



XZ2-S

SQUARE ROOT EXTRACTOR

A 2 wire loop powered unit which square roots the input signal and transmits a linear current output

- Converts a 2 wire square law signal into a linear current output
- Transfer function ensures infinite resolution
- High accuracy & excellent square root conformance
- 4-20mA or 10-50mA signals

The XZ2-S is intended for use in linearizing the output of a square law signal such as the output of a differential pressure transmitter measuring flow rates.

The XZ2-S is an accurate 2 wire transmitter that produces an output current proportional to the square root of the applied input current. The standard input range is 4-20mA with an optional 10-50mA range. The unit is powered by the output current loop and requires a maximum of 6.3V. The XZ2-S is reverse polarity protected, current limited, and will function accurately under adverse environmental conditions. The ZK option allows operation with 5.6V by removing reverse polarity protection. The XZ2-S is specified to operate over a wide temperature range of - 40°C to 85°C.

All XZ2-S transmitters undergo stringent factory tests to ensure their correct specifications. Circuit boards are conformally coated and enclosed in a rugged compact aluminum housing, which can be surface, track or DIN 'G' rail mounted for location in controlled environments. Industrial or explosion proof enclosures are also available for harsh or restricted environments.

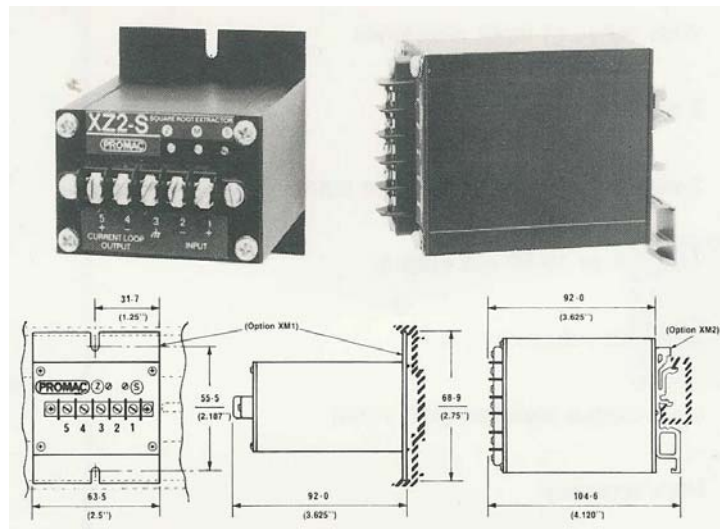
INPUT

Typically from a 2-wire square law current transmitter. A 4-wire square law current transmitter can also be used, but with reverse input connections. (**Caution:** The 4-wire transmitter output transistor may be subjected to a voltage equal to twice its supply voltage).
Span: 4-20mA Standard (10-50mA optional)
Adjustability: ±5% of span for ZERO, MID, SPAN
Protection: Reverse polarity to - 60Vdc
Input Current Limit:
 35mA max. for input overrange (4-20mA)
 85mA max. for input overrange (10-50mA)

OUTPUT

Range: 4-20mA standard (10-50mA optional)
Load Resistance (R_L)

$R_L = \frac{(\text{Supply Voltage}) - (\text{Input Transmitter Min. Voltage} + 6.3V)}{20mA (50mA)}$
 (Note: for 4-wire current source; input transmitter min. voltage = 0V)



PERFORMANCE

Transfer Function:

$$I_{out} = 16mA \sqrt{[(I_{in} - 4mA) / 16mA] + 4mA}$$

Accuracy: (Includes Hysteresis & Repeatability)
 Square root curve conformance within ±0.1% of span for inputs above 1%

Temperature Effect: (-25°C to 85°C)
 0.01% of span/°C above 10% of Input
 0.03% of span/°C from 5% to 10% of Input

Operating Temperature: - 40°C to 85°C

Response Time: 0.5 seconds for 98%

POWER

XZ2-S takes 6.3V (max) from the current loop and only 5.6V with option ZK

Power Supply Range:

Max:(Input Trans. Max. voltage + 6.3V) + (20mA) (R_L)

Min:(Input Trans. Min. voltage + 6.3V) + (20mA) (R_L)

CLASSIFICATION

(General purpose)
 Designed for non-incendive use in Class 1, Div. 2 Groups A, B, C, D and suitable for use in Class II, Div. 2 Group G and Class III, Divs. 1 & 2 Hazardous Areas

ELECTRICAL OPTIONS (applicable)

ZO 10-50mA Output
 ZK Low voltage drop (no reverse polarity protection)

MOUNTING BRACKET OPTIONS

XM1 Standard surface/Snap-in track
 XM2 DIN 'G' rail
 XM4 Explosion proof

ORDER INFORMATION

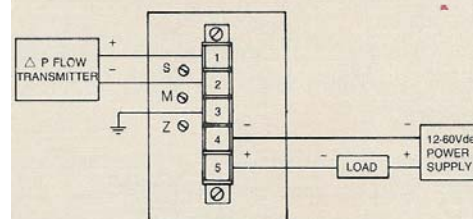
Please specify the following:

1. Model Number XZ2-S
2. Input range
3. Output range
4. Z options
5. X accessories

Model No. Examples:

XZ2-S/4-20/4-20/XM1
 XZ2-S/10-50/10-50/XM2

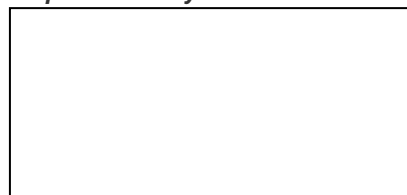
Typical Application Wiring Diagram



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Represented By:



Specifications are subject to change without notice.

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