SENTRY
TECHNOLOGIES
Cost-effective Automation Systems

RealFLO™ 42O2GFC

Features:

- AGA-3, 7, 8, V-Cone and API 21.1 compliant
- Two RS-232/485 selectable serial ports
- 1 RTD, 1 turbine meter input
- 1 digital pulse/input/output, 1 analog output - DR version
- 1 digital pulse/input/output, 2 analog inputs, 1 digital output shared with the turbine meter input - DS version
- Modbus master/slave and Modbus EFM protocols
- Small and lightweight with flexible installation options and easy retrofit applications
- cULus Class 1, Division 1, Hazardous Area Rating

The RealFLO 4202GFC is a highly integrated gas flow computer incorporating a multivariable sensor and a complete PLC. The product is compatible with industry standard programming environments including IEC 61131-3. Coupled with a second multivariable transmitter, the RealFLO 4202GFC can be used as a two-run gas flow computer.

Overview:

Flexible Installation - The RealFLO 4202GFC incorporates a highly accurate multivariable sensor that is compact and rugged. The 2-1/8" tap centers enable cost effective use of 3 and 5 valve instrument manifolds. The 4202GFC flow computer can be installed horizontally or vertically for easy retrofit of any conventional differential pressure transmitter.

Integrated PLC –
With a Control PLC incorporated inside the RealFLO 4202GFC body; this product provides a fully programmable platform that can be used in a wide variety of process control applications. Since both of the serial ports can communicate with other devices, the 4202GFC can scale to accommodate specific needs. Connected to other PLCs, the 4202GFC can take advantage of expanded I/O capabilities and the wide variety of functions they enable.

Applications:
With a choice of I/O configurations available, the 4202GFC can accommodate multiple input and output devices and can be easily expanded for more complex installations. The 4202GFC's two discrete inputs are versatile, the first of which can use level or pulse input up to 10 kHz. The second discrete input has an integral pre-amplifier for use with turbine meters. An optional analog output can be used for variable speed motor drives, control valves, emergency shutdown and more.

Alternatively the 4202GFC can be ordered with two analog inputs that could be used for measuring tubing and casing pressures in well applications.

The RealFLO 4202GFC provides two, fully functional RS-232/485 serial ports that can be used with remote I/O, radios, local displays or other serial devices. The unit provides Modbus master/slave and EFM Modbus as its native protocols. DNP 3.0 is optionally available and custom protocols can be easily implemented using the TelePACE C programming tools.

As a fully programmable gas flow computer with remote configuration capabilities, the RealFLO 4202GFC can be used in a wide range of process control applications including: well optimization, pressure control, odorant injection and more. The cULus Class 1 Division 1 Hazardous Area Rating also makes it ideal for use in petrochemical, industrial and below-grade municipal applications.

RealFLO™ 42O2GFC

Specifications

Functional

Flow Calculations	AGA-3 1992/2000 orifice plate, V-Cone and AGA-7 turbine meter
Density Calculations	AGA-8, 1992 and NX-19
Event/Alarm/History Logs	35 days hourly history, 35 days daily history, 700 events and 300 alarms (as per API 21.1)

Features

Protocols	Modbus master/slave with store and forward EFM (Enron) Modbus Optional DNP 3.0
Discrete Input/Output	One, dry contact, usable for level or pulse inputs to 10 kHz Shared with 0.5 A sinking digital output
Turbine Meter Input	One turbine meter input with integral pre-amplifier to 10 kHz Shared with 0.5 A sinking digital output (DS version only)
Analog Inputs	Two 0-5V, 15 bit resolution (DS version only)
Analog Outputs	Two 0-20 mA, sinking, 12 bit resolution (DR version only)
Communication Ports	One configurable RS-232/485 port, 300 to 38,400 baud One configurable RS-232/485 port, 1200 to 115,200 baud
Processors	One 16 bit CMOS micro controller, 14.74 MHz clock One 8 bit RISC co-processor, 14.74 MHz clock
Memory	1024 Kbytes CMOS static RAM 512 Kbytes flash ROM (remotely downloadable) 1024 bytes EEPROM
Battery	RAM memory and clock calendar retained for 2 years

Sensor Performance

Differential & Absolute Pressure	Accuracy ± 0.05% of span (for spans between 10% and 90% of URL)
Digital Output (spans <10% URL)	Accuracy ±(0.005)x(URL / Span)% of Span*
Long Term Drift Stability	< ± 0.05% of URL per year over 5 years
Temperature Accuracy	Accuracy ±0.28 °C or 0.5 °F, (not including RTD uncertainties)
Static pressure effect on differential pressure readings	The zero shift and span shift for a 1000psi (7MPa) static pressure change is: ZERO Shift ±0.05% of URL, SPAN Shift ±0.1% of reading
Ambient temperature effect on differential pressure readings	Total effect for a 55°C (100°F) change within Normal Operating Condition limits for absolute and differential pressure is: Digital Output: ±(0.0625%URL + 0.125%Reading)
Power Supply Requirements	9 - 30 VDC, 330 mW typical at 12VDC

* Accuracy stated includes the effects of Linearity, Hysteresis, and Repeatability

RealFLO™ 42O2GFC Product Data Sheet
Dimensions