



# ADTECH

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## ISOLATED RESISTANCE BULB TRANSMITTER MODEL NO. RBT 72

THE ADTECH MODEL NO. RBT 72 ISOLATED RESISTANCE BULB TRANSMITTER PROVIDES ACCURATE CONVERSION OF RTD RESISTANCE SIGNALS TO ANY STANDARD PROCESS SIGNAL SUCH AS 4-20 MA DC, 1-5 VDC, OR ZERO-BASED OUTPUTS. IT OFFERS THE BROADEST RANGE OF STANDARD AND OPTIONAL INPUT/OUTPUT AVAILABLE IN A RESISTANCE BULB TRANSMITTER.

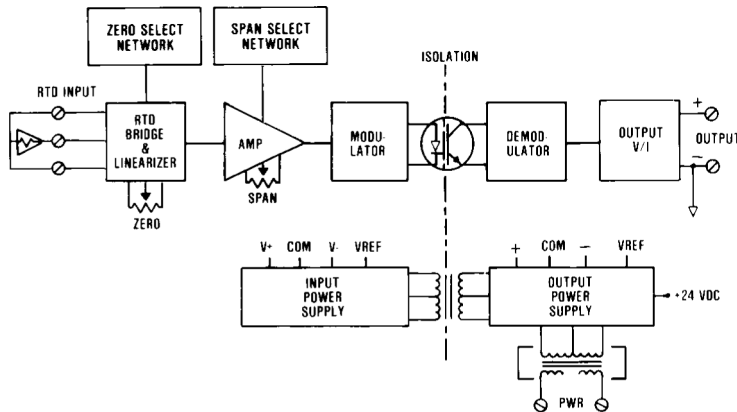
DIFFERENTIAL TEMPERATURE MEASUREMENT IS PROVIDED AT NO ADDITIONAL COST.

DIGITAL PROCESSING WITH THE OPTICAL ISOLATION IS UTILIZED FOR IMPROVED LINEARITY, STABILITY, AND RESPONSE. THE RBT 72 DELIVERS SUPERIOR PERFORMANCE AND ISOLATION LEVELS, HIGH COMMON MODE REJECTION, HIGH INPUT IMPEDANCE, ACCURACY, AND TEMPERATURE STABILITY.

FEATURES INCLUDE 600 VAC/1,000 VDC ISOLATION WITH A COMMON MODE REJECTION OF 140 DB AT 60 HZ.

THE RBT 72 PROVIDES STANDARD PROCESS CURRENT OR VOLTAGE SIGNALS ON THE OUTPUT WITH A MAXIMUM OF 10 MV P/P OUTPUT RIPPLE. IT OFFERS A CONVENIENT WAY OF INTERFACING RTD SENSORS TO A COMPUTER SYSTEM OR OTHER PROCESS INSTRUMENTATION FOR IMPROVED RESOLUTION.

TYPICAL RTD'S ARE 1-6% NON-LINEAR, DEPENDING ON THE SPAN AND TYPE OF SENSOR. AN OPTION TO THE RBT 72 IS A CONTINUOUS LINEARIZATION OF PLATINUM AND NICKEL RTD SENSORS INDEPENDENT OF SPAN. THIS OPTION ALLOWS CONFORMITY OF  $\pm 25\%$  OF SPAN TO ACTUAL TEMPERATURE INPUT.

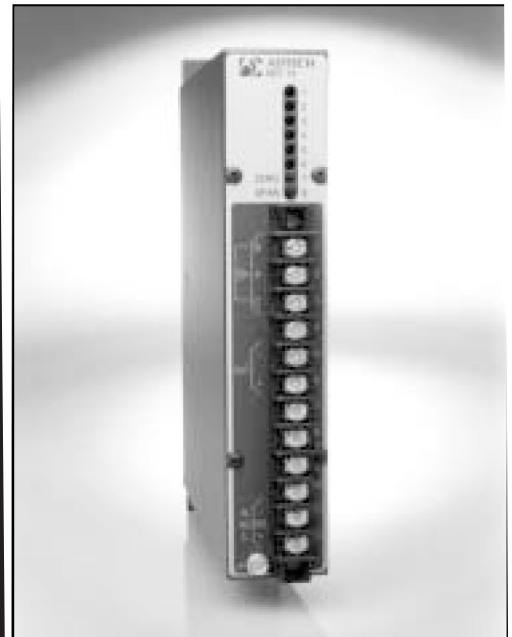


### TYPICAL APPLICATIONS

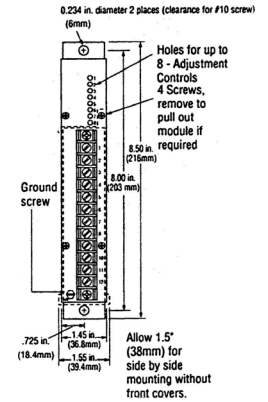
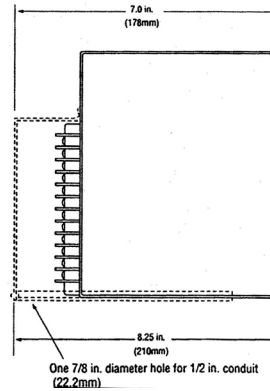
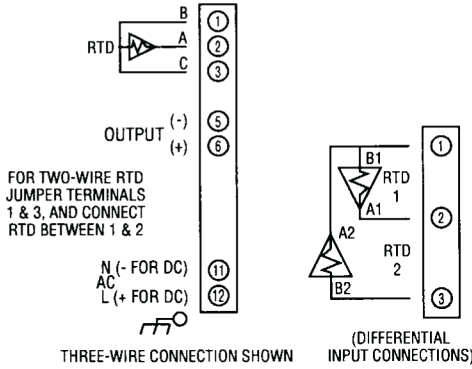
- HIGH ACCURACY TEMPERATURE MEASUREMENT
- MACHINERY AND PROCESS TEMPERATURE MEASUREMENT
- DIFFERENTIAL TEMPERATURE MEASUREMENT FOR HEAT FLOW COMPUTATION
- COMPUTER/PROGRAMMABLE CONTROLLER INTERFACE

### FEATURES

- DIRECT RESISTANCE BULB INPUTS: PLATINUM, NICKEL, COPPER: 2,3 OR 4 WIRE
- INPUT SPANS: 1.5 OHMS TO 1,000 OHMS STANDARD
- LEAD WIRE COMPENSATION: 3 OR 4 WIRE-TYPE SENSORS, CONSTANT CURRENT EXCITATION (LINEARIZATION-OPTIONAL)
- DC PROCESS SIGNAL OUTPUTS: CURRENT AND VOLTAGE
- REPEATABILITY:  $\pm 0.02\%$  OF SPAN
- HIGH ACCURACY:  $\pm 0.1\%$  OF SPAN
- ISOLATION: 600 VAC/1,000 VDC INPUT TO OUTPUT, 1,500 VAC POWER



# CONNECTIONS / DIMENSIONS



## INPUT/OUTPUT

INPUT SIGNALS  
RESISTANCE BULB SENSOR: 2,3, OR  
4 WIRE TYPES AND DIFFERENTIAL SENSORS  
1.5 TO 1,000 OHMS RESISTANCE  
SPAN: STANDARD  
HIGHER AND LOWER RANGES: OPTIONAL

OUTPUT SIGNALS / OUTPUT DRIVE(RL)

SIGNAL	AC POWER(RL)	POWER(RL)
4-20 MA DC	0-1,000 OHMS MAX	0-900 OHMS MAX.
10-50 MA DC	0-400 OHMS MAX.	0-350 OHMS MAX.
0-1 MA DC	0-20,000 OHMS MAX.	0-18,000 OHMS MAX.
1-5 VDC	100K OHMS MIN.	100K OHMS MIN.
0-10 VDC	200K OHMS MIN.	200K OHMS MIN.

## PERFORMANCE

CALIBRATED ACCURACY:  $\pm 0.1\%$   
LINEARITY:  $\pm 0.1\%$  MAXIMUM,  $\pm 0.04\%$  TYPICAL  
REPEATABILITY:  $\pm 0.05\%$  MAXIMUM  
TEMPERATURE STABILITY:  $\pm 0.01\%$  / °F MAXIMUM,  $\pm 0.004\%$  / °F TYPICAL  
LOAD EFFECT:  $\pm 0.01\%$  ZERO TO FULL LOAD  
OUTPUT RIPPLE: 10 mV P/P MAXIMUM  
RESPONSE TIME: 150 MILLISECONDS  
TEMPERATURE RANGE: 0° TO 140 °F (-18° TO 60 °C) OPERATING; -40 TO 185 °F (-40° TO 85 °C) STORAGE  
POWER SUPPLY EFFECT:  $\pm 0.05\%$  FOR A  $\pm 10\%$  POWER VARIATION  
COMMON MODE REJECTION: 140 DB @ 60 HZ  
ISOLATION: INPUT/OUTPUT/POWER 600 VAC, 50/60 HZ, 1,000 VDC FOR AC & ISOLATED DC POWERED UNITS  
NOTE: ALL ACCURACIES ARE GIVEN AS A PERCENTAGE OF SPAN.

## POWER

115 VAC: 50/60 HZ, 0.7 PF (STANDARD)	48 VDC: ISOLATED	(OPTION P3)
12 VDC: ISOLATED (OPTION P8)	125 VDC: ISOLATED(105-140 VDC)	(OPTION P4)
24 VDC: NON-ISOLATED (OPTION P1)	230 VAC: 50/60 HZ, 0.7 PF	(OPTION P5)
24 VDC: ISOLATED (OPTION P2)		

NOTE: ALL UNITS 3 WATTS MAXIMUM, AND  $\pm 10\%$  POWER VARIATION UNLESS NOTED.

## MECHANICAL

ELECTRICAL CLASSIFICATION: GENERAL PURPOSE  
CONNECTION: BARRIER TERMINAL STRIP (3/8" SPACING, NO.6 SCREWS)  
CONTROLS: MULTITURN ZERO AND SPAN CONTROLS  
MOUNTING: SURFACE MOUNTING STANDARD. SEE HOUSINGS SECTION FOR OPTIONS.  
WEIGHT: NET UNIT: 2.6 POUNDS (1.18 KILOGRAMS); SHIPPING: 3.0 POUNDS (1.36 KILOGRAMS)

## OPTIONS

OPTION NUMBER	DESCRIPTION
I 16, I 17	PLATINUM AND NICKEL LINEARIZATION
O 10	BIPOLAR CURRENT OUTPUT (LARGER THAN $\pm 1$ MA)
O 11	BIPOLAR VOLTAGE OUTPUT TO $\pm 10$ VDC: AT 1 MA, BIPOLAR CURRENT $\pm 1$ MA
O 12	REVERSE CALIBRATION
H 10	THIN-LINE CONDUIT MOUNTING PLATE AND TERMINAL COVER
H 13B, H 14B, H 15B	NEMA 4,7, AND 12 ENCLOSURES
H 16	PFA 12 HIGH-DENSITY, PLUG-IN ENCLOSURES

### Ordering Information

- Model number
- Input sensor type and temperature coefficient
- Input temperature range (Degrees "F" or degrees "C")
- Output signal
- Input/output options such as linearization
- Prime power with option no.
- Housing and miscellaneous options

Please refer to the Housing and/or Option Section for more specific and detailed information.