# MOORE INDUSTRIES

Description

The SRX Square Root Extractor accepts direct input from a differential pressure (d/p) transmitter. It provides a 4-20mA output that is proportional to actual flow rate by computing the square root of the differential pressure input and producing a linear flow output signal. The SRX performs this function without degrading the accuracy or resolution of the d/p transmitter.

The loop-powered SRX requires no external power source. It derives operating power from existing loop current when placed in series with the signal from a 2-wire d/p transmitter.

Ordering Specifications

To order, use the bold face data from the Ordering Specifications section of the Specification table on page 2. For assistance, refer to the model number example located at the bottom of the table.
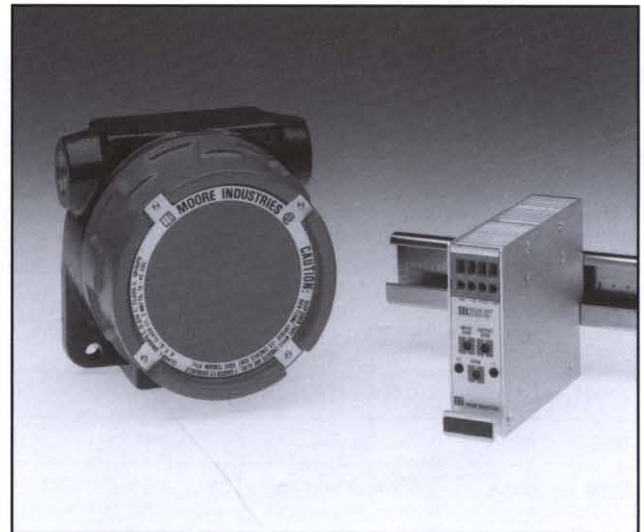
The SRX's compact DIN-style housing is perfect for control room applications. The hockey-puck housing inserts in an explosion-proof enclosure for field mounting.

Features

- **Direct differential pressure input.** The SRX accepts input directly from all d/p transmitters.

- **High accuracy and resolution.** Because the SRX uses a continuous square root computer, instead of a biased diode technique, it delivers exceptional accuracy and resolution.

- **RFI/EMI protection.** When ordered with the -RF option, the SRX provides 50V/m protection from the harmful effects of radio frequency and electromagnetic interference.
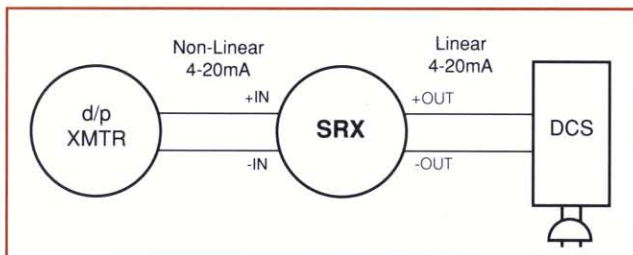

Figure 1. *From a direct d/p transmitter input, the SRX provides an output proportional to actual flow rate.*

Certifications

FM Explosion-proof, Division I, Groups B, C, D (refer to FM prefix for hockey-puck housing in explosion-proof enclosure)

CSA General Purpose; Explosion-proof, Division I, Groups B, C, D (hockey-puck housing in explosion-proof enclosure)

ISSEP Flameproof, EExd IIC T6 (refer to F prefix on enclosures)

SAA Explosion-proof, Ex d IIC T6 IP66 (refer to S prefix for hockey-puck housing in explosion-proof enclosure)

Specifications

Characteristics

Performance	**Calibration Capability:** Curve conformance within ±0.1% of span above 1% of input **Frequency Response:** 50Hz (3dB point) **Current Consumption:** Current loop excitation 4mA @ 6.0Vdc
Ambient Temperature	**Range:** -28°C to +82°C (-20°F to +180°F) **Effect:** ±0.018%/°C (±0.01%/°F) above 10% of input; ±0.05%/°C (±0.025%/°F) from 5-10% of input
Adjustments	**Type:** External multiturn potentiometers **Input Zero:** Adjusts the
Adjustments (continued)	output to 10% with an input current at 1% of span **Output Zero:** Adjusts the output to 50% with an input current at 25% of span **Span:** Adjusts the output to 100% with an input current at 100% of span
Weight	141.5 grams (5 ounces)

Ordering Specifications

Unit	Input	Output	Power	Options	Housing
SRX	**4-20mA** (from differential pressure source) into 275 ohms	**4-20mA** into 300 ohms (based on 24Vdc loop power, 12Vdc d/p transducer and 6Vdc SRX circuit)	**6VLP** 6 volts (loop-powered on output side)	**-FA** Front-accessible terminal block (either -FA or -RA required on DIN housing) **-RA** Rear-accessible terminal block (either -RA or -FA required on DIN housing) **-RTB** Removable terminal block (DIN housing only) **-RF** RFI/EMI protection rates 50V/m - ABC = 0.01% F.S. when tested according to SAMA Standard PMC 33.1	**DIN** Aluminum DIN-style rail-mount housing (G-type rail) **HP** Hockey-puck housing with spring clips for mounting in an explosion-proof enclosure **FL** Hockey-puck housing with flanges for surface or relay track mounting **2LS*** Hockey-puck housing mounted in 2-hub, low solid cover, explosion-proof enclosure **3LS*** Same as 2LS except enclosure has 3 hubs **2HG*** Hockey-puck housing mounted in 2-hub, high glass window, explosion-proof enclosure (hockey-puck digital indicator mounts on top of transmitter inside of enclosure) **3HG*** Same as 2HG except enclosure has 3 hubs * **F** prefix on enclosure ordering designation indicates CENELEC approved flameproof (**F2LG**) **FM** prefix on enclosures ordering designation indicates FM approved explosion-proof (**FM2LG**) **S** prefix on enclosure ordering designation indicates SAA approved explosion-proof (**S2LG**) **P** suffix indicates enclosure comes equipped with base plate and U-bolts for mounting on a 2-inch pipe (**2LSP**)

To order, specify: Unit / Input / Output / Power / Options [Housing]
Model number example: SRX / 4-20MA / 4-20MA / 6VLP / -FA [DIN]

Installation

For unit dimensions and terminal designations, see the DIN (#13.04), FL/HP (#13.15) and EXPL (#13.12) housing sheets.

The Interface Solution Experts

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