



### Standard Features:

DIN-Rail Mount (small Size)

Industry Standard Inputs: 4-20 mA, 1-5 VDC, and more (see back)

Industry Standard Output: 4-20 mA, 1-5 VDC, more (see back)

Drop Out Setting for Lower Limit Input

Easy Field Calibration (Typ. calibration time < 2 min. using handheld meter only)

Microprocessor Controlled for High Accuracy

Two Wire Supply for Two Wire Transmitters

Power: 24 VDC

High Noise Rejection

CSA and NRTL Approved

### Function:

The NTC-XX-SIN is a microprocessor controlled Square Root Extractor. It has an adjustable drop out setting which defines the lower limit of the output at which the square root extraction ceases. This feature is important especially in environments where signals are noisy since low input signals produce large results after the square root function. For example, an input of 1% translates into an output of 10%. Therefore, if the input fluctuates by approximately 1% in the lower (4-5 mA) region, the output may vary by more than 10%. By setting the drop out to a few percent above 10% output, the actual output will remain at 4 mA until the true output rises above the drop out setting.

### Calibration:

A multi-turn potentiometer is used to adjust the drop out setting for the input. The drop out can be in the range of 0-50% and can be read with a voltmeter at the test point. The test point shows a voltage of 0-5 VDC for a drop out setting of 0-50%.

### Specifications:

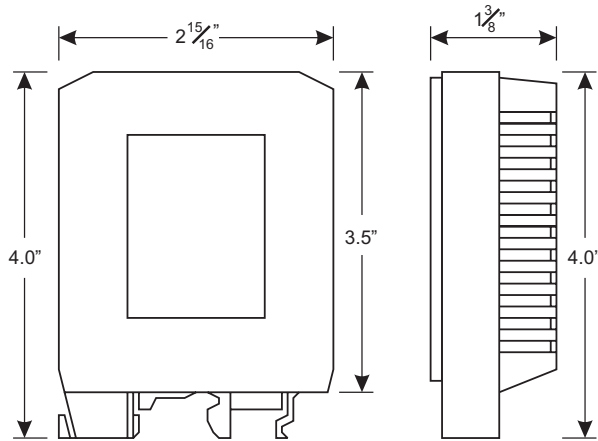
Accuracy/Linearity: +/- 0.3% max., +/- 0.1% typ.  
(@ 20-100% Output)

Operating Temperature: -40 Deg.C. to +50 Deg.C.

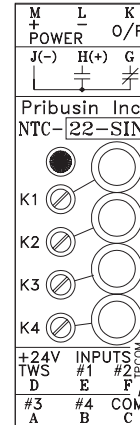
Temperature Effects: +/-0.5% max., +/-0.2% typ.  
(for 40 Deg.C. change)

# NTC-XX-SIN

## Dimensions:



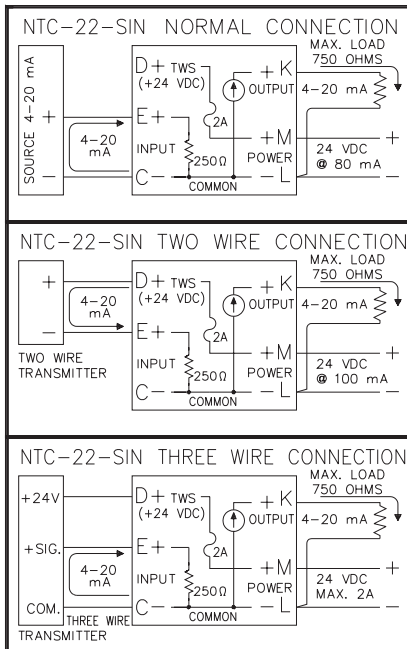
## Calibration:



Calibration is made easy by multi turn potentiometers with test jacks for meter connection.

## Connection:

Shown here for 4-20mA Output



## Model Designation:

NTC-XX-SIN

Input

Output

- 1: 1-5 mA (Zin=1K Ohm)
- 2: 4-20 mA (Zin=250 Ohm)
- 3: 0-1mA (Zin=5K Ohm)
- 4: 10-50 mA (Zin=100 Ohm)
- 5: 1-5 VDC (Zin=1Meg Ohm)
- 6: 0-10 VDC (Zin=1Meg Ohm)
- 7: Special Input

- 1: 1-5 mA (3000 Ohm Drive)
- 2: 4-20 mA (750 Ohm Drive)
- 3: 0-1 mA (15000 Ohm Drive)
- 4: 10-50 mA (250 Ohm Drive)
- 5: 1-5 VDC (Zout=250 Ohm)
- 6: 0-10 VDC (Zout=500 Ohm)
- 7: Special Output

Example: Square Root Extractor with 4-20 mA Input and 4-20 mA Output and 24VDC Power is designated by: NTC-22-SIN

## Options:

(Add letters to end of Model Number)

R - RS485 Serial Output

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