



# ADTECH

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## DC CURRENT /VOLTAGE DEVIATION ALARM MODEL NO. DVA 112

THE ADTECH DVA 112 DEVIATION ALARM ACCEPTS TWO STANDARD PROCESS DC CURRENT OR DC VOLTAGE INPUT SIGNALS AND PROVIDES RELAY CONTACT OUTPUTS.

THE BASIC INPUT RANGE IS 1-50 MA (I.E., 4-20 MA) OR ANY VOLTAGE OF 0-1.25 MV DC TO 0-250 VDC (I.E., 1-5 VDC), AND OUTPUT CONTACTS ARE RATED AT 10 AMPS, 30 VDC, OR 250 VAC RESISTIVE.

THE DVA 112 DEVIATION ALARM ACCEPTS TWO SIMILARLY SCALED INPUTS AND PROVIDES TWO ALARM OUTPUTS. ONE WHEN  $A > (B + \text{SETPOINT})$ , AND ANOTHER WHEN  $B > (A + \text{SETPOINT})$ . BOTH ALARMS SHARE THE SAME SETPOINT ADJUSTMENT, BUT HAVE DIFFERENT DEAD BAND ADJUSTMENTS. BOTH INPUTS MUST HAVE THE SAME TYPE OF INPUT SIGNAL.

THE DVA 112 DEVIATION ALARM HAS A SPDT OUTPUT PER EACH SETPOINT AND AN OPTIONAL DPDT OUTPUT PER SETPOINT.

A 24 VDC AT 35 MA DC OUTPUT IS PROVIDED AS STANDARD FOR LOOP TRANSMITTERS.

INTEGRAL DUAL COLOR LEDs PROVIDE GREEN INDICATION FOR NORMAL CONDITIONS AND RED INDICATION ON ALARM PER SETPOINT, INDEPENDENT OF RELAY COIL POWER.

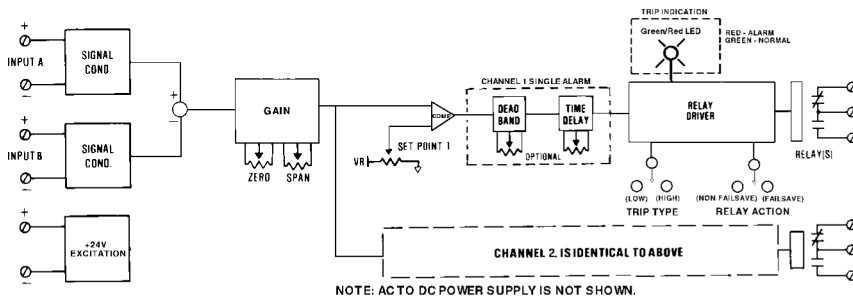
THE ALARM IS FURNISHED AS STANDARD WITH THE RELAY POWER SAFE (I.E., RELAY COIL ENERGIZED) REGARDLESS OF HIGH - AND/OR LOW-ALARM CONFIGURATIONS. YOU MAY SPECIFY THE RELAYS TO BE NON-FAIL-SAFE(I.E., RELAY COIL DE-ENERGIZED) OR ANY COMBINATION AT NO EXTRA COST.

THE DVA 112 IS SUPPLIED WITH A FIXED DEAD BAND OF 0.5% OF SPAN AS STANDARD. IT IS OPTIONALLY SUPPLIED WITH ADJUSTABLE DEAD BAND OF 1 TO 100% OF INPUT SPAN. TEN-TURN CALIBRATED DIALS ARE OFFERED AS AN OPTION FOR BOTH THE SETPOINT AND DEAD BAND AT A NOMINAL EXTRA COST AND ARE MOUNTED IN THE "WIDE-LINE" (2.75" WIDE) ENCLOSURE.

AN ADJUSTABLE TIME DELAY OF 1-30 SECONDS MAY ALSO BE PROVIDED AS AN OPTION. THIS IS USEFUL TO PREVENT FALSE ALARMS DUE TO SIGNAL TRANSIENT NOISE-INTERFERENCE.

### TYPICAL APPLICATIONS

- TANK-FILLING APPLICATIONS
- CONTACT INPUT(S) TO ANNUNCIATORS, LIGHTS, AND HORNS
- HIGH/LOW WINDOW MONITOR
- ALARM AND/OR SHUTDOWN OF PROCESS VARIABLES
- MACHINE AND PROCESS PROTECTION
- ON/OFF CONTROLLER WITH DEAD ZONE

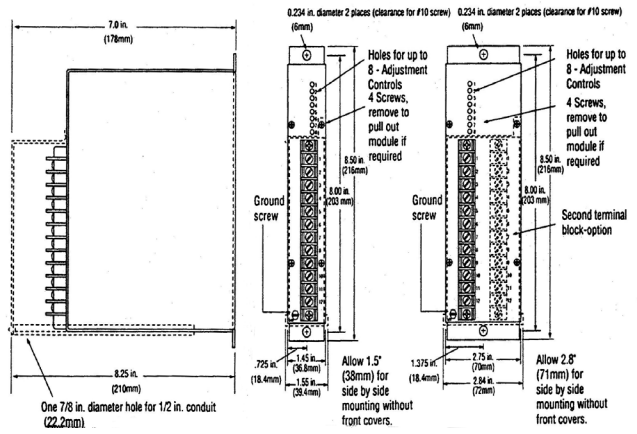
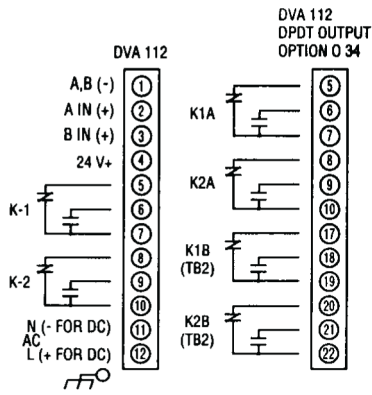


### FEATURES

- DC CURRENT INPUTS: 1 MA TO 50 MA DC: (E.G. 4-20 MA DC)
- DC VOLTAGE INPUTS: 1.25 MV TO 250 VDC : (I.E., 1-5 VDC)
- REPEATABILITY: +0.1% OF SPAN
- ZERO - BASED INPUTS: CURRENT AND VOLTAGE
- UNIVERSAL RELAY ACTION: FAIL-SAFE OR NON-FAIL-SAFE FOR HIGH OR LOW TRIP
- CONTACT STATUS: LED INDICATION: GREEN-NORMAL; RED-ALARM
- ADJUSTABLE TIME DELAY: 1-30 SECONDS-OPTIONAL
- ADJUSTABLE DEAD BAND: 1-100% OF INPUT SPAN-OPTIONAL
- CALIBRATED SET POINT AND DEAD BAND: TEN TURN-OPTIONAL



# CONNECTIONS / DIMENSIONS



## INPUT/OUTPUT

**INPUT SIGNALS**  
 \*ANY: 1 TO 50 MA DC SPAN  
 (I.E., 4-20 MA DC -Z IN 20 OHMS)  
 \*ANY: 1.25MV TO 250 VDC SPAN  
 (I.E., 1-5, 0-5, 0-10 VDC-Z IN 1 MEGOHM MIN.)  
 \* ZERO SUPPRESSION/ELEVATION TO 85% OF SPAN.

**OUTPUT SIGNALS:**  
 STANDARD: TWO SPDT CONTACTS RATED 10 AMPS AT 30 VDC OR 250 VAC RESISTIVE  
 24 VDC AT 35 MA DC TWO-WIRE TRANSMITTER EXCITATION  
 OPTIONAL: DPDT OUTPUT (OPTION O 34) HERMETICALLY SEALED 2 AMP AT 28 VDC OR 115 VAC RESISTIVE: (OPTION O 41)  
 NOTE: WITH OPTION O 34, THE "WIDE-LINE" (2.75" WIDE) HOUSING IS SUPPLIED.

## PERFORMANCE

REPEATABILITY:  $\pm 0.1\%$  OF SPAN  
 TRIP POINT STABILITY: ZERO AND SPAN  $\pm 0.004\%$  / °F TYPICAL,  $\pm 0.01\%$  / °F MAXIMUM FOR A 50 °F CHANGE FROM AMBIENT  
 \*TRIP ADJUSTMENT: 0-100% OF SPAN CONTINUOUSLY ADJUSTABLE; BLIND SET: INFINITE RESOLUTION  
 FIXED DEAD BAND: FACTORY SET AT 0.5% OF RANGE  
 \*ADJUSTABLE DEAD BAND: 1-100% OF RANGE; BLIND SET: INFINITE RESOLUTION  
 POWER SUPPLY EFFECT:  $\pm 0.05\%$  FOR A  $\pm 10\%$  POWER VARIATION.  
 ISOLATION: INPUT/OUTPUT/POWER 1,500 VAC, 50/60 HZ, FOR AC & ISOLATED DC POWERED UNITS  
 RESPONSE TIME: LESS THAN 200 MILLISECONDS  
 TEMPERATURE RANGE: 0° TO 140 °F (-18° TO 60 °C) OPERATING; -40° TO 185 °F (-40° TO 85 °C) STORAGE  
 \*TEN-TURN DIALS:  $\pm 0.5\%$  ACCURACY,  $\pm 0.05\%$  RESOLUTION

## 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 TRIP SET CONTROLS, OPTIONAL DEAD BAND AND TIME DELAY CONTROL, AND INTERNAL 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 26	SETPOINT TEN-TURN CALIBRATED DIAL
O 27 & O 29	DEAD BAND TEN-TURN CALIBRATED DIALS
O 30 & O 31	ADJUSTABLE TIME DELAY
O 34	DPDT OUTPUT
O 41	HERMETICALLY SEALED RELAYS
O 46S & O 46D	ADJUSTABLE DEAD BAND
H 10 & H 11	THIN AND WIDE-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
- High and/or low relay action
- Relay action, F.S. or non-F.S.
- Prime power with option no.
- Input/output/control(s) options
- Housing and miscellaneous options

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