

Transmitter: Analog, BTU, Pulse and Protocol Output

Converts Flow Signal To A Linear 4-20mA Analog or a Protocol Signal

NEW!
BOTH BACNET & MODBUS IN ONE BTU TRANSMITTER



DESCRIPTION

3xO programmable transmitters are capable of converting the frequency signal from any of our flow sensors to a preferred output type (analog, scaled pulse, protocol). In addition to standard square wave signals, it can also accept a sine wave, making it a versatile transmitter for numerous applications. The 310 and 320 offer analog and scaled pulse output, respectively, while the 340 models offer communication protocols (N2, BACnet/Modbus, or LonWorks), with energy (BTU) measurement (appropriate software and programming cables are required for installation; see Ordering Information).

APPLICATIONS

- Converting sine/square wave signals to 4-20 mA and protocol
- Increasing wire run length limit for flow sensors
- Connecting flow sensors to BAS panels

FEATURES

- Programmable (units of measure, calibration, etc.) using computer with Windows™-based operating system...save installation time in the field by pre-programming the device
- Accepts sine wave input from a variety of other sources for application flexibility
- Compact size...saves space in crowded enclosures
- Communication protocols available on the 340 models

310 SPECIFICATIONS



Power Requirements	Loop input voltage 9-35VDC
Input Frequency	0.4 Hz to 10 kHz
Load Resistance	Max 750Ω@24VDC
Operating Temperature Range	-29° to 70°C (-20° to 158°F)
Storage Temperature Range	-40° to 85°C (-40° to 185°F)
Accuracy	±0.04% of reading over entire span
Linearity	0.1% of full scale

320 SPECIFICATIONS

Power Requirements	12-30VACm 85mA max.; 12-40VDC, 30mA max.; Reverse and over voltage protected to 40VDC
Input Frequency	0.4 to 10 kHz
Transient Suppression	Complies with IEC-801-4 electrical burst, fast transient specification
Pulse Output	Isolated solid state switch in any standard or custom flow total units; Adjustable 50 msec to 1.0 sec pulse output width in 50 msec increments
Maximum Sinking Current	100mA@36VDC
Operating Temperature Range	-29° to 70°C (-20° to 158°F)
Storage Temperature Range	-40° to 85°C (-40° to 185°F)

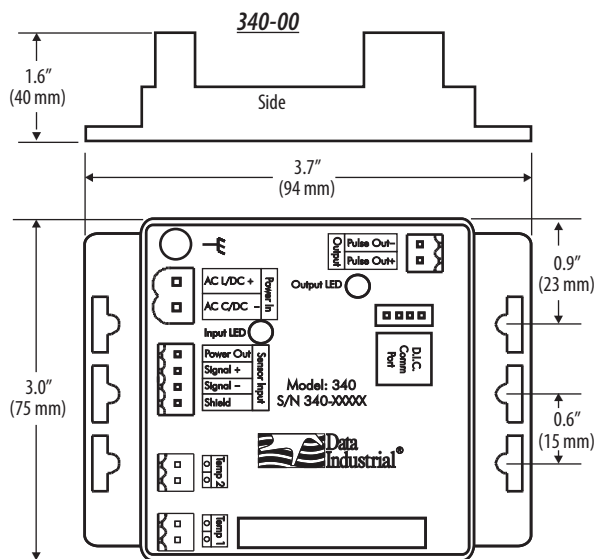
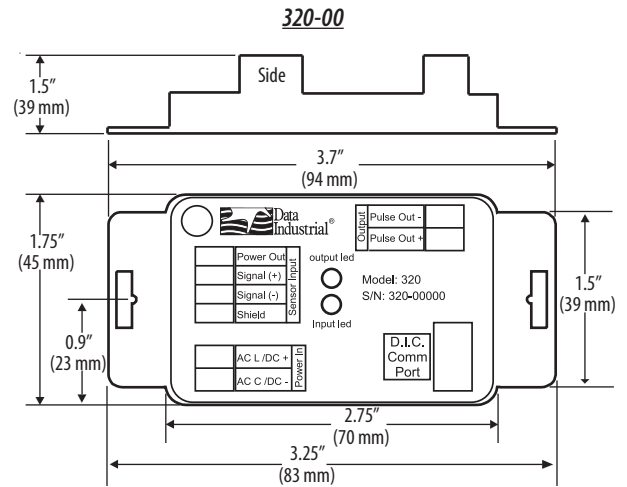
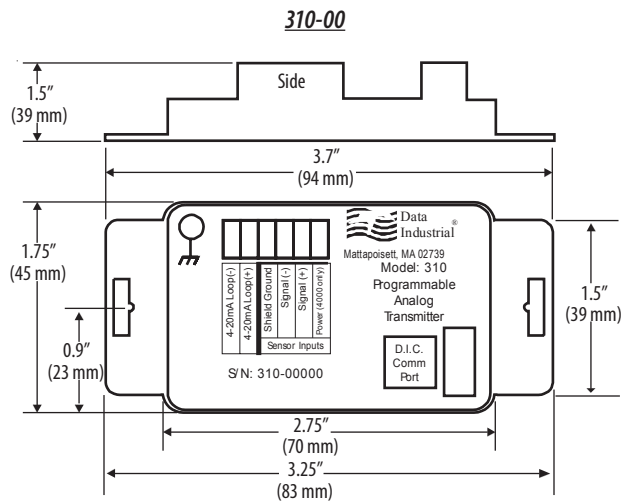
340 SPECIFICATIONS

Power Requirements	12-24VDC or 12-24VAC, 70mA max.
Flow Sensor Input	Excitation voltage 3-wire sensors: 9.1VDC 500Ω source impedance
Frequency	0-10 kHz
Temperature Sensor Input	10k Dale Thermistor (requires 2, sold separately)
Operating Temperature Range	-29° to 70°C (-20° to 158°F)
Storage Temperature Range	-40° to 85°C (-40° to 185°F)

Units of Measure:

Flow Rate	gpm, gph, l/sec, l/min, l/hr, ft3/sec, ft3/min, ft3/hr, m3/sec, m3/min, m3/hr
Total Flow	gallons, liters, cubic feet, cubic meters
Energy Rate	kBTU/min, kBTU/hr, kW, MW, hp, tons
Total Energy	BTU, kBTU, MBTU, kWh, MWh, kJ, MJ

DIMENSIONAL DRAWINGS



ORDERING INFORMATION

MODEL	MANUF. PART #	DESCRIPTION
U001-0013	310-00*	Flow Transmitter, Analog, Programmable, 4-20mA output
U001-0027	340LW-00*	Flow Transmitter, BTU, Analog, Programmable, LonWorks output
U001-0029	340N2-00**	Flow Transmitter, BTU, Analog, Programmable, N2 output
U001-0035	310-04*	Flow Transmitter, Analog, 4-20mA, DIN mounting
U001-0038	340N2-02**	Flow Transmitter, BTU, Analog, Programmable, N2 output, metal enclosure
U001-0042	310-01*	Flow Transmitter, Analog, 4-20mA, NEMA 4X enclosure
U001-0136	340BN/MB-00****	Flow Transmitter, BTU, BN-MB, No enclosure
U001-0137	340BN/MB-02****	Flow Transmitter, BTU, BN-MB, Metal Enclosure
U001-0138	340BN/MB-03****	Flow Transmitter, BTU, BN-MB, Plastic Enclosure
U001-0139	340BN/MB-04****	Flow Transmitter, BTU, BN-MB, with DIN Clips
U001-0060	320-00*	Flow Transmitter, Programmable, Scaled pulse output
U001-0109	340-00****	Flow Transmitter, Programmable, frequency output
U001-0020	A301-20	Programming cable with CD for Badger analog/Modbus/BACnet/LonWorks
U001-0075	A302-20	Programming cable with CD for Badger 340N2

Other models available:

Model	Options
<input type="checkbox"/> 310 = Analog <input type="checkbox"/> 320 = Pulse <input type="checkbox"/> 340 = BTU <input type="checkbox"/> 340N2 = BTU; N2 protocol <input type="checkbox"/> 340BN/MB = BTU; Bacnet and Modbus protocol <input type="checkbox"/> 340LW = BTU; LonWorks	<input type="checkbox"/> 00 = Transmitter only <input type="checkbox"/> 01 = NEMA 4 enclosure (310, 320 only) <input type="checkbox"/> 02 = Metal weathertight enclosure <input type="checkbox"/> 03 = Plastic weathertight enclosure <input type="checkbox"/> 04 = DIN rail mounting clips

Example:

340 02

* A301-20 software and programming cable required for analog, Modbus, LonWorks, BACnet transmitter and meter products.

** A302-20 software and programming cable required for N2 products.

*** 340 Series also requires two 10k Dale thermistors for energy (BTU) measurement.