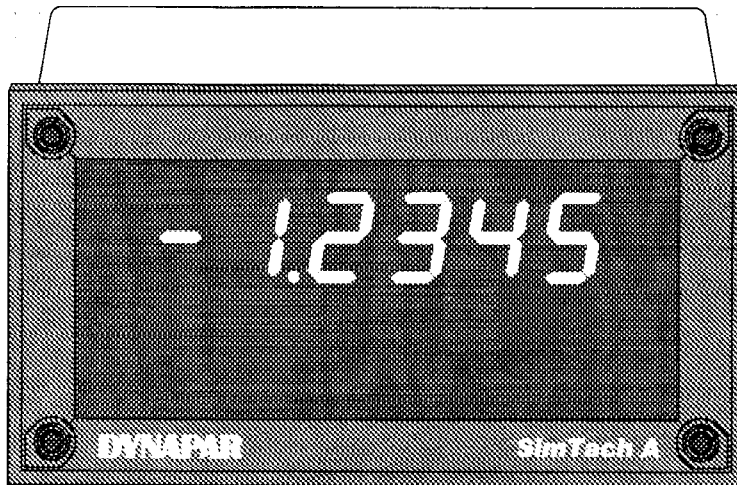


SimTach AANALOG INPUT
SPEED INDICATOR**DESCRIPTION**

The SimTach A is an industrial quality, digital voltmeter which provides a calibrated speed readout from a variety of signal sources. Its wide range of inputs allows interface to process signals, DC tachometers and motor drives. An optional digital calibrator offers precise scaling while maintaining accuracy. Easy installation and convenient switch selections make it the best choice for speed indicator applications.

FEATURES

- ◆ Large, $\pm 4\text{-}1/2$ Digit LED Display
- ◆ Switch Selectable 20, 200, and 600 VDC Ranges
- ◆ Selectable Display Decimal Point
- ◆ Fast or Slow Display Update Rate
- ◆ Sealed NEMA 1 Front Panel

CONDENSED SPECIFICATIONS

- 0.1 % Accuracy
- Optional 0.XXX Digital Calibrator
- ≤ 75 ppm / °C. Temperature Drift
- X. to X.XXXX Decimal Point Range
- 1/8 DIN Panel Cutout
- 115 or 230 VAC Operation

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DYNAPAR

Input Range Selection

The input signal is applied to a precision resistor voltage divider network which scales the signal down to the 2 VDC internal range. The 20, 200 and 600 volt range switches provide ± 10 , ± 100 and ± 1000 selections.

Gain Adjust Pot (STAx0)

The potentiometer and amplifier provide gain adjustment to calibrate the display to readout in engineering units.

Digital Calibrator (STAx1)

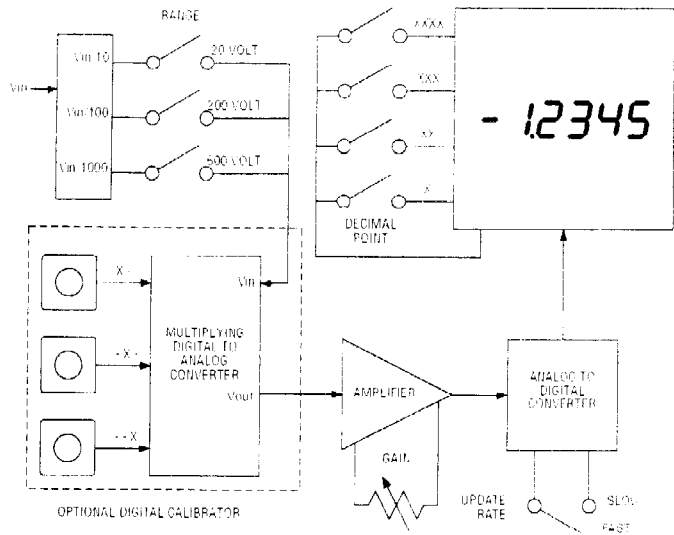
The divided input is routed through a digital-to-analog converter (DAC), which multiplies the signal by the scale factor set on the BCD switches as 0.XXX. (Note that a setting of 0.000 = Calibration of 1.)

Analog-to-Digital Converter

The ADC uses dual-slope conversion and auto-zero circuitry to provide a full 4-1/2 digit range. A selectable clock source allows fast or slow display updates to meet differing application requirements.

LED Display

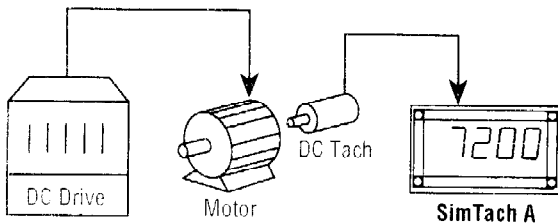
The 4-1/2 digit provides a sign for inputs that range below zero, and selectable decimal point displays.



SimTach A Block Diagram

APPLICATIONS

Actual Speed Indicator Using DC Tach Feedback



DC Tachometer Feedback

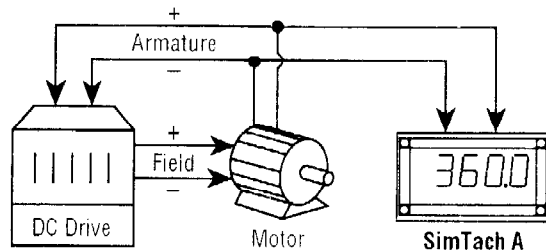
To provide a calibrated speed readout of motor RPM, a DC tachometer with a 10 volt-per-thousand RPM output is mounted to the motor. The maximum motor speed is 7200 RPM, for which the tachometer will generate an output of 72 volts DC.

The 200 VDC input range is selected; no decimal point display is chosen for RPM readout. The display will read:

$$\frac{72 \text{ volts input}}{200 \text{ volt range}} \times 20,000 \text{ max. display} = 7200$$

No adjustment of the gain adjust pot is needed (factory set for gain of 1).

Actual Speed Indicator Using Motor Armature Voltage



Armature Voltage Feedback

An 480 volt DC motor is driving a conveyor at a maximum speed of 360 inches per minute.

The 600 VDC range is needed, and a .X decimal point display is selected. With no calibration, the display is:

$$\frac{480 \text{ volts input}}{600 \text{ volt range}} \times 20,000 \text{ max. display} = 480.0$$

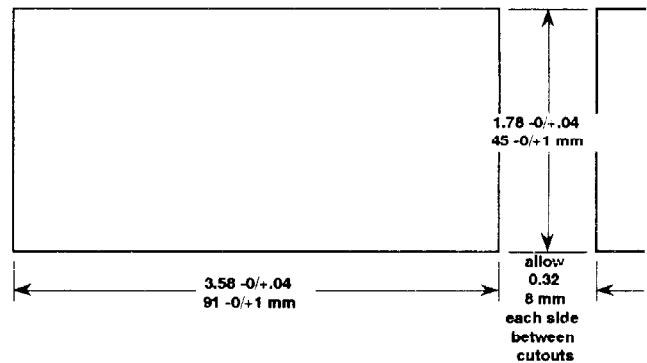
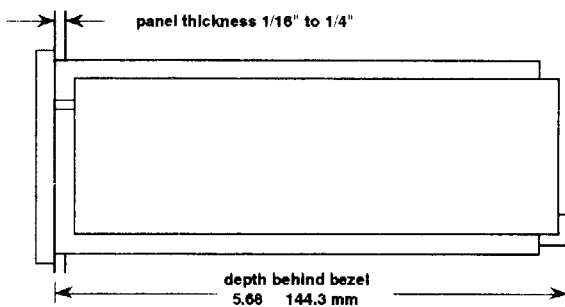
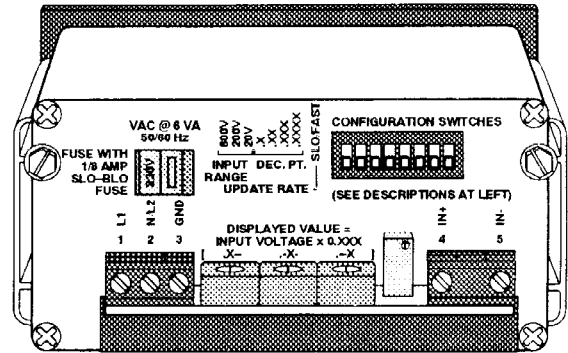
The calibrator is calculated by the formula:

$$\frac{360.0 \text{ desired}}{480.0 \text{ expected}} = 0.750$$

The BCD switches are set to 0.750 to calibrate the unit.

1. PANEL MOUNTING

Make a panel cutout as shown below (right). Affix the adhesive gasket (for watertight seal, if required) to the panel. Remove the panel straps and slide the unit through the cutout. Slide the panel straps into the enclosure guides. Secure the unit by tightening the hex washer head screws into the guides.

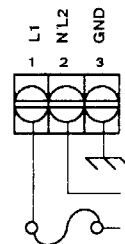


WIRING

2. INPUT POWER

(For models STA-S-x only: Select 115 or 230 VAC operation with a slotted screwdriver through the cutout. Unit is factory set for 230 VAC.)

Supply AC power through a separately fused circuit. Unit requires external fusing rated 1/4 A. for 115 VAC or 1/8 A. for 230 VAC, slow blow type. Connect terminal #3 to BUILDING GROUND!

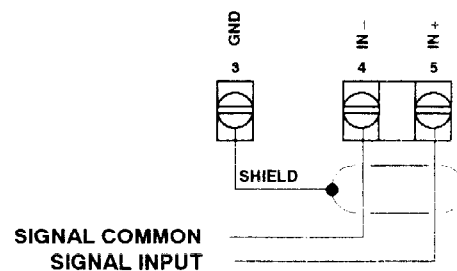


115 / 230 VAC, 50 / 60 Hz, 6VA

3. SIGNAL INPUT

Connect the signal input, noting polarity of the + and - terminals, using shielded wiring with the shield connected to terminal #3.

Select one of the three input voltage ranges on the DIP switches, according to the maximum signal input voltage. DO NOT EXCEED 600 VDC!



SPECIFICATIONS

Input Power:	95 to 130 VAC, 50/60 Hz, or 190 to 260 VAC, 50/60 Hz, 6 VA	Scale Factor Range:	Gain Adjust Pot: 5% to 200% Digital Calibrator: 0.001 to 0.999 (0.000 = Calibration of 1)
Display:	± 4 – 1/2 Digit, 0.56" Red LED	Accuracy:	±0.1% -0/+1 Digit
Decimal Point:	Switch Selectable XXXXX, to X.XXXX	Stability:	≤ 75 ppm/°C.
Display Update Rate:	Switch Selectable	Operating Temperature:	0 to +50 °C. (32 to +122 °F.)
Fast:	2 Hz (2 times per second)	Dimensions:	
Slow:	0.5 Hz (every two seconds)	Overall:	1.98" x 3.78" x 6.03" 50 mm x 96 mm x 150 mm
Overvoltage Indication:	Display Flashes All "0's"	Cutout:	1.78" x 3.58" (-0/+0.04") 45 mm x 91 mm (-0/+1 mm)
Signal Input Range:	Switch Selectable 0 to ± 20/200/600 VDC	Panel Thickness:	1/16" to 1/4"
		Panel Depth:	5.68" (144 mm)
		Weight:	1.4 lbs.

ORDERING INFORMATION

MODEL DESCRIPTION

STA00	SimTach A Analog Input Speed Indicator, 115 VAC Operation
STAE0	SimTach A Analog Input Speed Indicator, 230 VAC Operation
STAS0	SimTach A Analog Input Speed Indicator, 115/230 VAC Selectable Operation
STA01	SimTach A Analog Input Speed Indicator with Digital Calibration, 115 VAC Operation
STAE1	SimTach A Analog Input Speed Indicator with Digital Calibration, 230 VAC Operation
STAS1	SimTach A Analog Input Speed Indicator with Digital Calibration, 115/230 VAC Selectable Operation

WARRANTY

Standard products manufactured by the Company are warranted to be free from defects in workmanship and material for a period of one year from the date of shipment, and products which are defective in workmanship or material will be repaired or replaced, at the option of the Company, at no charge to the Buyer. Final determination as to whether a product is actually defective rests with the Company. The obligation of the Company hereunder shall be limited solely to repair and replacement of products that fall within the foregoing limitations, and shall be conditioned upon receipt by the Company of written notice of any alleged defects or deficiency promptly after discovery within the warranty period, and in the case of components or units purchased by the Company, the obligation of the Company shall not exceed the settlement that the Company is able to obtain from the supplier thereof. No products shall be returned to the Company without its prior consent. Products which the Company consents to have returned shall be shipped F.O.B. the Company's factory. The Company cannot assume responsibility or accept invoices for unauthorized repairs to its components, even though defective. The life of the products of the Company depends, to a large extent, upon the type of usage thereof, and THE COMPANY MAKES NO WARRANTY AS TO FITNESS OF ITS PRODUCTS FOR SPECIFIC APPLICATIONS BY THE BUYER NOR AS TO PERIOD OF SERVICE UNLESS THE COMPANY SPECIFICALLY AGREES OTHERWISE IN WRITING AFTER THE PROPOSED USAGE HAS BEEN MADE KNOWN TO IT.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE.

SERVICE: If this product requires service, call Dynapar Corp. for an RMA (Return Material Authorization) number, pack it in a sturdy carton and ship prepaid to: Service Dept. at address below.

- Include:**
- | | |
|-------------------------------|---------------------------------|
| 1. Description of problem | 3. Purchase order number |
| 2. Name of responsible person | 4. Return shipping instructions |