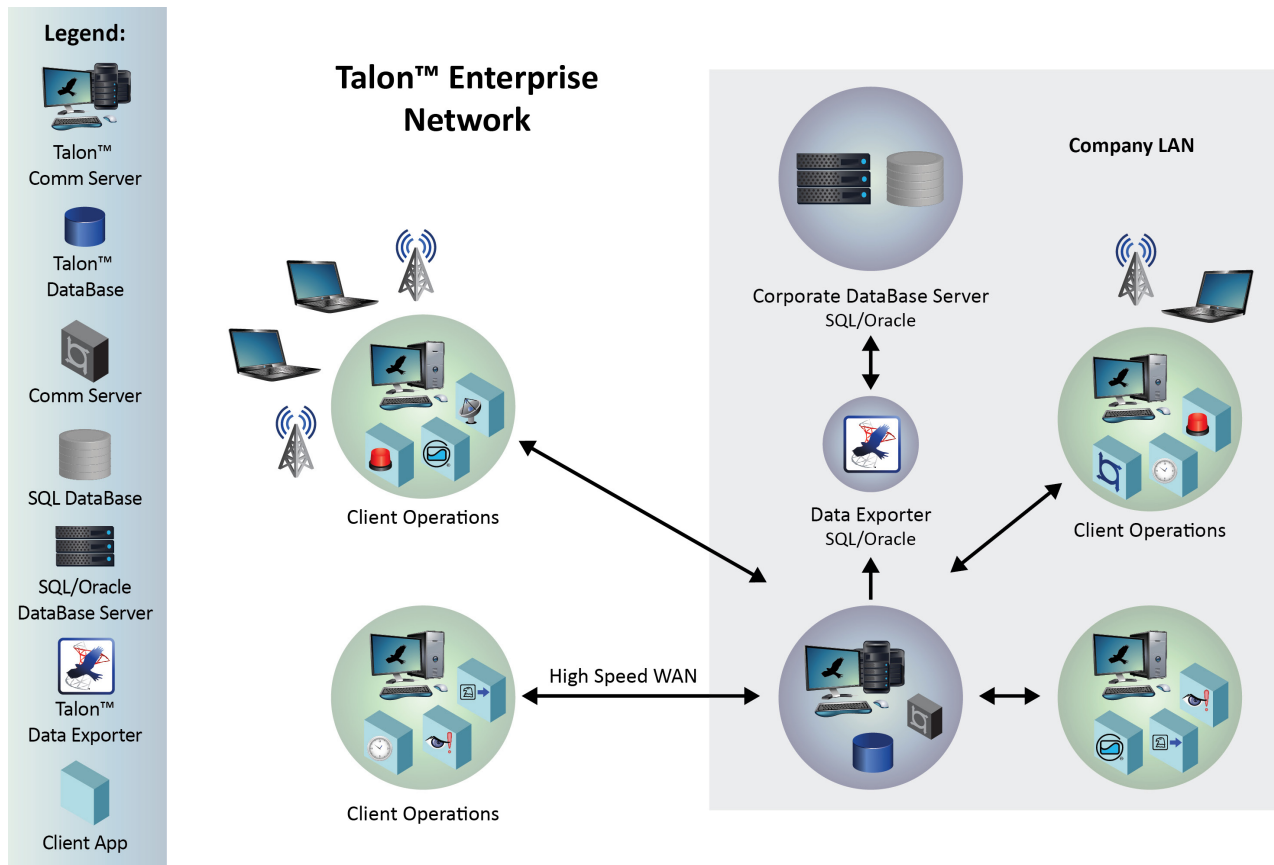
The modular and flexible service-oriented architecture offers the option to purchase only the specific modules needed, and the ability to expand the system with additional features by adding new modules as system requirements change. Software modules can be configured and deployed across either a Wide Area Network (WAN) or Local Area Network (LAN) for central office and/or field operations.

In the current energy industry environment, many companies are scattered across state and international boundaries. Having the ability to distribute Talon Enterprise™ modules across the network infrastructure puts collection and management of the data closer to the source, resulting in improved overall system performance.





# TALON ENTERPRISE™



## Overview:

- Windows® Operating System: Server 2003, 2008, 2012; Windows® 7, 8.1, 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®
- Support for Single DB or Distributed Wide Area Networks
- Base Components
  - Desktop Explorer, Scheduler, Reporting Tool and Auto Reporting
  - 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 to Many Popular Platforms

## Related Services:

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

# WEB DATA HOSTING

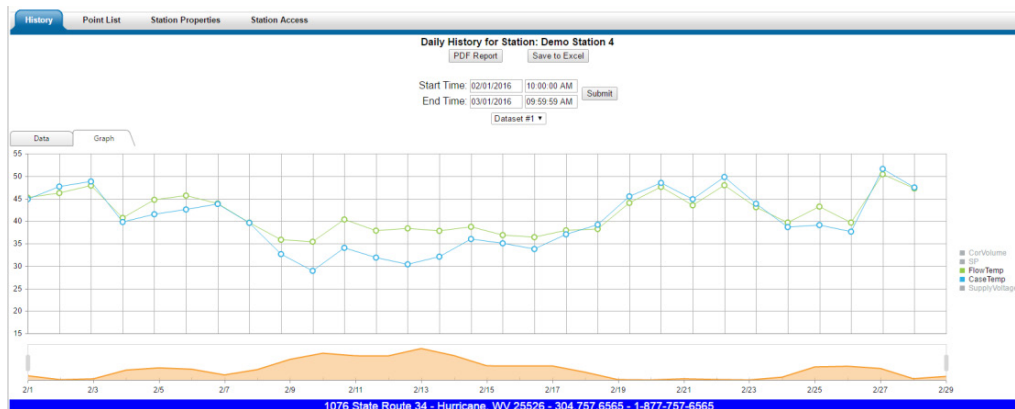
Web-based remote monitoring allows the user to collect critical information from their electronic flow measurement equipment without the need for locally installed systems, saving staffing and maintenance dollars. Eagle Research continues to provide the latest communications options at competitive prices.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

LOG OFF STATION LIST

STATION NAME	LAST UPDATE TIME	CURRENT DAY VOLUME	PREV DAY VOLUME	DIFF PRESSURE	PRESSURE	Temperature	VOLTAGE
● Demo Station 1	6/16/16 09:00 AM	33	49		0	0	12
● Demo Station 2	Dataset #1	19	19		60.15	66.19	13.84
	Dataset #2	0	114	0	60.18	60	13.84
	Dataset #3	585	346	3.32			
● Demo Station 3	Dataset #1	5	91.12	0	179.87	60	11.5
	Dataset #2	0	0	1.03	180.01	60	
	Dataset #3	36	36	2.92	181.31	70.88	



- **Graphing** - graphs the available data for the station of interest.
- **Zoom In/Out** - allows for certain 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 evaluation of trends and relationships of the field data.

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

#### Instantaneous Values:

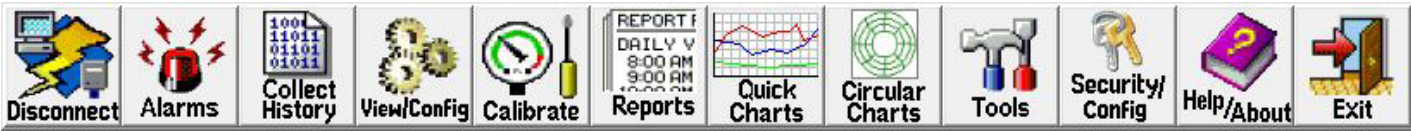
- Flow Rate
- Line Pressure
- Differential Pressure

#### Historical Values:

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

# FIELD MANAGER™ & FIELD MANAGER PLUS™

Field Manager™ is a Windows® based configuration application designed to support all Eagle Research Corporation® field devices on one common platform. Field Manager™ provides an easy to use group of functions to assist the user in setting up and configuring the field device, gathering data, viewing alarms, and calibration. It also features a variety of other useful tools for troubleshooting and configuring. Communication to the field device is through USB, RS232 laptop cable, or using the optional Bluetooth interface. A library of configuration databases 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. Field Manager Plus™ adds circular charting to all of Field Manager's features.

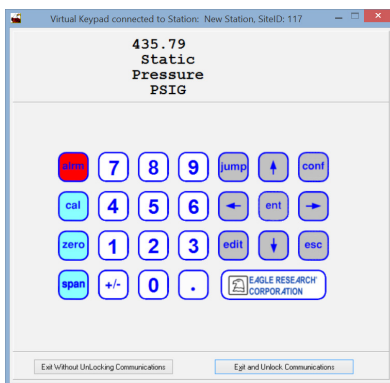


Edit Labels/FKeys	Receive Remote dBase	Edit Station List
Change Site ID	Receive Firmware Version	Multi-Copy Config Files
Virtual Keypad	Send Profile Data	Units Changer
Launch WinTx	Send Remote dBase	Configuration Item List
View Calibration Log	Set Remote Time	EEPROM/Config Editor
Edit Station Name/PH#	Audit Trail/Event Viewer	Change Baud Rate
Reset Audit Trail/Events	Import Station(s)	Data Logger
Export Station(s)	Edit RTU Voice Call List	
Clear Calibration Reports	Database Folder	

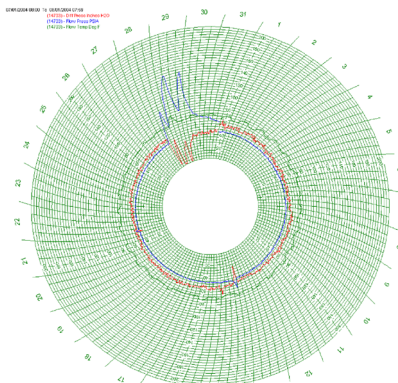
## Features & Benefits

- Auto Unit Identification
- Calibration Wizards
- Simple Historical Data Collection
- Direct, Dial-Up, or TCP/IP Based Connection
- Easy Tab Navigation
- Data Export Synchronization to Talon™ Family of Products
- CSV (Comma Separated Values) Exporter for Historical Records

The Virtual Keypad provides the same access to field device operating and debug modes as the hardware keypad versions. It simulates the keypad and display used by the field device. The Virtual Keypad can be used to execute functions which are normally performed from the field device keypad.



**E-Series™ Virtual Keypad**



**Circular Charting with Field Manager Plus™**

## 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



# MPPLUS™

The MPplus™ family is an economical line of products designed to meet measurement needs without sacrificing accuracy or reliability. Communications and expansion options have been limited for simplicity and ease of use.

## VOLUME CORRECTOR

- Large Easy-to-Read LCD Display with Magnetic Scroll
- Single or Dual Pressure Inputs
- Standard RTD for Temperature Measurement
- AGA-5, AGA-7, AGA-8 and NX-19
- Pulse Output Board for AMR—AMI Applications to Extend Battery Life with 4 Form A Pulse Outputs
- Two(2) Pulse Inputs for Dual Meter Configurations
- Support for Eagle HexASCII or MODBUS Serial Protocols
- Rugged Composite Vertical Index (CVI) with Universal Mounting Plate (Bi-Directional or Uni-Directional Accumulation)



## PRESSURE RECORDER

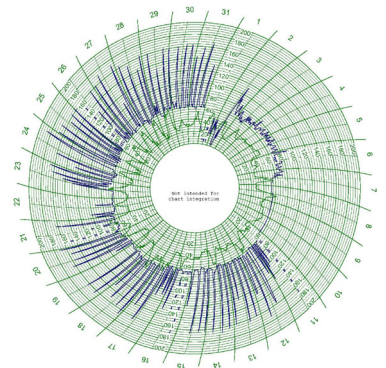


- Two(2) Battery Inputs with MTA Connectors
- One(1) Solar Power Input (1 Watt Maximum) with Screw Terminals
- Supply Voltage Monitoring with Low Supply Alarming
- Store up to 32,000 Time Stamped Records with Programmable Flash and Battery-Backed RAM Data Memory

### Circular Chart Replacement

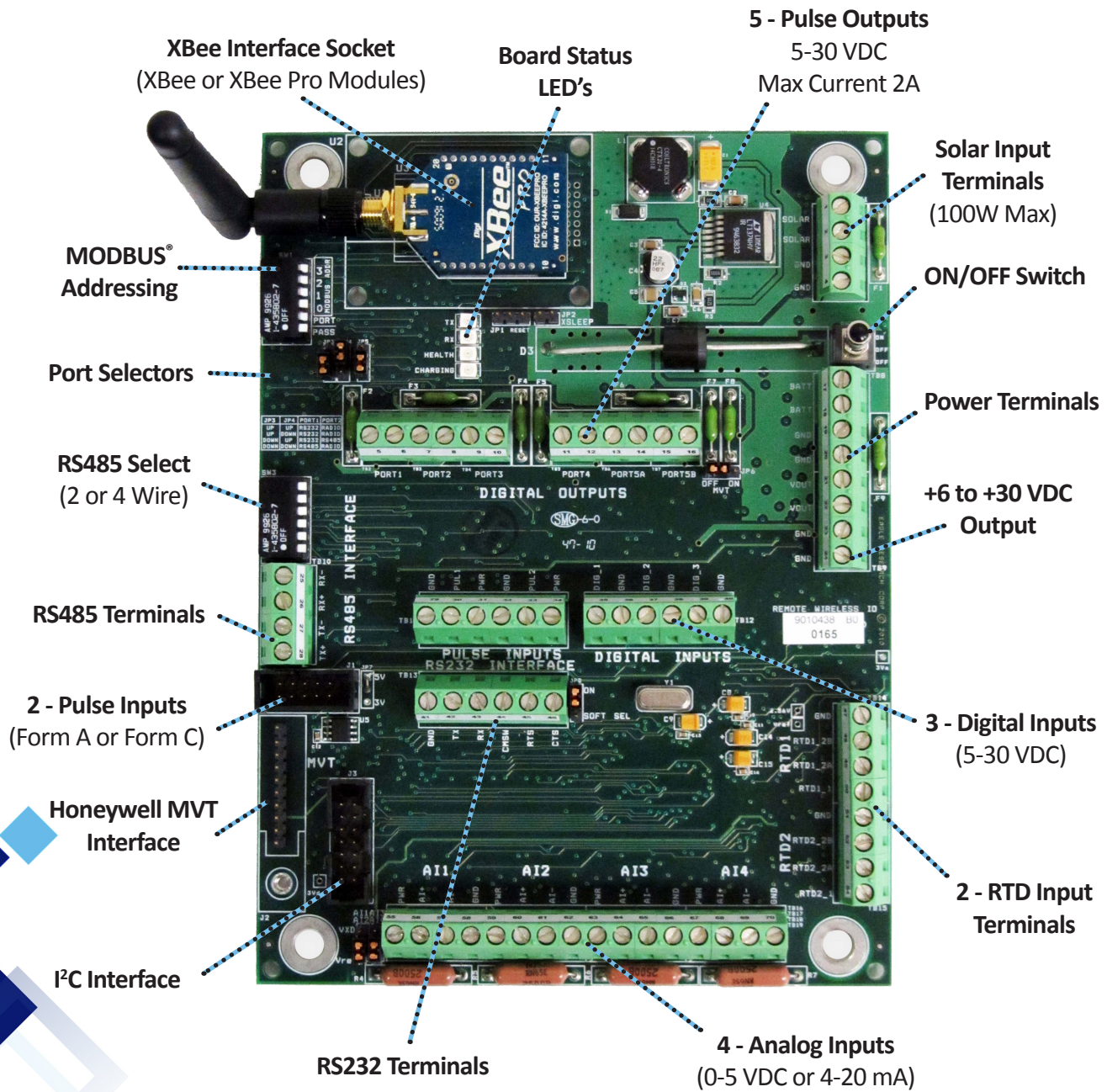
The MPplus™ Pressure Recorder is an excellent choice for replacing paper charts at regulator stations throughout your entire system. Historical archiving and trending using any of Eagle Research's software packages allows easy graphical viewing of pressure fluctuations at regulator stations or load analysis of the system used by engineering departments. The MPplus™ Pressure Recorder along with the MPplus™ Volume Corrector, provide customers with a low-cost recording solution.

Station Name: Frostburg #7 (4401)  
 Chart Name: Pressure & Temperature Chart  
 Date Range: 03/01/2011 00:00 - 03/31/2011 23:59  
 Pressure ( 1.4380 to 186.6102)  
 Temperature ( 15.3900 to 77.7111)



# REMOTE I/O (RIO)

## A New Solution for Remote Data Gathering...



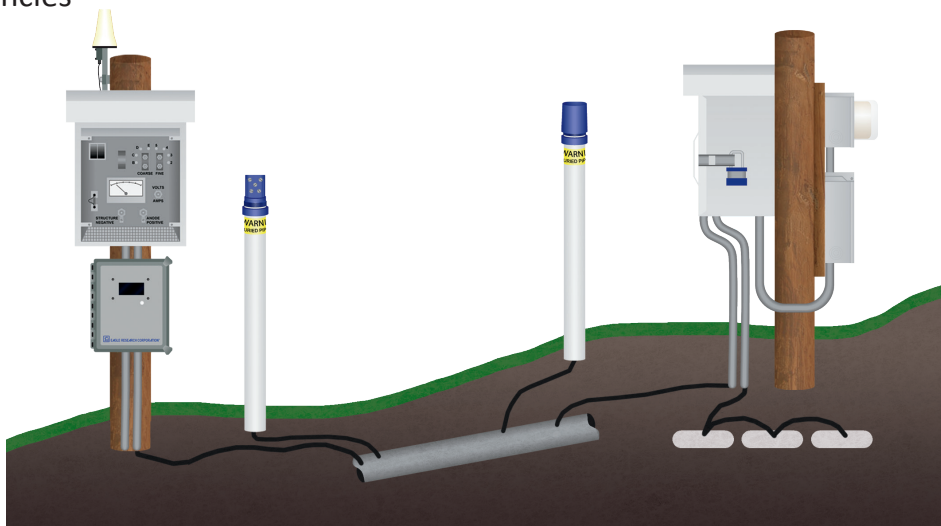
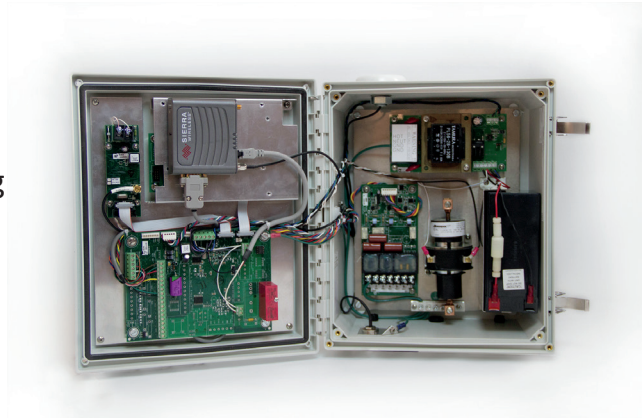
## Remote I/O - Wired or Wireless



# 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
- Providing Current 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
- Failure Alarms, and Real Time Callout on Alarms with Optional Communications Modules
- GPS Rectifier Interruption
- Measure up to 6 Pipe to Soil Voltages
- Graphical Trending of Pipe to Soil Potentials to Help Identify Pipeline Protection Deficiencies



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



## Mercury Relay Specifications:

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

## Solid State Relay Specifications:

- Load: 90 Amps AC from 24-280 Volts AC



# SERVICE & SUPPORT

Eagle Research Corporation® takes pride on its 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 every product to insure dependability and long life of field service. As a testament to the design reliability, all manufactured products are backed by the industry's strongest warranty of four years.



Our service and support departments are dedicated to assisting the customer in the field, and providing the highest level of technical support. 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 by calling toll free **1.877.757.6565**. Email may be used as well by using the addresses listed below.

For Technical Support: [support@eagleresearchcorp.com](mailto:support@eagleresearchcorp.com)  
 For Return Material Authorization: [rma@eagleresearchcorp.com](mailto:rma@eagleresearchcorp.com)

Our field service group can be contracted to perform installation, on-site service, calibration, and start-up services making your project completely turn-key when needed.

For Field Service Inquires: [fieldservices@eagleresearchcorp.com](mailto:fieldservices@eagleresearchcorp.com)

# CUSTOMER TRAINING

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

For more information on regular scheduled training or to schedule your own secession please visit [www.eagleresearchcorp.com/services/training](http://www.eagleresearchcorp.com/services/training)

For Training Inquires: [training@eagleresearchcorp.com](mailto: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 to those organizations promoting strong health, safety, and environmental compliance continue to show our dedication to our customers. These organizations include ISNetworld and Avetta as well as our own internal HSE (health, safety and environmental) programs. Eagle Research Corporation® also has many products certified by UL and CSA.



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 for cellular, satellite, radio, and Bluetooth communications, plus our Talon™ Software Family for SCADA and Data Management. Eagle Research Corporation® headquarters and manufacturing plant are located in Hurricane, West Virginia, with a factory representative network stretching across the US and International outlets worldwide.

### Upstream



### Midstream



### Downstream



***Field to Front Office Solutions™***



**EAGLE RESEARCH CORPORATION®**

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