

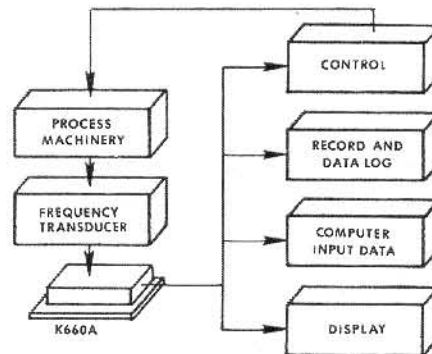
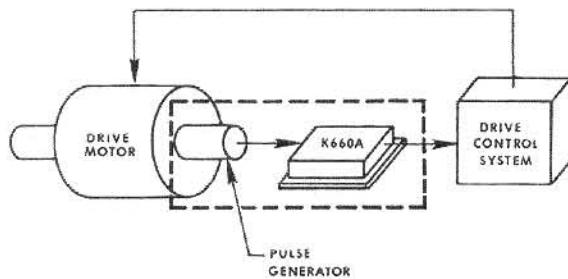
## PRECISION RATE CONVERTER

Replace Analog Tachs with Rotary Pulse Generators and K660A Converters and achieve:

**ANALOG CONTROL with DIGITAL  
 ACCURACY  
 STABILITY  
 RELIABILITY**

**MAINTENANCE FREE OPERATION**

**INCREASED PRODUCTION**



### APPLICATIONS

Advanced design technology and use of a patented circuit design make the K660A the most precise, reliable converter available for use in industrial precision control, display, and data logging applications. The K660A precisely converts an input frequency representing a process variable such as speed, frequency, flow, pressure, temperature, etc., to an accurate, stable analog output (current or voltage) for control or monitoring use. The unit is bidirectional and may be used either for single-phase operation or two-phase and direction sensing applications. For bidirectional use, the K660A accepts either a two-phase input signal or a single-phase input plus a direction signal to control a change in polarity of the DC output. Complete specifications are on the back of this bulletin.

**PRECISE CONVERSION (0.003%  
 LINEARITY TYPICAL)**

**VOLTAGE OR CURRENT OUTPUT**

**BIDIRECTIONAL**

**FAST RESPONSE**

**RIPPLE NEGLIGIBLE**

**HIGH NOISE IMMUNITY**

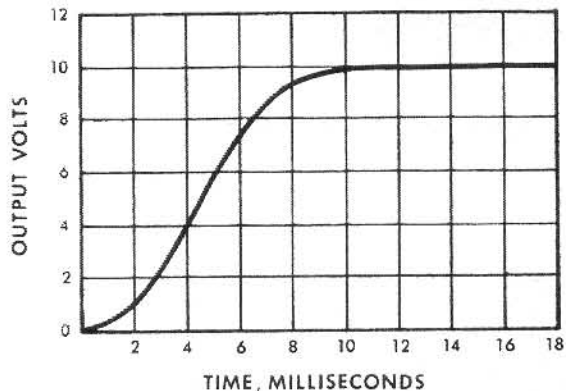
**SHORT CIRCUIT PROTECTION**

**INDUSTRIAL ENVIRONMENT  
 DESIGN**

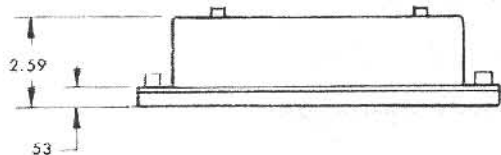
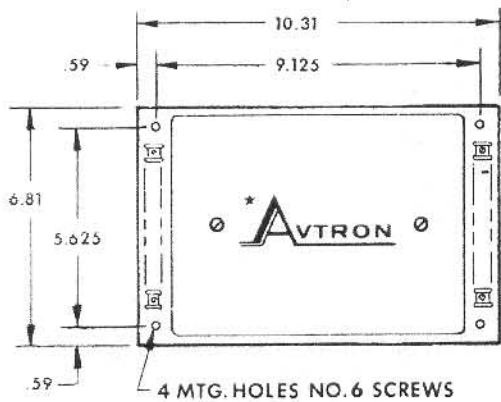
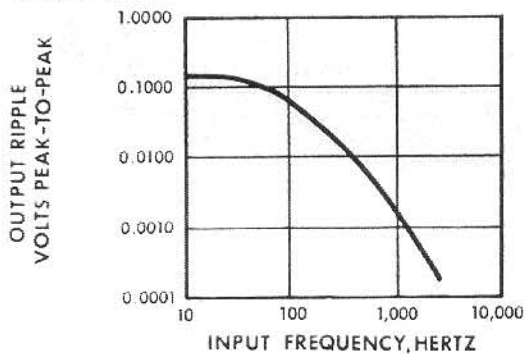
# K660A SPECIFICATIONS

## DIMENSIONS

OUTPUT RESPONSE TO FULL SCALE STEP CHANGE



OUTPUT RIPPLE



WEIGHT: 4 LBS.

ALL DIMENSIONS ARE IN INCHES

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REV. August 1993

OPERATING POWER: 115 Volts  $\pm$  15%, 50/60 Hz.  
Approx. 0.25 Amp

### SIGNAL INPUTS:

1. LOW IMPEDANCE (TRANSFORMER ISOLATED)
  - A. IMPEDANCE: 600 Ohms
  - B. SIGNAL FREQUENCY RANGES: 300 Hz to 2500, 5000, 10,000, 20,000 Hz (full scale)
  - C. VOLTAGE LIMITS: 0.5 Volts to 5 Volts Peak-to-Peak
2. HIGH IMPEDANCE (TRANSFORMER ISOLATED)
  - A. IMPEDANCE: 6000 Ohms
  - B. SIGNAL FREQUENCY RANGES: 0 Hz to 2500, 5000, 10,000, 20,000 Hz (full scale). Square wave. 300 Hz minimum for sine wave.
  - C. VOLTAGE LIMITS: 5 Volts to 30 Volts Peak-to-Peak
3. DIRECTION (OR SIGN)
  - (a) Single phase ( $\emptyset$ A) - Not direction or sign sensing
  - (b) Two-phase ( $\emptyset$ A and  $\emptyset$ B 90° apart) - Sign sensing (bidirectional)
  - (c) Single phase + Direction Control Input for sign sensing (bidirectional) logical 1 (+15 VDC) = +OUTPUT

### OUTPUTS:

1. VOLTAGE MODE (Into 500 ohms minimum load impedance)
  - A. PROPORTIONAL: 10 VDC @ full scale freq. input (linearity extrapolates to 0 volts @ 0 Hz)
  - B. OFFSET: 12.5 VDC @ full scale freq. input (linearity extrapolates to 2.5 volts @ 0 Hz)
  - C. REMOTE SENSING OF VOLTAGE: Same as for A and B above
2. CURRENT MODE (Into 250 ohms maximum load impedance)
  - A. PROPORTIONAL: 16 milliamps @ full scale frequency input (linearity extrapolates to 0 ma. @ 0 Hz)
  - B. OFFSET: 20 milliamps @ full scale frequency input (linearity extrapolates to 4 ma. @ 0 Hz)

### DC OUTPUT POLARITY

1. FOR NON-DIRECTIONAL INPUT:  
May be hard-wired for either polarity
2. FOR BIDIRECTIONAL INPUT:  
Polarity determined by "direction" of input

### OUTPUT LINEARITY:

Maximum: 0.006% of full scale  
Typical: 0.003% of full scale

ACCURACY:  $\pm$ 0.03% of reading  $\pm$  1 mv. as set at factory

### DRIFT:

1. TEMPERATURE:  
Maximum:  $\pm$ 0.1% of full scale from 32° - 140°F ( $\pm$ 0.02% available)
2. STABILITY:  
Maximum:  $\pm$ 0.02% of full scale over 30 days

Features subject to change without notice

