



## Isolated Transmitters



## DC Voltage and DC Current Input

These models convert sensor inputs to proportional process current or voltage output signals.

### Models

250T: Loop-powered transmitter series

350T: DC-powered transmitter series

450T: AC-powered transmitter series

### Input Ranges

- DC voltage,  $\pm 100\text{mV}$  to  $\pm 100.0\text{V DC}$
- DC current, 0 to 20mA (10 ohm input load)

### Output Ranges

- DC current: 4 to 20mA
- DC voltage: 0 to 5V or 0 to 10V

### Power Requirements

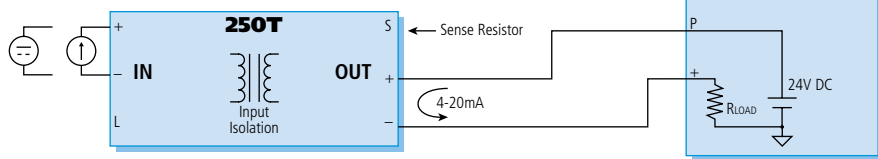
- 250T: 12 to 50V DC @ 20mA (loop-powered)
- 350T: DC voltage source (see table below)

Output range	Power
4 to 20mA	10 to 36V DC @ 30mA
0 to 5V	10 to 36V DC @ 9mA
0 to 10V	12.5 to 36V DC @ 9mA

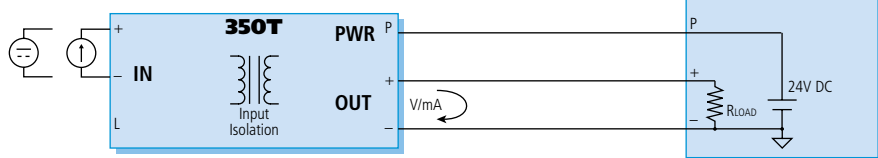
- 450T: 115V or 230V AC,  $\pm 10\%$ , 50 to 60Hz

Output range	Power
4 to 20mA	115V AC @ 0.050A
4 to 20mA	230V AC @ 0.025A
0 to 5V, 0 to 10V	115V AC @ 0.020A
0 to 5V, 0 to 10V	230V AC @ 0.010A

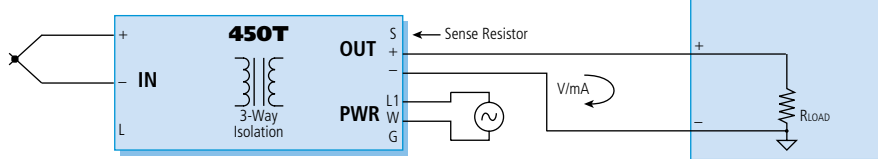
### 250T Loop-Powered (2-wire) Transmitter



### 350T DC-Powered (3-wire) Transmitter



### 450T AC-Powered (4-wire) Transmitter



## Special Features

- Excellent accuracy and stability ensure reliable measurements in harsh industrial environments.
- RFI and EMI resistance minimize the effects of environmental noise.
- 90% span adjustment enables precise application calibration.
- Compact, 1-inch wide housing uses less space for easier installation in control panels.
- Low power consumption. 350T units operate on currents as low as 9mA to help prevent expensive upgrades to larger power supplies.
- 1500V AC peak isolation (250V AC or 354V DC continuous) prevents ground loops.

#### 250T models:

Input isolated from output/power.

#### 350T models:

Input isolated from output and power. Output and power share a common.

#### 450T models:

3-way isolation. Input, output, and power circuits are isolated from each other.

## Performance

#### Ambient Temperature Range

Operating:  $-13$  to  $185^{\circ}\text{F}$  ( $-25$  to  $85^{\circ}\text{C}$ ).  
Storage:  $-40$  to  $185^{\circ}\text{F}$  ( $-40$  to  $85^{\circ}\text{C}$ ).

#### Accuracy

$\pm 0.1\%$  of calibrated span or  $\pm 0.25$  mV, whichever is greater. Includes repeatability, hysteresis, terminal point linearity, and adjustment resolution.

#### Ambient Temperature Effect

Less than  $\pm 0.01\%$  of output span per  $^{\circ}\text{F}$  ( $\pm 0.018\%$  per  $^{\circ}\text{C}$ ). (Specification includes the combined effects of zero and span over temperature).

#### Noise Resistance

RFI: Less than  $\pm 0.5\%$  of output span effect.  
EMI: Less than  $\pm 0.25\%$  of output span effect.

#### Noise Rejection

Common Mode: 120dB at 60Hz, 100 ohm unbalance.  
Normal Mode: 30dB at 60Hz, 100 ohm source.

#### Response Time

Output reaches 98% of output span in 300mS.

#### Bandwidth

-3dB at 3 Hz, typical.

#### Output Compliance

250T:  $R_{LOAD}(\text{max.}) = (V_{SUPPLY} - 12\text{V}) / 20\text{mA}$ .  
350T:  $R_{LOAD}(\text{max.}) = (V_{SUPPLY} - 2.5\text{V}) / 20\text{mA}$ .  
450T:  $R_{LOAD} = 600$  ohms.



## Ordering Information

Select one option from each column. Example: 450T-V4-V0-2-DIN-NCR-C  
To order factory calibration, append "-C" to end of model number. Specify ranges on order.

Base	Input		Mounting		Approval
250T	-C1	-V4	-DIN	-N4	-NCR
	-V1	-V5	-ST	-N12	-OL1
	-V2	-V6	-SM	-XP	-DT1
	-V3				-EP1

Note:  
All 250Ts have 4 to 20mA output and are loop-powered.

Base	Input		Output	Mounting	Approval
350T	-C1	-V4	-Y	-DIN	-NCR
	-V1	-V5	-V0		
	-V2	-V6	-V5		
	-V3				

Note:  
All 350Ts accept 10 to 36V DC power supply.

Base	Input		Output	Power	Mounting	Approval
450T	-C1	-V4	-Y	-1	-DIN	-NCR
	-V1	-V5	-V0	-2		
	-V2	-V6	-V5			
	-V3					

## Input Options

- C1: Current range 0 to 20mA  
Span adjust: 4.0 to 20.0mA DC  
Zero adjust: 0.0 to 16.0mA DC  
Input impedance: 10 ohms.
- V1: Voltage range 0 to 1V DC  
Span adjust: 0.1 to 1.0V DC  
Zero adjust: 0 to 25% of input span  
Input impedance: 40M ohms at 0.4V span.
- V2: Voltage range 0 to 10V DC  
Span adjust: 1.0 to 10.0V DC  
Zero adjust: 0 to 25% of input span  
Input impedance: 100K ohms.
- V3: Voltage range 0 to 100V DC  
Span adjust: 10.0 to 100.0V DC  
Zero adjust: 0 to 25% of input span  
Input impedance: 500K ohms.
- V4: Voltage range  $\pm 1V$  DC  
Span adjust:  $\pm 0.1$  to  $\pm 1.0V$  DC  
Zero adjust: symmetrical around 0V  
Input impedance: 80M ohms at 0.8V span.
- V5: Voltage range  $\pm 10V$  DC  
Span adjust:  $\pm 1.0$  to  $\pm 10.0V$  DC  
Zero adjust: symmetrical around 0V  
Input impedance: 100K ohms.
- V6: Voltage range  $\pm 100V$  DC  
Span adjust:  $\pm 10.0$  to  $\pm 100.0V$  DC  
Zero adjust: symmetrical around 0V  
Input impedance: 500K ohms.

## Output Options (350T, 450T only)

- Y: 4 to 20mA DC.
- V0: 0 to 10V DC into 10K ohms or greater
- V5: 0 to 5V DC into 5K ohms or greater

## Power Options (450T only)

- 1: 115V AC power
- 2: 230V AC power

## Mounting Options

### Mountings

- DIN: DIN rail G or T mount
- ST: SNAPTRACK mount [250T only]
- SM: Surface-mount [250T only]

### External housings

- N4: NEMA 4, water-tight [250T only], holds two
- N12: NEMA 12, oil-tight [250T only], holds two
- XP: Explosion-proof NEMA 4 [250T only], holds one

## Approval Options

- NCR: No certification/approval required.
- OL1†: CSA approval, Ordinary Locations [250T only].
- DT1†: CSA approval, Div. 2 hazardous locations: Class I; Div. 2; Groups A, B, C, D [250T only].
- EP1††: CSA approval, Explosion-proof for hazardous locations: Class I; Groups B, C, D Class II; Groups E, F, G. NOTE: Only available with explosion-proof housing (-XP) [250T only].

## Ordering Notes

- \* Unit requires factory calibration. Append "-C" to end of model number. Specify ranges on order.
- † Units are shipped separately from any optional enclosures (i.e. units are not installed in any external housing).
- †† Units shipped installed in external enclosure.

## Accessories

### Power supplies

See Power Supplies on page 213.

### DIN RAIL 3.0

### DIN RAIL 16.7

DIN rail strip, Type T, 3 inches (75mm) or 16.7 inches (425mm)

### 20RM-16-DIN

19" rack-mount kit with DIN rail. Holds sixteen 250T/350Ts or ten 450T transmitters.

### 350T-N4-WM

NEMA 4 water-tight enclosure, wall-mount. Holds two 350Ts or one 450T transmitter.

### 350T-N12-WM

NEMA 12 oil-tight enclosure, wall-mount. Holds two 350Ts or one 450T transmitter.

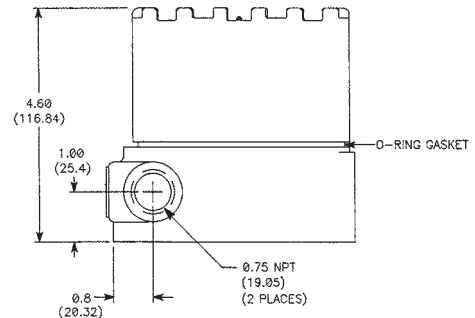
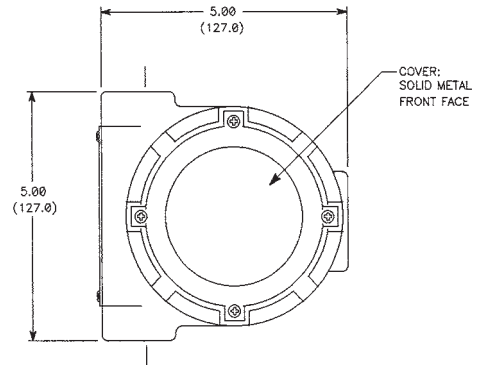
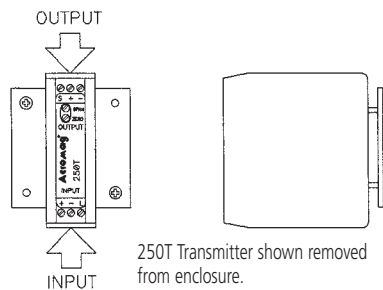
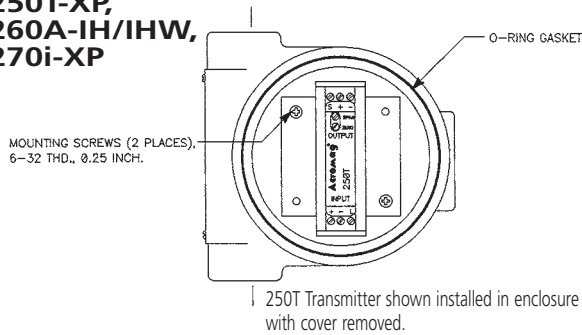




## Dimensions

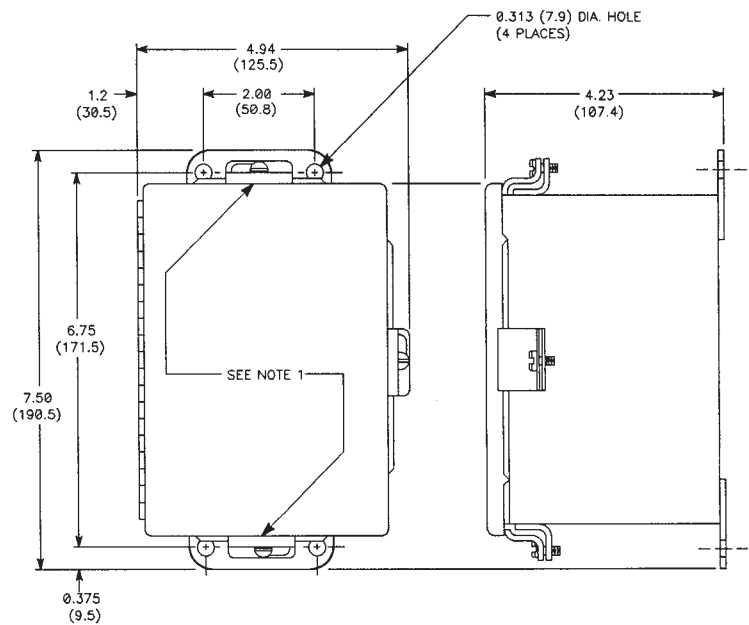
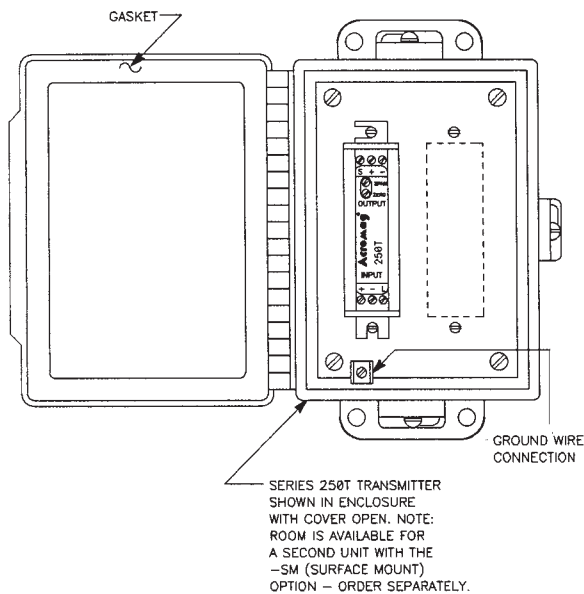
### Explosion-Proof and Industrial Housing

250T-XP,  
260A-IH/IHW,  
270i-XP



### NEMA-4 and NEMA-12 Enclosures

250T-N4 / N12, 25PS-N4 / N12  
260A-N4 / N12, 270i-N4 / N12



- NOTES:
1. THESE SPECIFIC CLAMPS ON NEMA 4 ENCLOSURES ONLY.
  2. CONDUIT MOUNTING HOLES AND FITTINGS ARE CUSTOMER SUPPLIED.

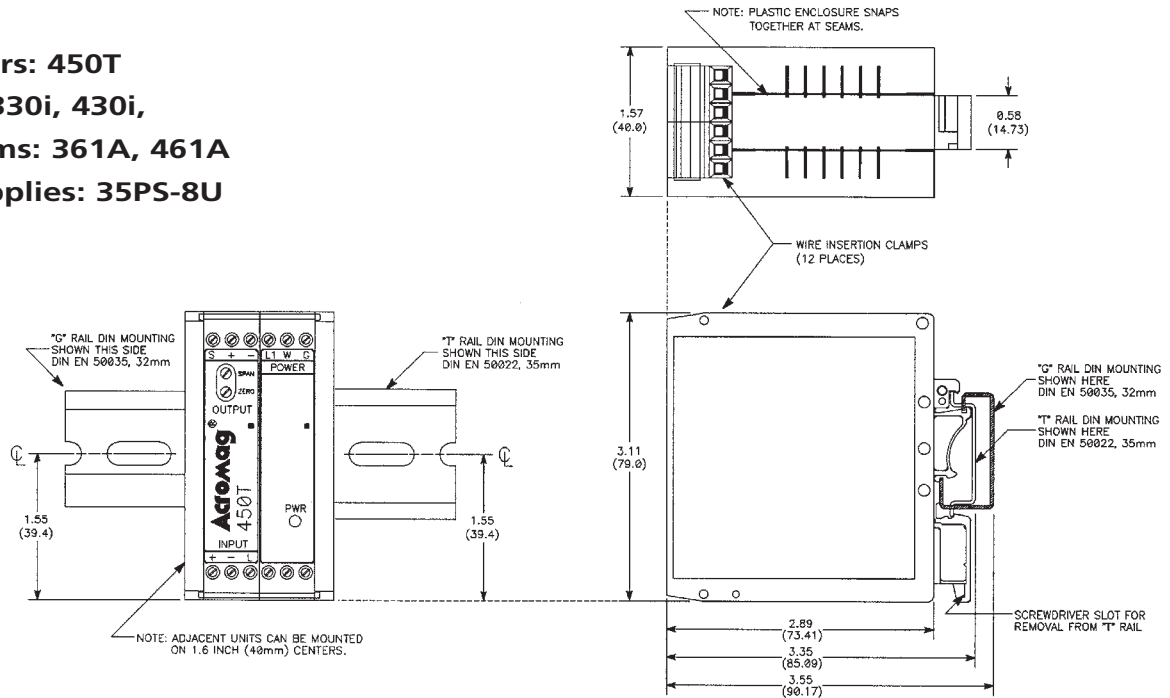
Dimensions are in inches (millimeters).

Flat Pack



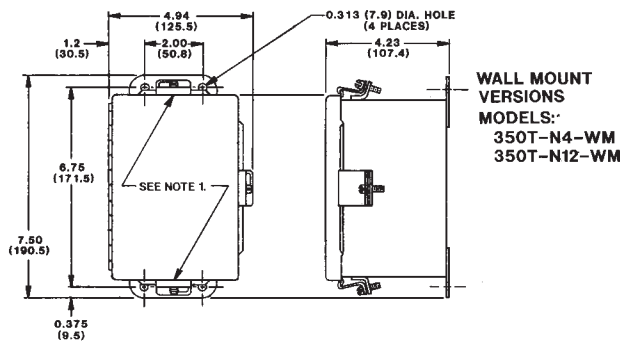
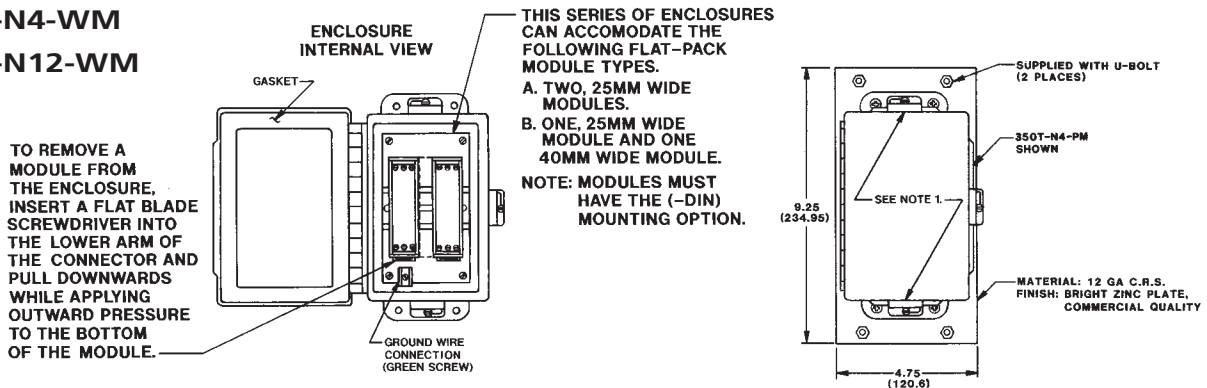
## Dimensions

Transmitters: 450T  
 Isolators: 330i, 430i,  
 Limit Alarms: 361A, 461A  
 Power Supplies: 35PS-8U



## NEMA-4 and NEMA-12 Enclosures

350T-N4-WM  
 350T-N12-WM



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  3. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS).

Dimensions are in inches (millimeters).

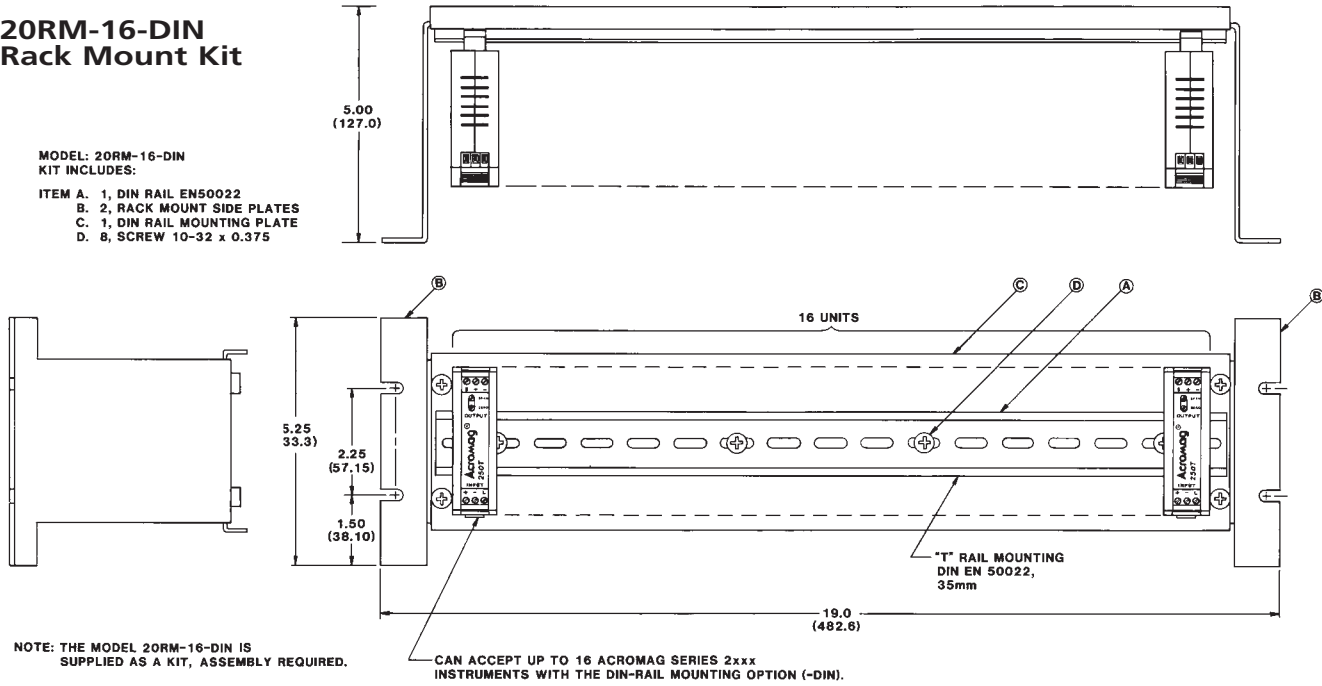


## Dimensions

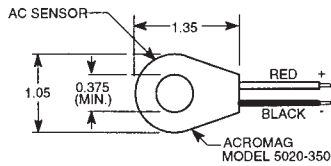
### 20RM-16-DIN Rack Mount Kit

MODEL: 20RM-16-DIN  
KIT INCLUDES:

- ITEM A. 1, DIN RAIL EN50022
- B. 2, RACK MOUNT SIDE PLATES
- C. 1, DIN RAIL MOUNTING PLATE
- D. 8, SCREW 10-32 x 0.375



### AC Sensor 5020-350



Dimensions are in inches (millimeters).

Flat Pack