



Isolated Transmitters



RTD 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

- 100 ohm Pt RTD (2, 3, or 4-wire), Pt-385/392
- 10 ohm Cu RTD (2, 3, or 4-wire)

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)

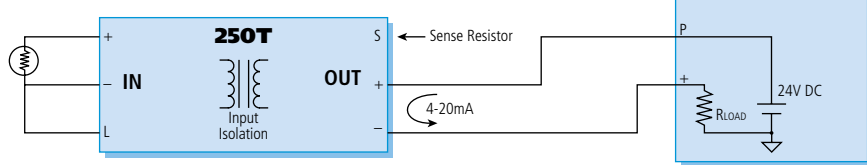
- 350T: DC voltage source (see table below)

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

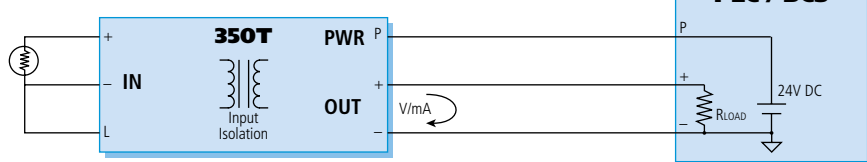
- 450T: 115V or 230V AC, ±10%, 50 to 60Hz

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

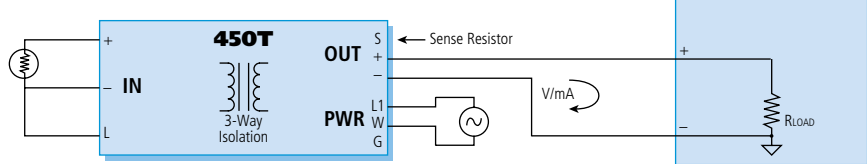
250T Loop-Powered (2-wire) Transmitter



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.
- RTD signal linearization improves accuracy and reduces drift.
- RTD break detection indicates open RTD failures with upscale operation.
- RTD lead wire compensation eliminates the effect of the wire's resistance.
- RFI and EMI resistance minimize the effects of environmental noise.
- 75% span adjustment enables precise application calibration.
- Low power consumption (350T as low as 9mA).
- 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°F (-25 to 85°C).

Storage: -40 to 185°F (-40 to 85°C).

Accuracy

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

Ambient Temperature Effect

-RBPx: ±0.01% of output span per °F (±0.018% / °C).

-RBCx: ±0.025% of output span per °F (±0.045% / °C).

(Specification includes the combined effects of zero and span over temperature).

Noise Resistance

RFI: Less than ±0.5% of output span effect.

EMI: Less than ±0.25% of output span effect.

Noise Rejection

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

Normal Mode: 26dB at 60Hz, 100 ohm source,

20dB at 60Hz, 10 ohm source.

Response Time

Output reaches 98% of output span in 350ms.

Bandwidth

-3dB at 3 Hz, typical.

Output Compliance

250T: $R_{LOAD} (max.) = (V_{SUPPLY} - 12V) / 20mA$.

350T: $R_{LOAD} (max.) = (V_{SUPPLY} - 2.5V) / 20mA$.

450T: $R_{LOAD} = 600\text{ ohms}$.



Ordering Information

Select one option from each column. Example: 450T-RBP2-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	-RBP1	-RBC1	-DIN	-N4	-NCR	-EP1
	-RBP2	-RBC2	-ST	-N12	-OL1	-IS1
	-RBP3		-SM	-XP	-DT1	

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

Base	Input		Output	Mounting	Approval
350T	-RBP1	-RBC1	-Y	-DIN	-NCR
	-RBP2	-RBC2	-V0		
	-RBP3		-V5		

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

Base	Input		Output	Power	Mounting	Approval
450T	-RBP1	-RBC1	-Y	-1	-DIN	-NCR
	-RBP2	-RBC2	-V0	-2		
	-RBP3		-V5			

Input Options

Platinum RTD input

- RBP1: Platinum RTD, 100 ohm
Span adjust: 25 to 100°C (45 to 180°F)
Zero adjust: -150 to 150°C (-238 to 302°F),
Accuracy: ±0.1%
- RBP2: Platinum RTD, 100 ohm
Span adjust: 50 to 200°C (90 to 360°F)
Zero adjust: -150 to 150°C (-238 to 302°F),
Accuracy: ±0.1%
- RBP3: Platinum RTD, 100 ohm
Span adjust: 200 to 800°C (360 to 1440°F)
Zero adjust: -150 to 150°C (-238 to 302°F),
Accuracy: ±0.3%

Copper RTD input

- RBC1: 10 ohm Copper RTD
Span: 50 to 100°C (90 to 180°F)
Zero: -50 to 50°C (-58 to 122°F)
Accuracy: ±0.25%
 - RBC2: 10 ohm Copper RTD
Span: 100 to 200°C (180 to 360°F)
Zero: -50 to 50°C (-58 to 122°F)
Accuracy: ±0.25%
- ### Maximum Excitation Current
- Platinum RTD: 1.0mA (0.5mA for -RBP3)
 - Copper RTD: 1.5mA.
- ### Lead Wire Compensation
- A. 100 ohm, Pt RTD: Zero shift is less than 0.01%/ohm of lead resistance, for up to 10 ohms/leg, with a total maximum shift of 0.1%.
 - B. 10 ohm Cu RTD: Zero shift is less than 0.05%/ohm of lead resistance, for up to 10 ohms/leg, with a total maximum shift of 0.5%.

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].
- IS1*: CSA approval, Intrinsically Safe for hazardous locations: Class I; Groups A, B, C, D. [250T only].

Ordering Notes

- † 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.



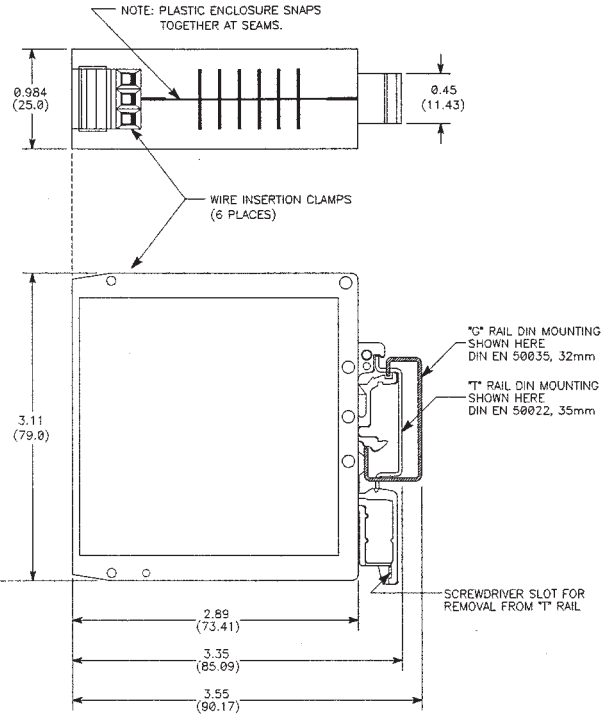
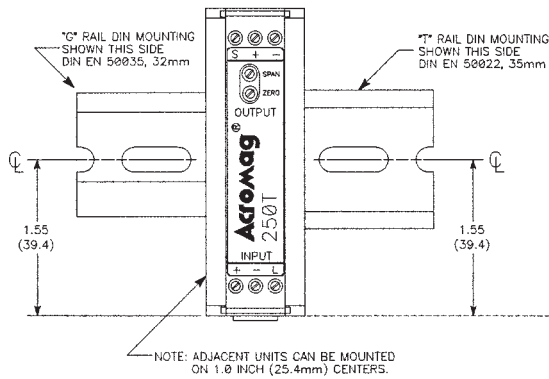
Dimensions

Transmitters: 250T, 350T

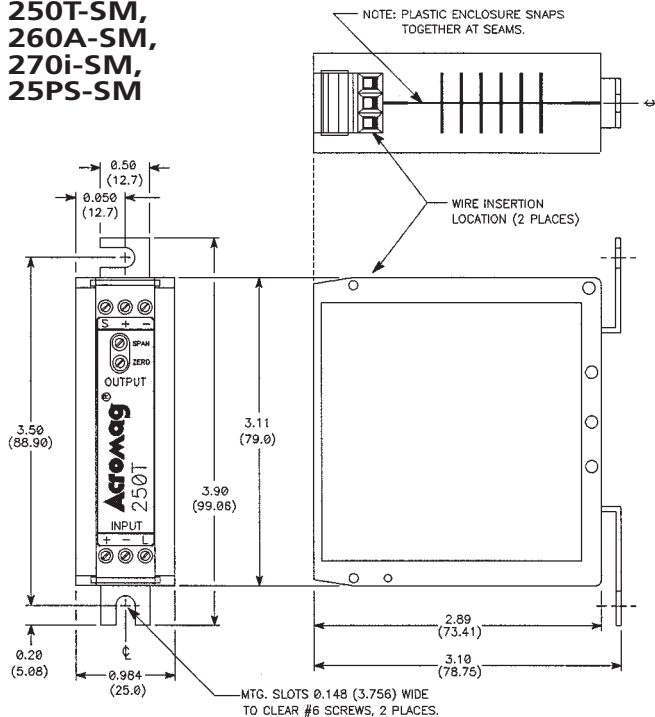
Isolators: 270i, 340i,

Limit Alarms: 260A

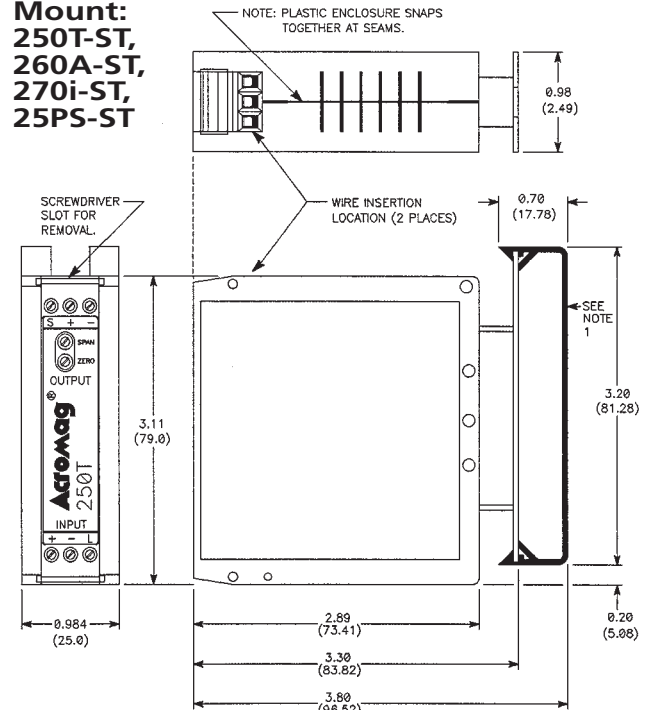
Power Supplies: 25PS, 35PS-2U



**Surface Mount:
250T-SM,
260A-SM,
270i-SM,
25PS-SM**



**Snaptrack Mount:
250T-ST,
260A-ST,
270i-ST,
25PS-ST**



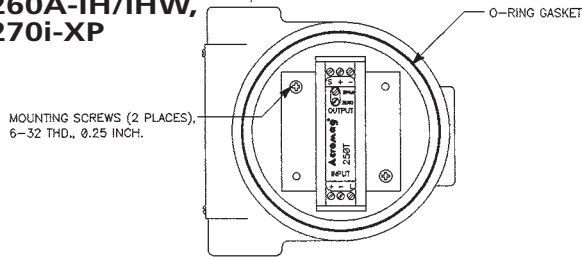
Dimensions are in inches (millimeters).



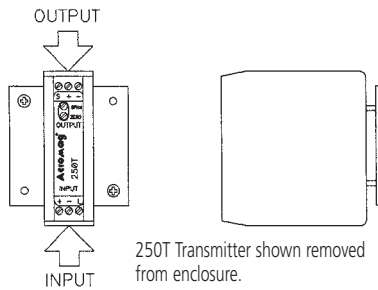
Dimensions

Explosion-Proof and Industrial Housing

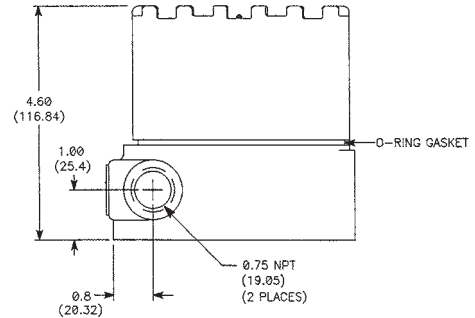
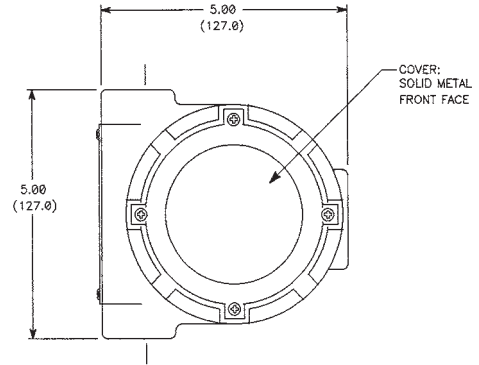
250T-XP,
260A-IH/IHW,
270i-XP



250T Transmitter shown installed in enclosure with cover removed.

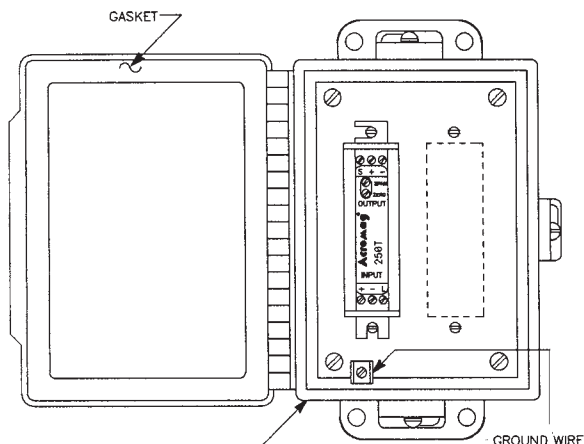


250T Transmitter shown removed from enclosure.

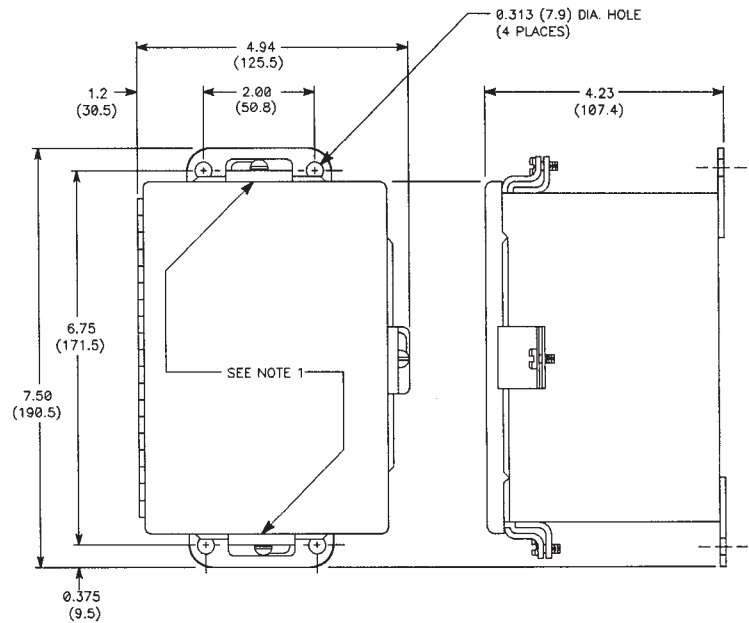


NEMA-4 and NEMA-12 Enclosures

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



SERIES 250T TRANSMITTER SHOWN IN ENCLOSURE WITH COVER OPEN. NOTE: ROOM IS AVAILABLE FOR A SECOND UNIT WITH THE -SM (SURFACE MOUNT) OPTION - ORDER SEPARATELY.



NOTES:

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

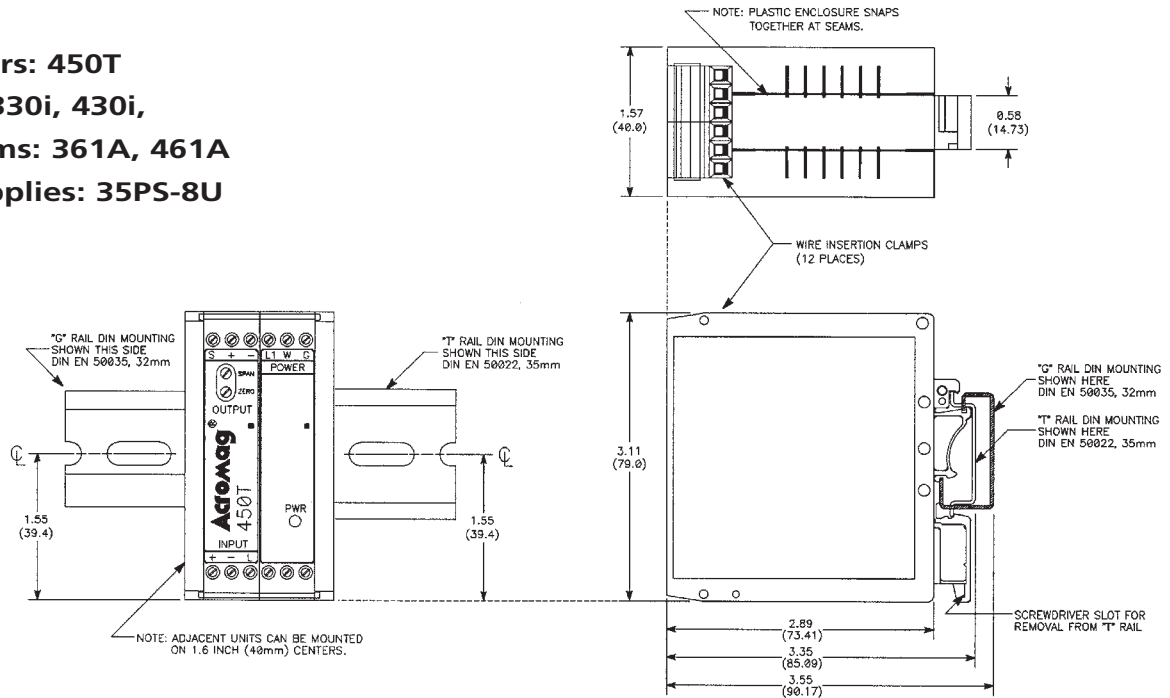
Dimensions are in inches (millimeters).

Flat Pack



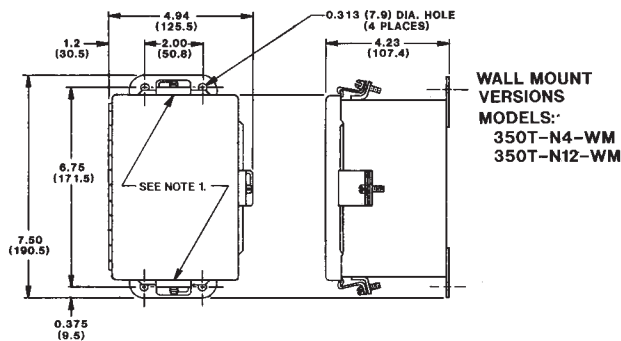
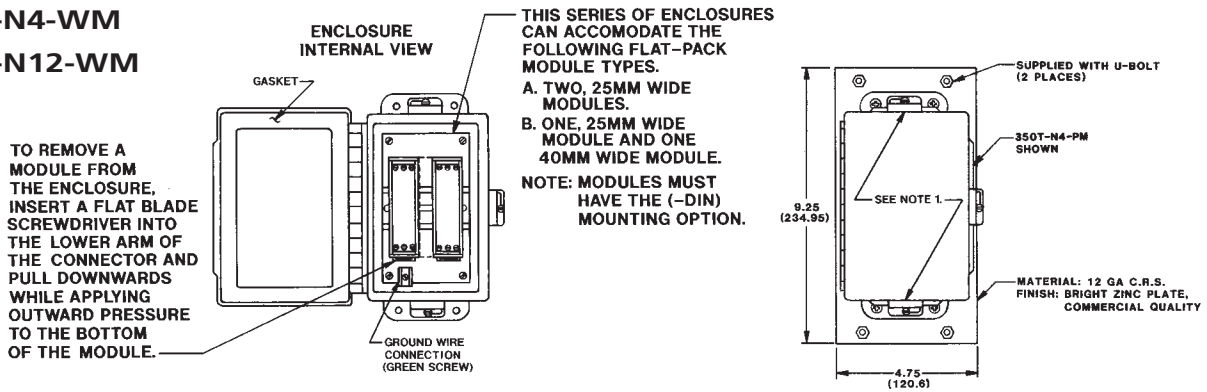
Dimensions

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



- NOTES:
1. THESE SPECIFIC CLAMPS ON NEMA 4 ENCLOSURES ONLY.
 2. CONDUIT MOUNTING HOLES AND FITTINGS ARE CUSTOMER SUPPLIED.
 3. ALL DIMENSIONS ARE IN INCHES (MILLIMETERS).

Dimensions are in inches (millimeters).

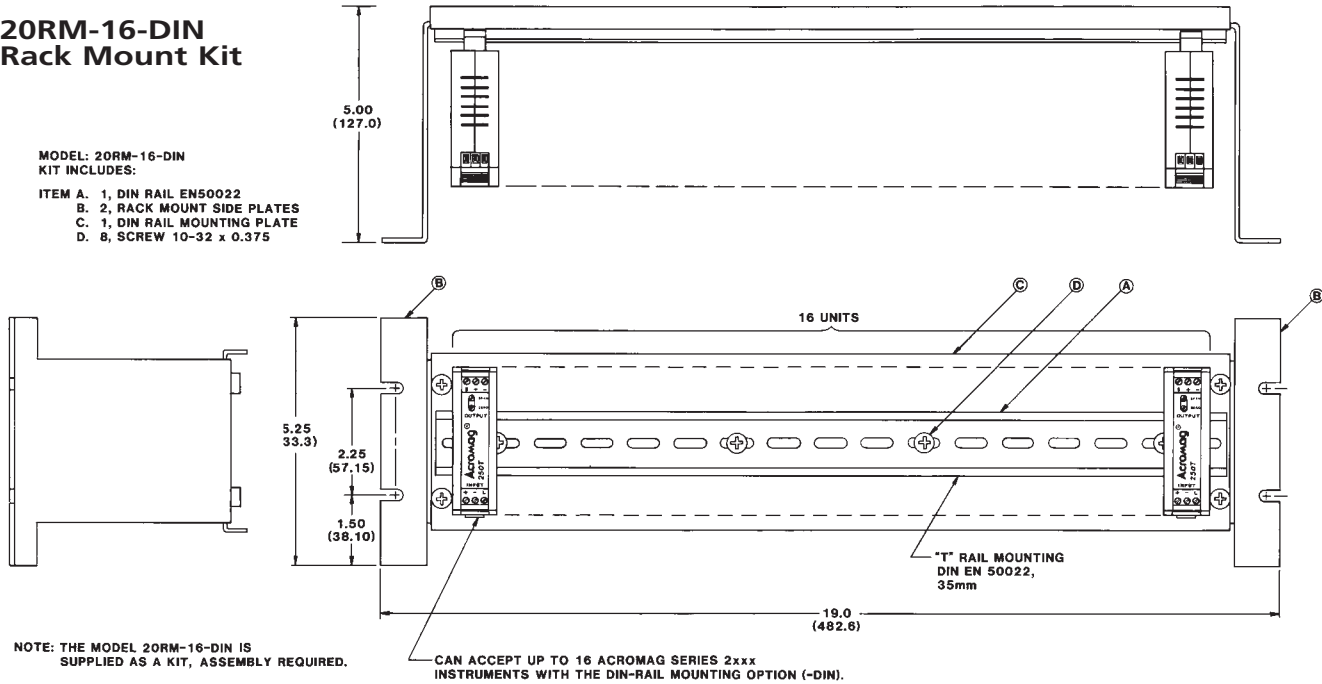


Dimensions

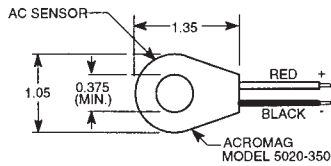
20RM-16-DIN Rack Mount Kit

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