



The SFC332 is a dual meter bi-directional field mounted flow computer which can be used for all liquid and gas applications, including custody or non-custody measurements. Using orifice plate, Venturi, turbine/PD/ultrasonic mass meter, or wedge devices, it can meter a wide variety of products, such as crude, refined product, LPG/NGL products, products that use table 24C, ethylene, propylene, and water. Fifty days of previous daily data, fifty previous batch data, and fifty previous hourly data are stored in the full format type reports. The previous 100 audit trail reports and 100 alarm reports are stored. User formatted reports and user formatted ticket reports are available.

Sixteen different product files are user-configurable and stored in memory with an easy switch feature to enable the user to choose which product is being monitored at any given time. Product scheduling for batch operation is also available.

### **SFC332P**

SFC332P prover flow computers store data for up to 60 meters and can easily be configured from inside a vehicle with a laptop. With the push of a button proving is initiated for any of the 60 meters.

The flow computer controls the proving process and generates all the proving reports. When proving is complete a printed report is automatically generated to a serial printer port. The data can also be retrieved via a laptop at any time.

The SFC332P can be mounted on a prover trailer, which can be moved from field to field to provide proving services.

### **Features**

- 32-bit processor
- Multiple I/O options
- Custody transfer accuracy
- Turbine diagnostics
- Battery backup /UPS

### **Prover (SFC332P)**

- Additional I/O options
- Stationary or portables
- Dual or single detectors
- Supports 4-way valve control

### **Communications**

- RS232 Modbus
- RS485 Modbus
- Analog and digital I/O

### **Applications**

- Liquid and gas measurement
- Wellhead measurement & automation
- Custody measurement and control
- Compressor stations
- Well optimization
- PID control

### **Reports/Storage**

- Daily
- Hourly
- Monthly
- Monthly day by day

### **Alternative Power**

- Extended length battery backup
- Solar powered

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**

<b>Electrical/Conduit Connections</b>	Three 3/4" NPT.
<b>Housing (Flow Computer)</b>	NEMA 4X class 1 div. 1 – IP66
<b>RTD Connection</b>	To flow computer terminal block
<b>Display</b>	Plasma; 2 Lines x 16 characters each line.
<b>Temperature Limits</b>	Operation: -40 to 185 °F (-40 to 85 °C) Storage: -50 to 190 °F (-46 to 87 °C)
<b>Humidity</b>	100%

**ELECTRICAL SPECIFICATIONS**

<b>Voltage</b>	12 to 30 VDC
<b>Power Consumption</b>	4 watt
<b>Solar Board (Optional)</b>	10/20 watts, 12 volts
<b>Polarity</b>	Reverse polarity protected
<b>Processor</b>	32 bits @ 16.7Mhz
<b>FLASH ROM</b>	4 MB @ 70 NANO seconds
<b>ROM</b>	2 MB @ 30 NANO seconds
<b>Real Time Clock</b>	Years/Months/Days/Hours/Minutes

**INPUT SPECIFICATIONS**

<b>Optic Isolation</b>	Each input is optically isolated with $\pm 250$ VDC chassis isolation
<b>Analog Input</b>	Four 4-20mA (or 0-5V) Inputs (expandable to 6 inputs) Resolution 24 bits
<b>Pulse/Frequency Input</b>	Three inputs (expandable to 4) 0 - 5000 HZ Signal must be > 70 mV for sine wave Signal must be > 6 volts for square wave <i>Input 3 is for square wave only</i>
<b>Digital/Switch Input</b>	Four inputs 7-24VDC 0.25 Amp rating
<b>RTD Input</b>	Two inputs (RTD Input uses/disables 2 analog inputs) Direct connection to flow computer 4-wire RTD, 24 bit resolution

**OUTPUT SPECIFICATIONS**

<b>Optic Isolation</b>	Each output is optically isolated with $\pm 250$ VDC chassis/ground isolation
<b>Digital/Switch Output</b>	Three outputs 7-24VDC 0.25 Amp rating
<b>Pulse Output</b>	Two outputs (can also be assigned as digital output for a total of 5 digital outputs) 7-24VDC 0.5 Amp rating On/Off or pulses (to 125 pulses/sec.)
<b>Analog Output</b>	Two outputs 4-20mA (external power required) For PID control or for data transmission Resolution 12 bits single ended

**COMMUNICATION SPECIFICATIONS**

<b>RS485</b>	Quantity 2 @ 1200 – 38400 bps
<b>RS232</b>	Quantity 1 @ 1200 – 19200 bps
<b>Protocol</b>	MODBUS® RTU/ASCII

**DIAGNOSTIC SPECIFICATIONS**

<b>Monitor/Alarm</b>	Multivariable: P, DP, T Analog Inputs/outputs Digital/switch inputs Digital/switch outputs Pulse/frequency inputs Internal temperature Battery voltage Internal power supply
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**FLOW COMPUTATION SPECIFICATIONS**

<b>Number of Trains</b>	Two bi-directional (dependent on application)
<b>Flow Calculation</b>	Simultaneous gas and liquid
<b>Primary Elements</b>	Differential: Orifice, V-Cone, Wedge, Annubar, Venturi, etc. Pulse/Frequency: Turbine, PD, Vortex, Ultrasonic, etc.
<b>Engineering Units</b>	US and Metric
<b>Base Conditions</b>	60°F, 14.7 Psia (15 °C and 1 Kg. /Cm <sup>2</sup> ) 68°F, 14.7 Psia (20 °C and 1 Kg/Cm <sup>2</sup> )
<b>Equations</b>	AGA3, API14.3, AGA7, AGA9, API5.6, API5.7, AGA8 methods 1, 2, and detailed; API 2540; API11-2-1, 11-2-1M; 11-2,2, 11-2-2M; GPA15, 16; API2565; tables 5A,B; 6A,B,C; 23A,B,C; 24A,B,C; 53A,B; 54A,B,C; 23 and 24. Others added continuously Consult factory for complete list

**Optional Accessories**

RS-232 Elbow



SmartCone®



Armored RTD Cable



Solar Panel



Rosemount® 205 Module

