



# ADTECH

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## SQUARE ROOT TRANSMITTER MODEL NO. SRT 30

THE ADTECH MODEL SRT 30 SQUARE ROOT TRANSMITTER PROVIDES ACCURATE AND ECONOMICAL CONVERSION OF SQUARED INPUT SIGNALS TO ANY LINEAR STANDARD PROCESS SIGNAL SUCH AS 4-20 mA DC, 1-5 VDC, OR ZERO-BASED OUTPUTS.

AN EXCLUSIVE OUTPUT OPTION (O 44) PROVIDES A PULSE RATE OUTPUT ALONG WITH THE STANDARD ANALOG OUTPUT. PULSE RATE ADJUSTMENT IS PROVIDED BY AN INFINITE RESOLUTION RATE POTENTIOMETER. THIS ELIMINATES THE NEED FOR A SEPARATE LINEAR INTEGRATOR, LIT 56, IF THE OUTPUT IS TO BE TOTALIZED.

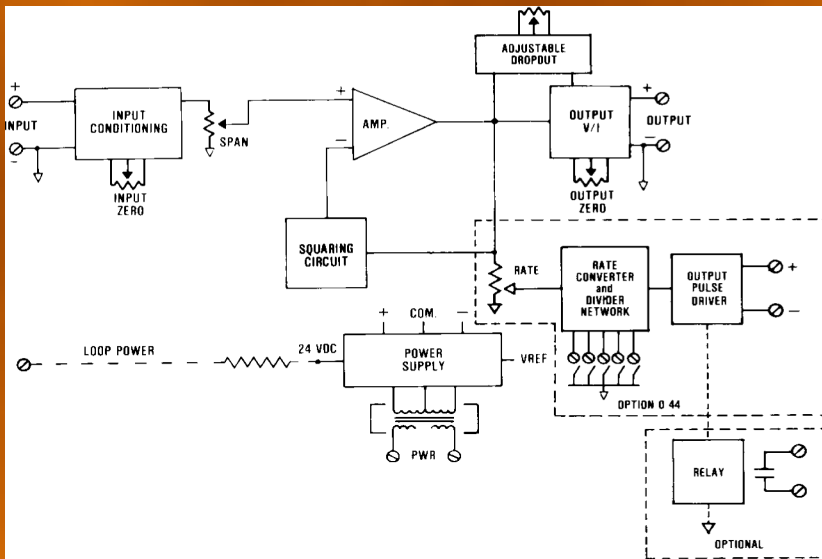
AN ADJUSTABLE ZERO CUT-OFF/ DROPOUT IS PROVIDED TO AVOID A FALSE FLOW SIGNAL. ALSO, INPUT ZERO, OUTPUT ZERO, AND SPAN ADJUSTMENT CONTROLS ARE PROVIDED BY INFINITE RESOLUTION MULTITURN POTENTIOMETERS.

THE SRT 30 EMPLOYS THE LATEST DESIGN AND COMPONENTS FOR SUPERIOR RELIABILITY, ACCURACY, AND SERVICEABILITY.

IT PROVIDES STANDARD PROCESS CURRENT OR VOLTAGE SIGNALS ON THE OUTPUT WITH A MAXIMUM OF 10 mV P/P OUTPUT RIPPLE. THE SRT 30 OFFERS A CONVENIENT WAY OF INTERFACING SQUARED INPUT SIGNALS TO A COMPUTER SYSTEM OR OTHER PROCESS INSTRUMENTATION FOR IMPROVED RESOLUTION.

### TYPICAL APPLICATIONS

- FLOW LINEARIZATION OF ORIFICE FLOW TRANSMITTERS
- POWER LINEARIZATION OF SQUARING TYPE RMS VOLTAGE OR CURRENT TRANSDUCERS.

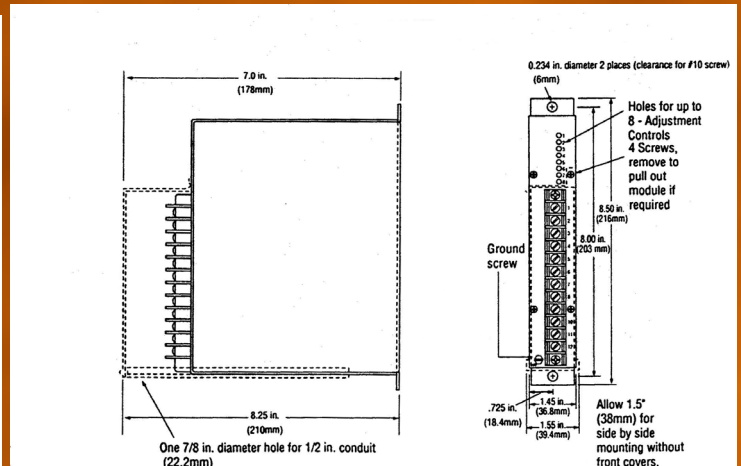
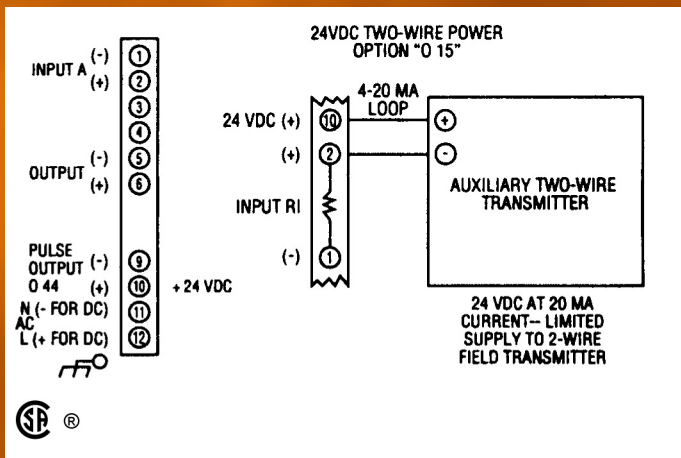


### FEATURES

- SQUARED INPUTS:  $\Delta P$  FROM ORIFICE PLATE
- DYNAMIC RANGE: 1-100% OF INPUT
- DC CURRENT INPUTS: 4-20 mA, ETC.
- DC VOLTAGE INPUTS: 1-5 VDC, ETC.
- HIGH INPUT IMPEDANCE: 10 MEGOHMS MINIMUM
- ZERO-BASED INPUTS: CURRENT AND VOLTAGE
- ADJUSTABLE DROPOUT: 0-20%
- PULSE OUTPUT: OPTIONAL
- DC PROCESS SIGNAL OUTPUTS: CURRENT AND VOLTAGE
- REPEATABILITY:  $\pm 0.05\%$  OF SPAN TYPICAL
- HIGH ACCURACY:  $\pm 0.1\%$  OF SPAN



# CONNECTIONS / DIMENSIONS



## INPUT/OUTPUT

INPUT SIGNALS	OUTPUT SIGNALS / OUTPUT DRIVE(RL)		
4-20 mA DC (Z IN 250 OHMS)	SIGNAL	AC POWER(RL)	DC POWER (RL)
10-50 mA DC (Z IN 100 OHMS)	4-20 mA DC	0-1,000 OHMS MAX	0-900 OHMS MAX
0-1 mA DC (Z IN 5K OHMS)	10-50 mA DC	0-400 OHMS MAX.	0-350 OHMS MAX.
0-10 mA DC (Z IN 500 OHMS)	0-1 mA DC	0-20,000 OHMS MAX	0-18,000 OHMS MAX.
1-5 VDC (Z IN 10 MEGOHMS)	1-5 VDC	100K OHMS MIN.	100K OHMS MIN.
0-5 VDC (Z IN 10 MEGOHMS)	0-10 VDC	200K OHMS MIN.	200K OHMS MIN.
0-10 VDC (Z IN 1 MEGOHM)			

OTHER ZERO-BASED CURRENT AND VOLTAGES ARE AVAILABLE.

## PERFORMANCE

CALIBRATED ACCURACY:  $\pm 0.1\%$  FOR 1-100% OF INPUT  
 LINEARITY:  $\pm 0.1\%$  MAXIMUM,  $\pm 0.04\%$  TYPICAL  
 REPEATABILITY: 0.05% MAXIMUM  
 TEMPERATURE STABILITY:  $\pm 0.01\%$  / $^{\circ}$ F MAXIMUM,  $\pm 0.004\%$  / $^{\circ}$ 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 $^{\circ}$  TO 140 $^{\circ}$ F (-18 $^{\circ}$  TO 60 $^{\circ}$ C) OPERATING; -40 $^{\circ}$  TO 185 $^{\circ}$ F (-40 $^{\circ}$  TO 85 $^{\circ}$ C) STORAGE  
 POWER SUPPLY EFFECT:  $\pm 0.05\%$  FOR A  $\pm 10\%$  POWER VARIATION  
 ZERO DROP OUT: 0-20%  
 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 A  $\pm 10\%$  POWER VARIATION UNLESS NOTED.

## MECHANICAL

ELECTRICAL CLASSIFICATION: GENERAL PURPOSE  
 CONNECTION: BARRIER TERMINAL STRIP (3/8" SPACING, NO. 6 SCREWS)  
 CONTROLS: MULTITURN INPUT ZERO, OUTPUT ZERO, SPAN, AND DROP OUT AND OPTIONAL RATE 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 14	VOLTAGE INPUTS TO 200 VDC, 1 MEGOHM MIN. IMPEDANCE; CURRENT INPUTS OF 100 mA MAX.
O 10	BIPOLAR CURRENT (LARGER THAN $\pm 1$ MA)
O 11	BIPOLAR VOLTAGE OUTPUT TO $\pm 10$ VDC; AT 1 MA, BIPOLAR CURRENT $\pm 1$ MA
O 15	TWO-WIRE TRANSMITTER EXCITATION
0 44 & O 59	PULSE OUTPUT / HIGH-RATE PULSE OUTPUT
H 10	THIN-LINE CONDUIT MOUNTING PLATE AND TERMINAL COVER
H 13B, H 14B, H 15B	NEMA 4, 7, AND 12 ENCLOSURES

### Ordering Information

- Model number
- Input signal
- Output signal
- Prime power with option no.
- Input/output options
- Housing and miscellaneous options

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