



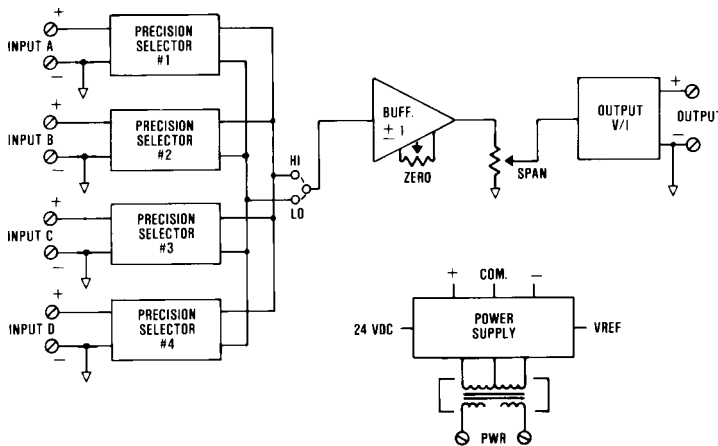
**ADTECH**  
Analog-Digital Technology, Inc.

The Adtech Model ADM 20 Amplitude Discriminator/ High-Low Selector Module provides a single output that represents either the highest or lowest of the 2, 3, or 4 input signals. It utilizes precision comparator networks to provide bumpless transition from signal to signal. Selection of high or low select operation is achieved by a single jumper selection.

The ADM 20 may be ordered as a three input median signal selector with option I 27. This option is normally utilized in a critical process for increased reliability. A typical application is one where three primary transmitters are used to measure a single variable such as temperature, pressure level, etc. The median selector insures that the selected signal is representative of the process variable even when one of the three transmitters fails upscale or downscale for any reason.

The ADM 20 delivers standard process current or voltage signals on the output with a maximum of 10 mV P/P output ripple.

Recalibration to other desired ranges is very convenient. The use of temperature-stable, low-noise components provides excellent stability and noise immunity. The ADM 20 employs the latest design and components for reliability, accuracy, and serviceability.



## Features

- **Discriminator/Selector:** High or low--standard; median--optional
- **Number of Inputs:** 2, 3, or 4--standard
- **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
- **DC Process Signal Outputs:** Current and voltage
- **Repeatability:**  $\pm 0.02\%$  of span
- **High Accuracy:**  $\pm 0.1\%$  of span
- **Reverse Calibration/Linear Inverter:** Optional

# Amplitude Discriminator/ High-Low Selector Module

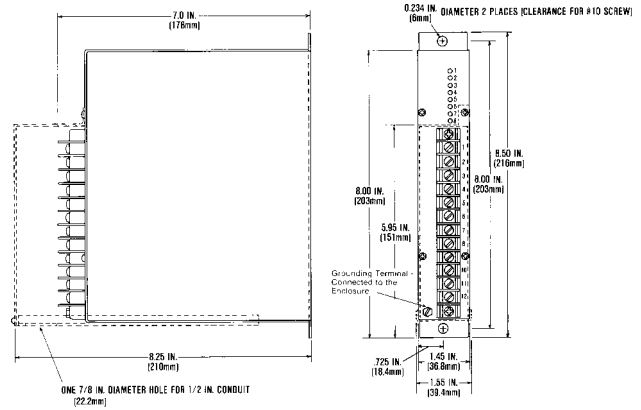
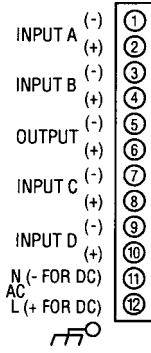
**Model No. ADM 20**

## Typical Applications

- **Soft start or shutdown**
- **Hot-spot temperature measurement**
- **Lowest level measurement**
- **Highest level measurement**
- **Redundant loss of sensor interface**
- **Redundant sensor maintenance indicator**
- **Median selector for critical processes**



## Connections/Dimensions



## Input/Output

### Input Signals

(any mix, 2 or 4 inputs of same range)  
 4-20 mA DC (Z in 250 ohms)  
 10-50 mA DC (Z in 100 ohms)  
 0-1 mA DC (Z in 5k ohms)  
 0-10 mA DC (Z in 500 ohms)  
 1-5 VDC (Z in 10 megohms)  
 0-5 VDC (Z in 10 megohms)  
 0-10 VDC (Z in 1 megohm)  
 Other zero-based current and voltages are available.

### 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:**  $\pm 0.1\%$  max.  $\pm 0.04\%$  typical  
**Repeatability:**  $\pm 0.05\%$  maximum  
**Temperature Stability:**  $\pm 0.01\%/^{\circ}\text{F}$  max.,  
 $\pm 0.004\%/^{\circ}\text{F}$  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  $140^{\circ}\text{F}$  ( $-18^{\circ}$  to  $60^{\circ}\text{C}$ )  
 operating;  $-40^{\circ}$  to  $185^{\circ}\text{F}$  ( $-40^{\circ}$  to  $85^{\circ}\text{C}$ ) 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)  
**12 VDC:** Isolated (Option P8)  
**24 VDC:** Non-isolated (Option P1)  
**24 VDC:** Isolated (Option P2)  
**48 VDC:** Isolated (Option P3)  
**125 VDC:** Isolated (105-140 VDC) (Option P4)  
**230 VAC:** 50/60 Hz, 0.7 PF (Option P5)

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 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 27** Median selector  
**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  
**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 enclosure

### Ordering Information

- Model number
- Input signals
- Number of inputs
- High or low selector
- 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.

## Represented by:



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