

# XARTU/1™ AAT VOLUME CORRECTOR

The XARTU/1™-LDVI-AAT Volume Corrector is applicable to the Sensus Auto-Adjust™ Turbine meter. Features of this configuration include:

- Embedded Sensus Auto-Adjust™ Algorithms certified by Sensus™
- Live GC inputs
- AGA 5, AGA 7, AGA 8 Detailed and Gross Methods I & II, & NX-19 Calculation When Required
- Optional live 4-20mA or Frequency Output for Instantaneous Flow Rate
- Configurable via RS232 for Modbus Communication
- Optional RS485 with Expansion Board
- Optional Wireless Communications (Cellular/Radio/Satellite)
- Live Graphing of Main/Sense Frequencies in Field Manager™



## Universal Mounting and Software Setup benefits:



- Field installation directly on the Meter
- Lightweight, easily installed by one person
- Software configurable for different meter output revolutions, i.e. 10 ft./rev, 100 ft./rev, etc.
- Magnetic switch activated display
- The XA Series AAT Corrector is used with the Sensus Auto Adjust Turbine meter to provide a more cost effective solution for your high volume, high valued measurement needs.
- The XA Series AAT Monitor and Corrector offers numerous options for every customer need.
- The AAT Monitor provides Frequency Outputs for Adjusted Uncorrected Flow.
- The AAT Corrector can provide true live flow rates with optional analog outputs, not incremental updates.
- The XA Series AAT Corrector also has the ability to duplicate the Main and Sense slot sensor outputs with optional IPS Boards (p/n 9010418). These replica pulses can be sent to a 3rd party RTU.
- The XA Series AAT Corrector can also provide live Graphing of Delta A, adjusted uncorrected flow rate, main rotor frequency, and sense rotor frequency when used with Field Manager™ software.
- Easily add AAT factors without knowing specific codes.
- Easily add Km, Ks, Kmo, and A\_Bar factors on easy to read edit form.
- Unit has ability to simulate main and sense frequencies through software without additional equipment.
- Can get adjusted corrected volume but unit also calculates mechanical corrected volume as a backup in case Main Frequency (Slot Sensor) is lost.

**Expansion Capability:** Additional connectors provide redundant termination points to allow for configuration flexibility. Two 10-position connectors allow for expansion over the I<sup>2</sup>C communication bus. Optional isolated analog output modules, optional serial ports (RS-232/485), and optional Remote I/O (RIO) Boards available for more expansion capabilities.

## Technical Specifications

- **Input Power:** 7-30 VDC. Two battery inputs with MTA connectors. One power supply/rechargeable battery input with screw terminals. One Solar power input with screw terminals. (10 Watt Maximum Panel Size)
- **Power Monitoring:** Supply voltage monitoring through A/D with low supply voltage alarming
- **Backup Battery:** 3.6 VDC lithium backup battery for database, history, audit trail, time/date, RAM memory.
- **Memory:** Store up to 32,000 Time Stamped Records with programmable FLASH program memory and battery-backed RAM data memory
- **Communications:** Available On-Board Dial-up Modem port with extension off-hook detection. Two RS-232 ports with RX, TX, RTS, CTS, and communication switch signals. Up to 4 Expansion Comm Ports (RS-232/485). Configurable speed up to 115,200 baud. Directly interfaces to Cell Modems (TCP/IP), Radios, Satellite, etc. Communication protocols selectable on a per port basis: Eagle HexASCII or Modbus
- **Warranty:** Four Years on all Eagle Research manufactured components

## Accuracy Specifications:

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

Pressure Measurement	±0.12% of full scale
Standard 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**

Pressure Measurement	±0.5% of full scale per year
Temperature Measurement	±0.5°F per year
Combined (Pressure, Temperature & Computation)	±0.36% per year

## Inputs / Outputs (I/O) Available

- **Internal Inputs:** One ambient temperature input; one supply voltage input
- **Pulse Inputs:** Four pulse inputs, software programmable for Form A or C; high or low speed. Each counter is a six-digit (0-999999) hardware counter with programmable interrupt support. Can be used for simple pulse accumulation, and for more complex applications such as card readers.
- **Digital I/Os:** Five multi-purpose, memory-mapped digital I/O lines. High-level functionality including pulse inputs, PWM (pulse width modulation) outputs, and complex custom inputs/outputs. Two I/O lines are connected to field terminals through standard OPTO-22 modules. The other 3 I/O lines can be used as either Form C or A relay outputs (solid state 100 mA max AC/DC) or status inputs (50 V max. DC only).
- **Analog Inputs:** Six general-purpose analog inputs, 12 bit resolution (16 bit available), analog sampling, software calibration. Nominal input ranges 0-5VDC or a 250 ohm resistor in socket allows for 4-20 mA input for each channel. Each input has 3 screw terminals (Supply, Signal, and Ground).
- **RTD Inputs:** Two 12-bit resolution RTD inputs; 3-wire lead resistance compensated with ground shield connection; four screw terminals per input.