The E-Lite E2DAAA is a field mounted flow computer with a built-in Rosemount® 205 Multivariable Transmitter (DP, P and TEMP) 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-Lite E2DAAA is designed to meet the needs of our clients throughout all sectors of the oil and gas industry. After listening to and understanding the needs of our clients, Dynamic Flow Computers designed the E-Lite with a focus on reducing spare parts requirements, reducing the "learning curve" for new users, and an overall reduction in the time and cost of its implementation. Because of this foresight in design we are confident that the E-Lite E2DAAA flow computer will exceed your expectations.

The E-Lite E2DAAA 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-Lite E2DAAA's impressively low power consumption, battery back-up capabilities, solar power options, and built-in wireless communications the E-Lite E2DAAA proves itself to be the number one flow computer for all applications.

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
- Built-in multivariable 3-in-1 transmitter
- Auxiliary meter input (EXP)
- Smart field I/O

Communications
- RS232 Modus
- 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
- Injection index testing

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

Alternative Power
- Battery backup
- Solar power

The E-Lite E2DAAA 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-Lite E2DAAA 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-Lite E2DAAA includes a factory integrated multivariable 3-in-1 digital transmitter manufactured by Rosemount® for the simultaneous measurement of temperature, pressure, and differential pressure. It can also control pneumatic or electrical valves (on-off or variable by means of analog outputs or process PID control).

The E-Lite E2DAAA 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.

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.

Multivariable Transmitter

The Multivariable Sensor is a 3-in-1 model 205 transmitter manufactured by Rosemount® Inc. for Dynamic Flow Computers. This sensor measures static/ absolute pressure, differential pressure, and using an optional RTD, process temperature. These three process variables are available all the time and updates are sent to the flow computer up to NINE times per second.

The model 205 is a culmination of the vast technological experience that Rosemount® Inc. has in the multivariable field. It includes the well recognized and tested 3051C technology using capacitive cells for differential pressure as well as a patented piezoresistive/silicon sensors for measurement of absolute/ static pressures.

The digital technology utilized in the production of the 205 module is the most advanced measurement technology on the market, assuring maximum accuracy and rangeability. The extensive use of patented technology concerning the sensors internal circuitry significantly reduces the size and the weight of the 205 sensor.

The Multivariable Sensor measures three process variables at one time. It incorporates a capacitive differential pressure sensor, a piezoresistive absolute/static pressure sensor, and an optional connection for a two, three, or four wire RTD. The sensors convert the process variables to a digital format for direct communication with the flow computer.

PHYSICAL SPECIFICATIONS

Electrical/Conduit Connections	Two 3/4" NPT.
Process Connection	Two ¼' -18 NPT (multivariable)
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 or directly to multivariable
Multivariable	3 measurements in 1 (pressure, differential pressure, and temperature), manufactured by Rosemount® Inc.
Display	Text - 8 lines x 16 characters Graphics – 64 x 128 pixels
Terminal Blocks	Easily accessible; removable for easy connection
Certifications	CSA for class1, 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	7 to 24 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
Extended Memory (Optional)	128 MB virtual hard disk
Real Time Clock	Years/Months/Days/Hours/Minutes
Internal Battery	Lithium ion

E-LITE INPUT/OUTPUT SPECIFICATIONS

Optic Isolation	Each input is optically isolated with ±250 VDC chassis isolation
Analog Input	One 4-20mA (or 0-5VDC) input 24 bit resolution
RTD Input	One RTD input (Direct connection to flow computer uses one of the analog input channels) 24 bit resolution

E-LITE EXP (Expansion Board) INPUT/OUTPUT SPECIFICATIONS

Inputs and Outputs listed are available only when E-Lite Expansion Board (EXP) is installed. Numbers include those listed above. Do not include inputs listed above for total count.

Optic Isolation	Each output is optically isolated with ±250 VDC chassis/ground isolation
Analog Input	Four 4-20mA (or 0-5VDC) inputs Two 0-30VDC inputs 24 bit resolution
RTD Input	One RTD input (Direct connection to flow computer uses two of the analog input channels) 24 bit resolution
Digital/Frequency/Switch Input	Two inputs 5-28 VDC 0.25Amp rating Square wave 0-6kHz, Amplitude > 3V Sine wave 0 – 1200Hz, Amplitude > 70mV pk-pk
Digital/Switch/Pulse Output	One output 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

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

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

FLOW COMPUTATION SPECIFICATIONS

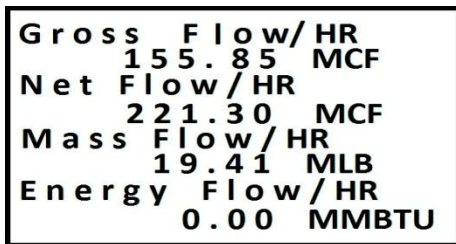|	
Number of Trains:	One (+2 Aux meters with Expansion Board)
Flow Calculation:	Gas or liquid

Primary Elements:	<u>Differential:</u>
	    Orifice, V-Cone, Wedge, Annubar,
	    Venturi, etc.
	<u>Pulse/Frequency:</u>
	    Turbine, PD, Vortex, Ultrasonic, etc.

Units of Engineering:	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

MULTIVARIABLE SPECIFICATIONS

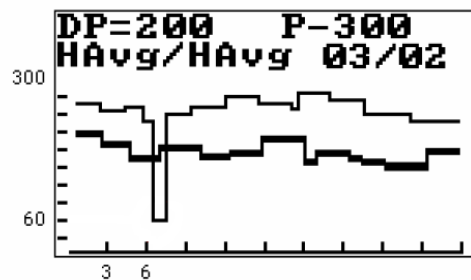|	
Function	Gas, oil, water, steam, and others
Differential Sensor Limits	<u>Range 2:</u> -250 to 250 in H2O (-0.622 to 0.622 bar) <u>Range 3:</u> -1000 to 1000 in H2O (-2.49 to 2.49 bar)
Absolute Sensor Limits	<u>Range 3:</u> 0.5 to 800 Psia (3447 to 5516 kPa) <u>Range 4:</u> 0.5 to 3626 Psia (3447 to 25000 kPa)
Gage Sensor Limits	<u>Range C:</u> 0 to 800 psig (0 to 5516 kPa) <u>Range D:</u> 0 to 3626 psig (0 to 25000 kPa)
Temperature Sensor (does not consider error from external RTD)	Compatible with any 100 Ohm Platinum RTD Range 3: -300 to 1200 °F (-184 to 649 °C) accuracy ±1.0 °F (±0.56 °C) Range 4: 1200 to 1500 °F (649 to 816 °C) accuracy ±0.5 °F by each 50 °F
Temperature Limits (Multivariable Flange temperature. Does not apply to process temperature)	-40 to 250 °F (-40 to 121 °C) (Silicon fill) 0 to 185 °F (-17.8 to 85 °C) (Inert fill)
Environmental Temperature Limits	-40 to 185 °F (-40 to 85 °C) (Silicon fill) 0 to 185 °F (-17.8 to 85 °C) (Inert fill)
Storage Temperature Limits	-40 to 230 °F (-40 to 100 °C)

205 MULTIVARIABLE SENSOR SPECIFICATIONS

Sensor Accuracy	0205E: 0.100% Accuracy
Sensor Limits: Differential Pressure	**2: -250 to 250 in H2O (-0.622 to 0.622 bar)**
Sensor Limits: Static Pressure	**D: 0 to 3626 PSIG (0 to 25000 kPa)**
Isolator Material, Fill Fluid	**A: 316L SST, Silicone**
Flange Style, Material	**A: Coplanar, CS**
Drain/Vent Material	**A: SST**
Process Temperature Input	**0: Fixed Process Temperature Port (Boss), Cable/RTD not included**
Process Connection	**Two ¼"-18 NPT**

* **Bold** indicates standard option offered by Dynamic Flow Computers.

Text Display

Graphic / Trend Display

Optional Accessories

RS-232 Elbow

SmartCone®

Armored RTD Cable

Shielded RTD Cable

Solar Panel

FreeWave Radio

Zigbee Radio

Bluetooth

L-Shaped Mounting Bracket

Back-Up Battery

5-Valve Manifold