The E-Plus 100 is a field mounted flow computer for custody or non-custody transfer measurements. It is a single bi-directional meter run computer that can be used in gas or liquid applications. Multiple primary elements and density equations are supported. A unique graphical interface allows users to have up to three trend screens with two user selectable parameters per screen. This mimics a chart recorder display and allows users the ability to get at-a-glance information concerning their flow conditions.

The E-Plus 100 was developed with a focus on brining the needs of a vast array of specialized industries into a single hardware package. This has allowed users to reduce spare parts requirements, reduce training time for new users, and reduce the total cost of ownership. Whether being implemented as a standalone solution or being integrated into a plant wide control system, the E-Plus 100 has "got you covered".

The E-Plus 100 calculates all the necessary standard equations (AGA, API, ISO, NIST, etc.) for Liquids & Gases. Monthly, daily, or hourly reports are stored in flash memory. If you include the E-Plus 100's impressively low power consumption, battery back-up capabilities, solar power options, and built-in wireless communications the E-Plus 100 proves itself to be the number one flow computer for all applications.

Solar Power · Bluetooth · FREEWAVE · ZigBee Alliance

Features

- Low operating power (0.3 watts)
- 0.075% accuracy
- 32 bit processor
- 64x128 programmable display
- Min-max charting
- Wireless radio/Modem ready
- Multiple I/O options
- Custody transfer accuracy
- Test separator reports
- Smart field I/O

Communications

- RS232 Modbus
- RS485 Modbus
- Analog and digital I/O
- Zigbee wireless radio
- Freewave wireless radio
- Bluetooth

Applications

- Liquid and gas measurement
- Well head measurement and automation
- Custody measurement and control
- Compressor stations
- Well optimization
- PID control
- Field mounted trending
- Multiple primary elements

Reports

- Hourly
- Daily
- Monthly
- Monthly day by day
- Calibration and audit
- Data storage in Years

Alternative Power

- Battery backup
- Solar power

The E-Plus 100 flow computer has the capacity to measure a single bi-directional gas or liquid measurement train. Multiple equations are included among which are AGA3/API14.3, API14.9, API 5, 6, API5.7, API2540, AGA7, AGA9, API21, with more being added continuously. The E-Plus 100 accepts any type of primary element: Venturi, Annubar, Turbine, PD, Ultrasonic, V-Cone, Wedge, Vortex, etc. Additionally, it can carry out density calculations according to the following standards: API12, AGA8; 24A, B, C; NBS for steam, saturated and supersaturated steam, NBS1045 for ethylene, etc. Contact our offices or visit our website for available equation updates.

The E-Plus 100 can have up to three textual display screens with four user-selectable parameters being displayed per screen. In addition, three graphical trend screens can be displayed showing two user selectable parameters per trend. All screens are scrolled at user-defined intervals.

The input/output assignment, flow equations, historical data storage, and other functions are carried out using Dynamic Flow Computers' DYNACOM® software. This software is Windows based, free of charge, and available for download/update at any time on our website.

DYNACOM® Software Capabilities:

- Flow computer diagnostics
- Configure inputs and outputs
- Configure PID control
- Personalize report time and content
- Configure and select the local LCD screen displayed parameters
- Reassign and customize MODBUS® registers and values
- Create and implement custom math and formulas
- Input and output calibration
- Automatic and periodic downloading of flow computer reports
- Obtain historic data for display, saving, exportation, or printing

Historic data is available in the memory of the flow computer for download or display.

Maximum Report Storage:

- Hourly reports: 1536 hours*
- Daily reports: 64 *
- Daily reports, hour by hour: 64*
- Monthly reports: 6*
- Monthly, day by day: 2 months*
- Calibration reports: 20*
- Audit reports: 100*
- Alarm reports: 100*
- Special reports: HTML, and others

*The number of reports stored can vary according to application.

PHYSICAL SPECIFICATIONS

Electrical/Conduit Connections:	Two 3/4" NPT One 1" NPT
Housing (Flow Computer):	Material: copper free aluminum Painting: epoxy or polyurethane. Classification: NEMA 4X class 1 div. 1 – IP66
RTD Connection:	To flow computer terminal block
Display:	Text - 8 Lines x 16 characters Graphics – 64 x 128 pixels
Terminal Blocks:	Easily accessible; removable for easy connection
Certifications:	CSA for class 1, div. 1, groups B, C and D UL for class I, zone 1, AEx d IIB+H2
Temperature Limits:	Operation: -40 to 185 °F (-40 to 85 °C) Storage: -50 to 190 °F (-46 to 87 °C)
Humidity:	100%

ELECTRICAL SPECIFICATIONS

Voltage	10 to 28 VDC
Power Consumption	0.3 watt
Temperature	-40 to 185 °F (-40 to 85 °C)
Humidity	100%
Solar Board (Optional)	10/20 watts, 12 volts
UPS (Optional)	7 day backup
Polarity	Reverse polarity protected
Processor	32 bits @ 16.7Mhz
Flash ROM	4 MB @ 70 Nano seconds
RAM	2 MB @ 70 Nano seconds
Real Time Clock	Years/Months/Days/Hours/Minutes
Internal Battery	Lithium ion

INPUT SPECIFICATIONS

Optic Isolation	Each input is optically isolated with ±250 VDC chassis isolation
Analog Input	Three 4-20mA (or 0-5V) inputs 24 bit resolution
Digital/Switch Input	One input (4 optional with slow pulse) 5-28 VDC 0.25Amp rating For frequency input - square wave only Frequency range 0 - 6000 HZ Signal must be > 3 volts
Frequency Input	Two inputs (Frequency inputs uses one digital input channel and/or one digital output) Square wave 0 - 6kHz, Signal > 3 V Sine wave 0 – 1200Hz, Signal > 70mVp-p Minimum 10uA @ 1KOhm resistance.
RTD	One RTD input (Direct connection to flow computer uses two of the analog input channels) 24 bit resolution

OUTPUT SPECIFICATIONS

Optic Isolation	Each output is optically isolated with ±250 VDC chassis/ground isolation
Digital/Switch/Pulse Output	Two outputs 8-28 VDC 0.25Amp rating On/Off or pulses (to 125 pulses/sec.)
Analog Output	One output (16 bit) 4-20mA (external power required) For PID control or for data transmission

COMMUNICATION SPECIFICATIONS

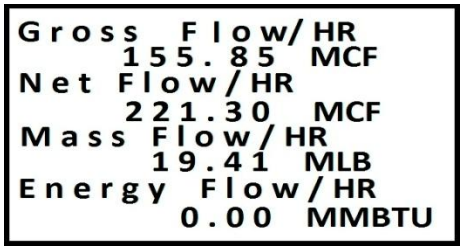
RS232/485	Quantity 1 @ 1200 – 19200 bps
RS232 (w/Elbow Option)	Quantity 1 @ 1200 – 19200 bps
Protocol	MODBUS® RTU/ASCII
Optional	Modem, Radio, Bluetooth

DIAGNOSTIC SPECIFICATIONS

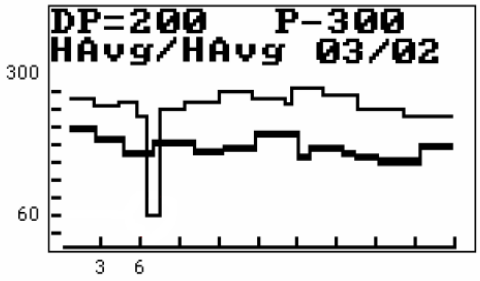
Monitor/Alarm	Multivariable: P, DP, T Analog inputs/outputs Digital/switch inputs Digital/switch outputs Pulse/frequency inputs Internal temperature Battery voltage Internal power supply

FLOW COMPUTATION SPECIFICATIONS

Number of Trains	One (+1 Aux meter)
Flow Calculation	Gas or liquid
Primary Elements	Differential: Orifice, V-Cone, Wedge, Annubar, Venturi, etc. Pulse/Frequency: Turbine, PD, Vortex, Ultrasonic, etc.
Engineering Units	US and Metric
Base Conditions	60°F, 14.7 Psia (15 °C and 1 Kg. /Cm²) 68°F, 14.7 Psia (20 °C and 1 Kg/Cm²)
Equations	AGA8 methods 1, 2, and detailed; 24A,B,C; Steam NBS Others added continuously - Consult factory for complete list



Text Display



Graphic / Trend Display

Optional Accessories

Rosemount® 205 Module

SmartCone®

RS-232 Elbow

Armored RTD Cable

Back-Up Battery

Solar Panel

FreeWave Radio

Zigbee Radio

Bluetooth