

NUFLO™

Scanner® 1150 Flow Computer



The Scanner 1150 is now available in two enclosure sizes, the compact 1150T (left) and the full-size 1150C (right).

The NuFlo Scanner® 1150 Flow Computer combines efficiency and versatility in a low-power, single-stream gas measurement device. Its easy-to-use laptop interface and industry standard communication protocol make configuration, measurement, and reporting simple, accurate, and reliable. The on-board LCD provides on-site viewing of user-definable parameters, while full data access is available on its communications ports. The Scanner 1150 provides audit trail data that is maintained in battery-backed SRAM.

An Enron Modbus firmware and software option makes the Scanner 1150 easier to integrate with SCADA systems.

Now with even more features, including:

expanded input for supporting two additional analog inputs and two turbine meter inputs

a new compact enclosure option

and Enron Modbus® compliant downloads

Enclosure

- Two sizes
 - Fiberglass, weatherproof 1150C model (14 x 12 x 8 in.)
 - Polycarbonate, weatherproof 1150T model (10 x 8 x 6 in.)
- Supports mounting and signal connections for radios and modems

Display

- 2 x 16 character
- Large 0.4-in. high characters
- Configurable scan parameters and duration

Calculations

(updated once per second)

- Flow Rate:
 - AGA-3: 1992 Factors Method
 - Cone
- Supercompressibility Calculations
 - NX-19 (Full Analysis)
 - AGA-8-92 (SG, CO₂, N₂)

Certification

- CSA (C-US) Class I, Division 2, Groups A, B, C and D
- NEMA 4 (NEMA 4X optional)

Power Supply

- 12V solar charge controller, 6-amp maximum, pulse width modulated with temperature-compensated charging for maximum battery life
- DC power
 - 16 to 28 VDC with integral 12V battery (1150C or 1150T)
 - 8 to 16 VDC (1150T)
- Integral 12V battery
 - 33 amp-hour maximum (1150C)
 - 13 amp-hour maximum (1150T)
- Power management
 - Controls radio sleep mode and power-down mode with configurable duration, start, and stop times
 - Controls external transducer power and radio power when state of charge is diminished in order to maximize gas measurement autonomy.

MVT

- Two installation methods
 - Remote-mount with NuFlo MVX-II Multi-Variable Transmitter (Class I, Div. 1 certified)
 - Direct mount
- Low-profile (bottom process connections) and standard (side process connections) models available
- Linearized digital data
 - Static pressure
 - Differential pressure
 - Process temperature based on an external 100-ohm RTD
- NACE-compliant units also available

Maximum Operating Conditions

Static Pressure (PSIA)	Differential Pressure (In. H ₂ O)	Safe Working Pressure (PSIA)
100	30	450
300	200	450
300	840	450
500	200	750
1500	200	2250
1500	300	2250
1500	400	2250
1500	840	2250

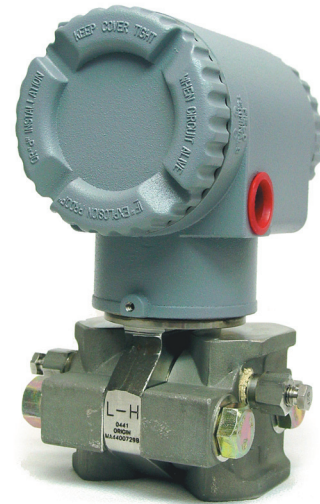
Static pressure ranges of 3000 psia and 5300 psia also available (specify at time of order)

MVT Accuracy

- Differential Pressure - +/- 0.05% of span
- Absolute Pressure - +/- 0.05% of span (does not include variation from user-entered barometric pressure that is used to calculate all gauge measurements)
- Stability – Long-term drift is less than +/-0.5% of URL per year over a 5-year period
- Process Temperature - +/- 0.5°F (does not include RTD uncertainties)



Integral MVT
(Low-profile sensor with bottom process connections)



Remote MVT
(NuFlo MVX-II Transmitter)

Audit Trail

- RTU Modbus
 - 60 daily records (gas and analog input)
 - 1440 adjustable interval logs (gas and analog input)
Intervals defined in terms of minutes, selectable from 60, 30, 20, 15, 10, 5, 2 and 1 (minutes)
Example: 1440 logs at 1-minute interval provides 1 day of data; 1440 logs at 60-minute interval provides 60 days of data
 - 256 event logs (API 21.1)
 - 128 alarm logs
- Enron Modbus
 - 65 daily records (gas and analog input)
 - 1560 adjustable interval logs (gas and analog input)
Intervals defined in terms of minutes, selectable from 60, 30, 20, 15, 10, 5, 2 and 1 (minutes)
Example: 1560 logs at 1-minute interval provides 1 day and 2 hours of data; 1560 logs at 60-minute interval provides 65 days of data
 - 512 event/alarm logs (API 21.1)

Communications

- 3 on-board communications ports
 - RS-232: 19200 baud rate (laptop/configuration)
 - RS-232/RS-485: radio port (9600, 19200, 38400 baud)
 - RS-485: Modbus master
- Devices certified for internal mounting/use with Scanner 1150
 - MDS TransNET radio (case and board-mount versions)
 - MDS 9810 radio (Scanner 1150C only)
 - Freewave FRGM (models 501X015 and FGR09CSU)
 - NuFlo telephone modem
 - NuFlo Wireless Bluetooth option board

Input / Output

(Main Board)

- Analog Input: 1-5 VDC (12-bit resolution)
- Pulse Output
 - Flow or time proportional
 - Solid-state OptoMOS relay (100 mA @ 30 VDC)
- Alarm Output
 - Linked to state of 16 system parameters
 - Solid-state OptoMOS relay (100 mA @ 30 VDC)

Temperature Range

- -15°C to 50°C (5°F to 122°F) standard
- Extended temperature range with optional battery: -40°C to 60°C (-40°F to 140°F)

Expanded Input

(Optional)

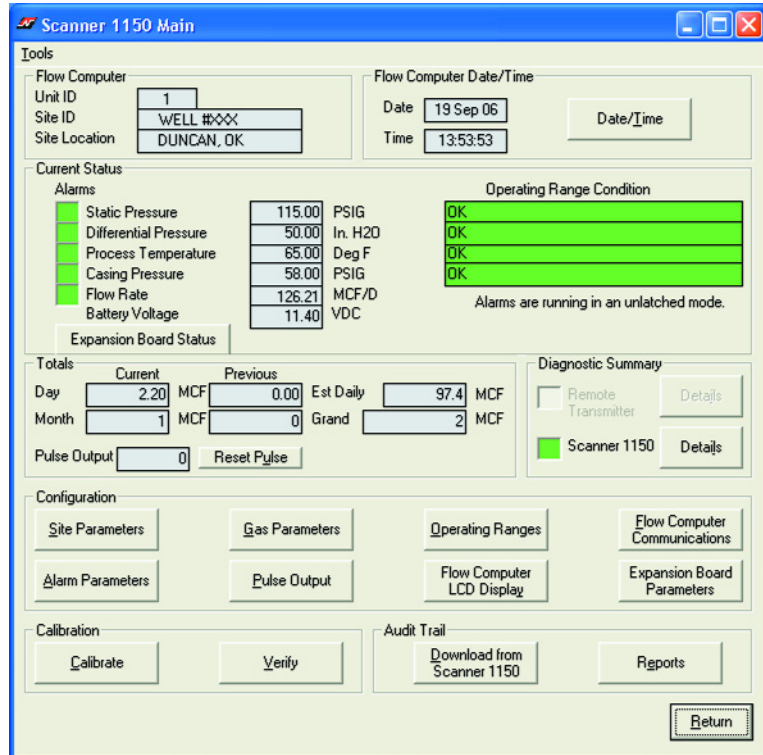
- Two Frequency Inputs
 - TFM Input, 25 mV to 5V, frequency range: 0 to 3500 Hz
 - Turbine 1, up to 5-point calibration
 - Turbine 2, 1-point calibration
 - Pulse Input, 3 to 30 VDC, frequency range: 0 to 3500 Hz
 - Low-Power Line Amplifier (LPLA), frequency range: 0 to 3500 Hz
- RS-485 Modbus Communications
- Two Analog Inputs
 - Each configurable, 1-5 V or 4-20 mA
- Power (12 VDC) typically supplied from Scanner 1150; external power terminal block accepts 6 to 28 VDC input

Protocols

- RTU Modbus
- Enron Modbus compliant downloads
- Drivers available to facilitate use in SCADA systems

Interface Software

- Easy to use
- Included with Scanner 1150 at no charge
- Configuration
 - 1 to 5 calibration points supported
- Archive data download
 - Download/upload of configuration data
 - Daily and interval records downloaded per user specification: all records, new records, or records stored within date range
- 10 operators with 3 levels of security
- Integral reports and charting
- Data export to .csv format
- Data export to .scm format (for easy conversion to Flow-Cal using NuFlo SCM Converter program)



Scanner 1150 Software Main Screen displays Expansion Board menu buttons when the input expansion board is installed.

MEASUREMENT SYSTEMS

Formerly: NuFlo Measurement Systems • Barton Instrument Systems • Caldon, Inc.

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