SX1000 Series

Smart 2-Wire Rate Transmitter

Description

The SX1000 is a state-of-the-art microprocessor-based smart 2-wire transmitter. It incorporates advanced electronic circuitry, and software that enables it to provide a high degree of performance and system flexibility yet at reasonable cost and ease of use. In its current loop-powered configuration, it can interface with a flowmeter's magnetic pickup providing a simple, robust flow measuring system. Using an external power supply, a Hall Effect Sensor may be used to provide improved resolution and turndown. The SX1000 provides constant rate display in user-configured units. Its built-in linearization table allows up to sixteen points for accurate flowmeter performance in a variety of conditions. Its optional HART® interface allows the unit to communicate Universal HART commands with PC's and PLC's on the same current loop. Programming of the SX1000 is performed using its Display/Programming Module.

SX1000 Series
Smart 2-Wire Rate Transmitter
with Display Programmer

Features

- Magnetic pickup, DC Pulse (optically isolated), and contact closure input
- Displays rate and units
- Loop-powered
- 4–20 mA analog output
- 8-digit display/programmer
- Optional HART® protocol
- 16-point linearization
- Advanced signal filtering
- Explosion-proof and DIN rail mounting options

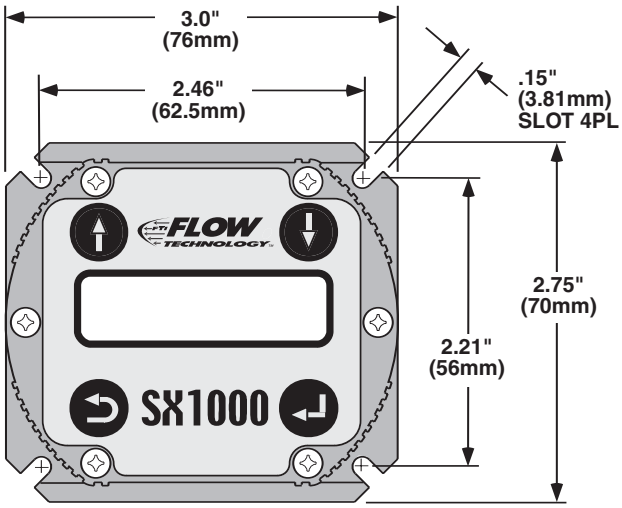
Operation

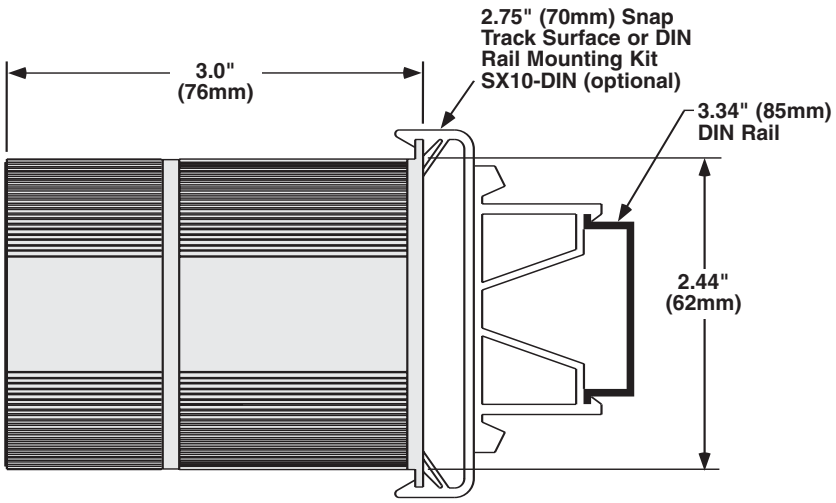
Once the SX1000 is properly wired and programmed, operation is automatic. Programming is simplified with prompts at each step of the process. In addition to K-factors, the SX1000 allows users to program the units of measurement that are displayed. Once the SX1000 is in Run Mode, the flow rate is continuously displayed.

CE

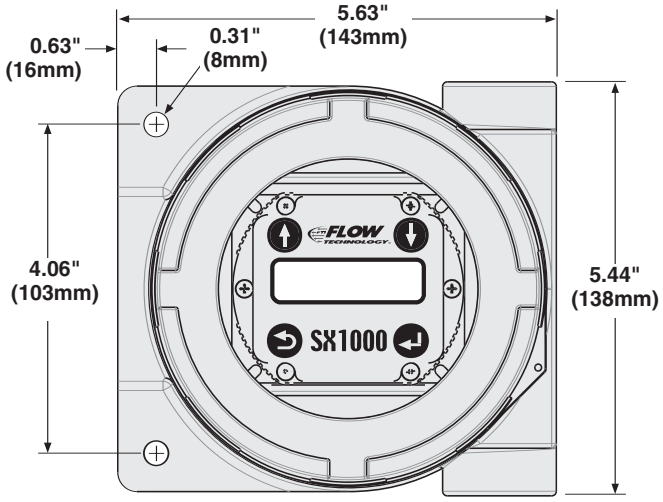
Dimensions

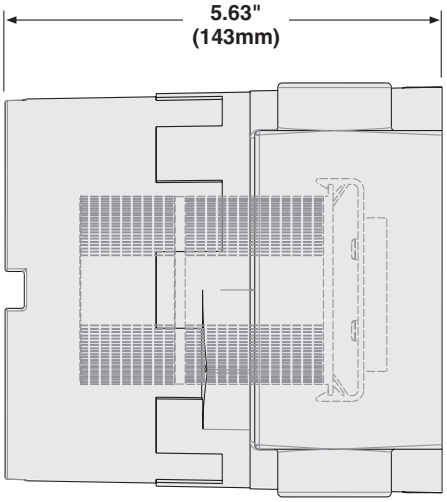
SX10-R-X-0



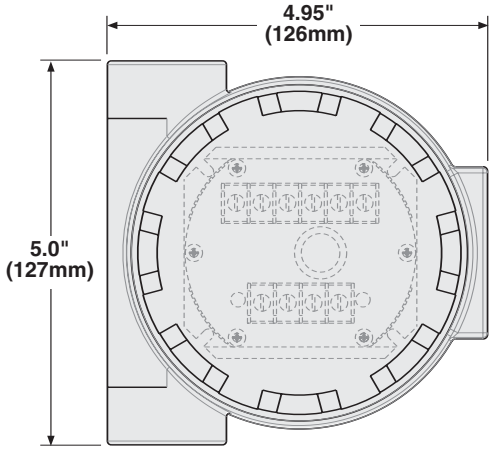


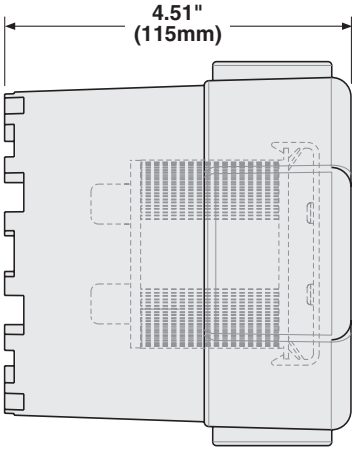
SX10-R-X-C





SX10-B-X-C





Specifications

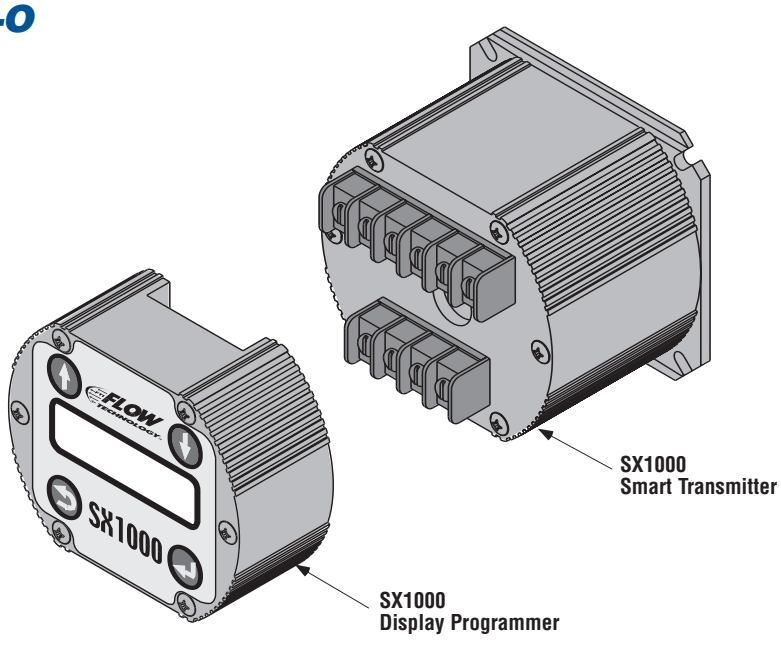
General

Inputs	Frequency/Pulse. Hall Effect or Magnetic pickup sensor
Frequency Range	0.5 to 2000 Hz
Trigger Sensitivity	30 mV peak to peak
Over Voltage Protection	±30 VDC
Minimum Range	None. Limited only by signal quality
Digital Resolution	>17 Bits
Outputs	4–20mA isolated analog current loop (24V supply recommended)
Maximum Load	$R_{max} = (V_{supply} - 12)/20$ mA
Display/Programmer	8x1 Character LCD indicator for programming and display of input and output parameters and status
Supply	12–45 VDC (@ no load) Reverse polarity protected
Operating Conditions	-4° F to +158° F (-20° C to +70° C) 0-95% RH, non-condensing
Storage Temperature	-67° F to +257° F (-55° C to +125° C)
Turn-on Time	Within 4 seconds to rated response
Response Time	
Linear Input	0.5 seconds to 99% of reading (2 updates per second)
Linearized Input	<1.0 seconds to 99% of reading (>1 update per second)
Filter	
Dampening	Programmable 0.0 to 60.0 seconds
Band	0 to 100% (percent range where dampening is applied)
Long-term Stability	Better than ±0.01% of span for 6 months
Isolation	
Input/Output	800 VDC or peak AC
Terminals to Case	600 VDC or peak AC
RFI/EMI Immunity	Tested per SAMA PMC 33.1C from 20 to 1000 MHz and for field strength up to 30 V/m
Enclosure	Extruded, anodized Aluminum
Optional	NEMA 7 explosion-proof housing
Dimensions	
Without display	3.00" x 2.44" x 2.46" (76 x 62 x 62.5mm)
With display	3.00" x 2.44" x 3.00" (76 x 62 x 76mm) Hockey-puck housing
Approvals	CE Mark

Performance

Analog Output Resolution	0.025% of span (±4 µA)
Analog Output Linearity	±0.025% of span (for D/A)
Supply Voltage Effect	<±0.001% per Volt
Calibration	Automatic. Unit includes all of the calibration parameters. It performs periodic "zero," "span," self-test and auto calibration. No field calibration is required.
Linearization	Up to 16 point K-factor linearization correction
Magnetically Activated Keys	Magnetic reed switch keys allow the keys to be activated from outside the enclosure using a magnetic wand

SX10-R-X-O



Model Numbering System

S X 1 0 – ☐ – ☐ – ☐

Basic Model No.

Configuration

R = With Display/Programming Reed Switch Module *

B = Transmitter without Display/ Programming Module * ◆

Communication

A = No communications *

Enclosure

0 = No Enclosure *

C = NEMA 7 explosion-proof enclosure (Note: SX10-R-X-C has enclosure with window. SX10-B-X-C has enclosure without window.)

Display/Programmer Only (no Transmitter)

S X 1 0 – D – 0 – 0

DIN Rail Mounting Kit

S X 1 0 – D I N

Magnetic Programming Wand

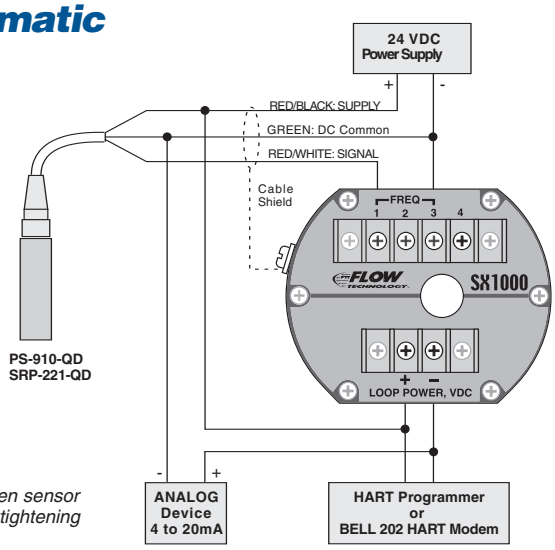
S X 1 0 – W A N D

For the SX10-R-X-C with explosion-proof enclosure. Allows user to actuate buttons on the SX1000 Display/Programmer through the glass.

Notes: ◆ SX10-B-X-X transmitter is factory programmed. Field programming requires an SX10-D-0-0 Display Programmer. A single SX10-D-0-0 Display/Programmer may be used to program multiple SX10-B-X-X transmitters.

* Standard Configuration

Typical Wiring Schematic



Caution: *Finger-tighten sensor into meter body. Overtightening may cause damage.*

Specifications are for reference only and are subject to change without notice.

Local Representative:

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ISO 9001 REGISTERED

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