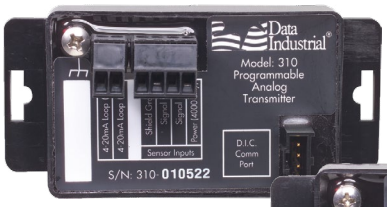
Transmitter: Analog, BTU, Pulse and Protocol Output

3x0 Series

NEW!
Both BACnet and Modbus in One BTU Transmitter

340-00



310-00

320-00

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

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*

DESCRIPTION

3x0 programmable transmitters are capable of converting the frequency signal from any compatible 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 & programming cables are required for installation; see Ordering Information).

APPLICATIONS

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

310 SPECIFICATIONS

1 Year Warranty

Power Requirements	Loop input voltage 9-35VDC
Input Frequency	0.4 Hz to 10 kHz
Load Resistance	Max 750Ω@24VDC
Operating Temp Range	-29° to 70°C (-20° to 158°F)
Storage Temp 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

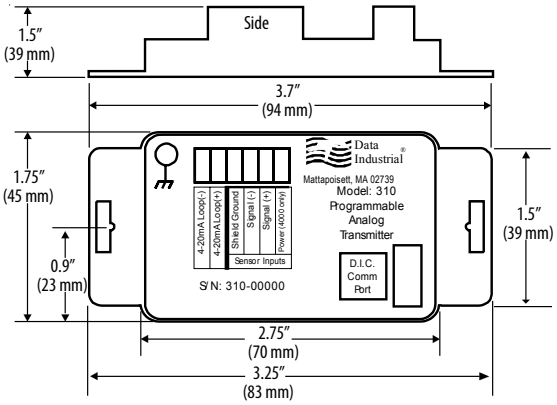
Power Requirements	12-24VAC 85mA max.; 12-35VDC, 30mA max.; Reverse and over voltage protected to 40VDC
Input Frequency	0.4 to 10 kHz
Transient Suppression	Complies with IEC-801-4 electrical burst, fast transient specification
Pulse Output	Isolated solid state switch in any standard or custom flow total units; Adjustable 50 msec to 1.0 sec pulse output width in 50 msec increments
Maximum Sinking Current	100mA@35VDC
Operating Temp Range	-29° to 70°C (-20° to 158°F)
Storage Temperature Range	-40° to 85°C (-40° to 185°F)

340 SPECIFICATIONS

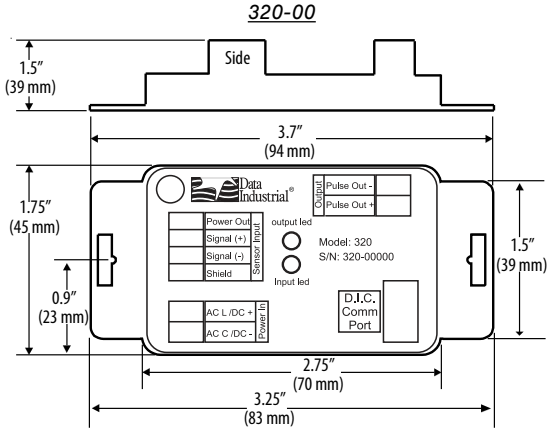
Power Requirements	12-24VDC or 12-24VAC, 70mA max.
Flow Sensor Input	Excitation voltage 3-wire sensors: 9.1VDC 500Ω source impedance
Frequency	4-10000 Hz
Temp Sensor Input	10k Dale Thermistor (requires 2, sold separately)
Operating Temp Range	-29° to 70°C (-20° to 158°F)
Storage Temp Range	-40° to 85°C (-40° to 185°F)
UNITS OF MEASURE	
Flow Rate	gpm, gph, l/sec, l/min, l/hr, ft^3/sec, ft^3/min, ft^3/hr, m^3/sec, m^3/min, m^3/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

310-00



320-00



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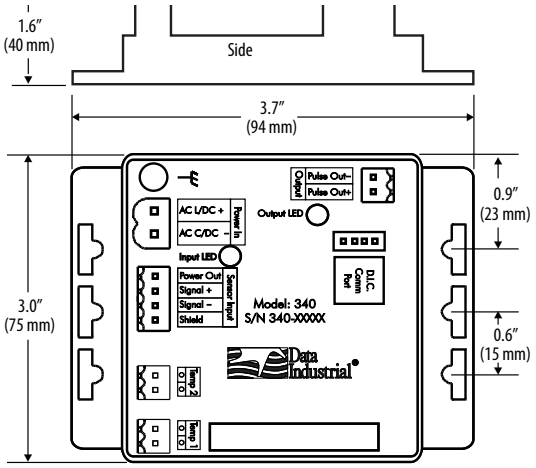

ORDERING INFORMATION

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 analog/Modbus/BACnet/LonWorks outputs, serial PC connector
U001-0075	A302-20	Programming cable with CD for N2 output, serial PC connector
U001-0149	40134-0002	Programming cable with CD for analog/Modbus/BACnet/LonWorks outputs, USB PC connector

** Software and programming cable are required for analog, Modbus, LonWorks, BACnet transmitter and meter products.*
*** Software and programming cable required for N2 products.*
**** 340 Series also requires two 10k Dale thermistors for energy (BTU) measurement.*

Other models available:

Model

310 = Analog
320 = Pulse
340 = BTU
340N2 = BTU; N2 protocol
340BN/MB = BTU; Bacnet & Modbus protocol
340LW = BTU; LonWorks

Options

00 = Transmitter only
01 = NEMA 4 enclosure (310, 320 only)
02 = Metal weathertight enclosure
03 = Plastic weathertight enclosure
04 = DIN rail mounting clips

Example:

340 | 02

ACCESSORIES

Probe temperature sensor (TRA)
Immersion probe temperature sensor (TIH)


TRA


TIH