



# ADTECH

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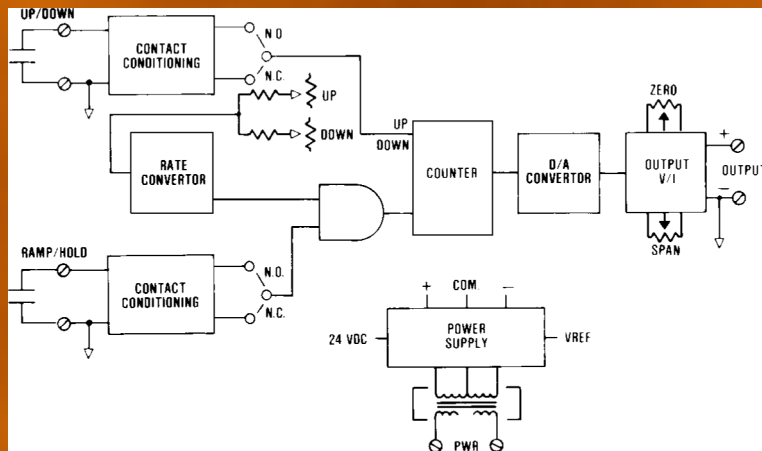
## UP-DOWN RAMP BUFFER MODEL NO. UDB 97

THE ADTECH MODEL UDB 97 UP-DOWN RAMP BUFFER PROVIDES AN ACCURATE AND ECONOMICAL MEANS OF SUPERVISORY PROCESS CONTROL. A CONTACT STATE CHANGE OR PULSE INPUT DRIVES THE STANDARD OUTPUT PROCESS SIGNAL TO RAMP UP OR DOWN AND CAN HOLD THE RESULTING CHANGE.

THE UP AND DOWN MULTITURN RAMP-RATE CONTROLS ALLOW INDEPENDENT ADJUSTMENT OF THE RAMP RATE FROM THE SPECIFIED MAXIMUM RATE TO 100 TIMES SLOWER. THE TWO CONTACT INPUTS CONTROL THE DIRECTION OF THE OUTPUT AND THE RAMP OR HOLD MODE RESPECTIVELY.

IN AN ALTERNATE CONFIGURATION, ONE CONTACT CHANGE WILL GENERATE AN UP RAMP, THE SECOND A DOWN RAMP, AND WHEN BOTH CONTACTS ARE IN THE SAME STATE, THE OUTPUT WILL HOLD (SPECIFY).

THE UDB 97 PROVIDES STANDARD PROCESS CURRENT OR VOLTAGE SIGNALS ON THE OUTPUT WITH A MAXIMUM OF 10 mV P/P OUTPUT RIPPLE. IT OFFERS A CONVENIENT MEANS OF INTERFACING CONTACT CONTROLLED RAMP SIGNALS TO A COMPUTER SYSTEM OR OTHER PROCESS INSTRUMENTATION FOR IMPROVED RESOLUTION. RECALIBRATION TO OTHER DESIRED RANGES IS ACCOMPLISHED EASILY. THE USE OF TEMPERATURE-STABLE, LOW-NOISE COMPONENTS PROVIDES EXCELLENT STABILITY AND NOISE IMMUNITY.



## FEATURES

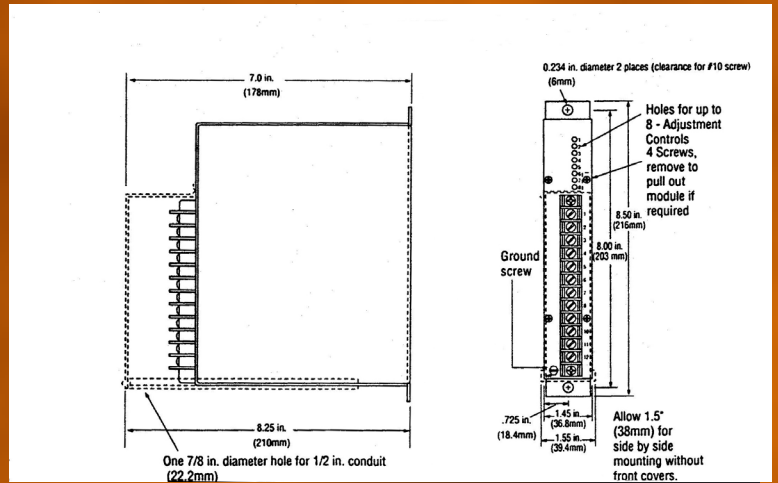
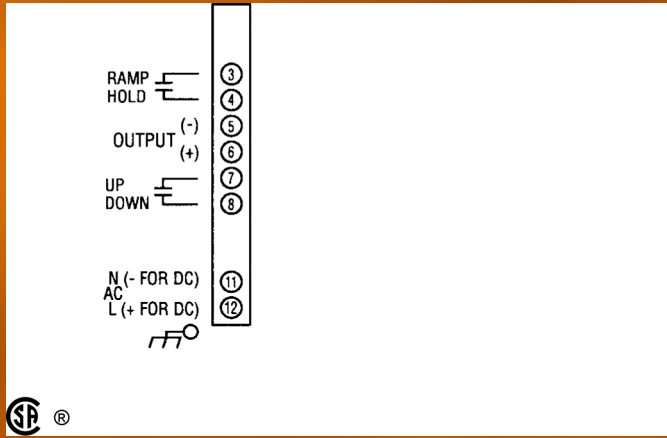
- CONTACT INPUTS: 24 VDC @ 2 mA, NO.O OR N.C.- SPECIFY
- VOLTAGE INPUTS: 9 VDC MINIMUM, 30 VDC MAXIMUM
- RAMP RANGE: 0.1 SECOND TO 50 HOURS -SPECIFY
- INPUT COMMANDS: RAMP UP/RAMP DOWN, OR RAMP UP/DOWN-RAMP HOLD
- DC PROCESS SIGNAL OUTPUT: CURRENT AND VOLTAGE
- REPEATABILITY AND RESOLUTION:  $\pm 0.02\%$  OF SPAN
- HIGH ACCURACY:  $\pm 0.1\%$  OF SPAN

## TYPICAL APPLICATIONS

- COMPUTER/MANUAL OUTPUT STATION
- COMPUTER OUTPUT MEMORY
- INCREMENTAL CONTROL
- SOFT START AND SHUTDOWNS
- HEAT TREATING TIME/TEMP. PROFILE
- SEMICONDUCTOR PULLING PROCESS



# CONNECTIONS / DIMENSIONS



## INPUT/OUTPUT

**INPUT SIGNALS / RAMP**  
 CONTACT: 24 VDC @ 2 MA RATING,  
 N.O. OR N.C.-SPECIFY  
 VOLTAGE: 0-9 VDC MINIMUM,  
 30 VDC MAXIMUM  
 RAMP RANGE: 0.1 SECOND TO  
 50 HOURS  
**INPUT COMMAND**  
 CONTACT: DRY OR SOLID STATE,  
 24 VDC AT 2MA  
 PULSE: 0-9 TO 0-30 VDC  
 (SPECIFY LOGIC STATE)

**OUTPUT SIGNALS/OUTPUT DRIVE (RL)**

SIGNAL	AC POWER (RL)	DC 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: DEPENDENT ON RAMP RATE  
 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  
 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: ISOLATED (OPTION P2)	230 VAC: 50/60 HZ, 0.7 PF (OPTION P5)

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
O 10	BIPOLAR CURRENT (LARGER THAN + 1 MA)
O 11	BIPOLAR VOLTAGE TO $\pm 10$ VDC; AT 1 MA, BIPOLAR CURRENT $\pm 1$ MA
H 10	THIN-LINE CONDUIT MOUNTING PLATE AND TERMINAL COVER
H 11	WIDE-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 ENCLOSURE

### Ordering Information

- Model number
- Ramp up N.O. or N.C.
- Ramp/hold N.O. or N.C.
- Up ramp-down ramp rates
- 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.**