

SPD-100 and SPD-100L

Signal-Powered Tachometer

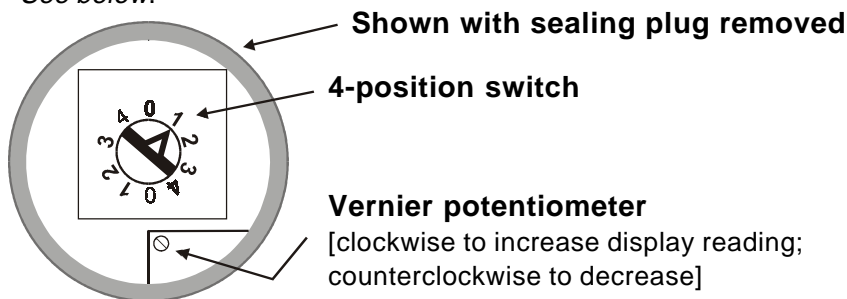
Calibration Instructions

The SPD-100 and SPD-100L tachometers are normally factory-calibrated to the customer-specified number of sensing teeth or discontinuities, sensing speed, and desired numerical display.

If necessary, turn to the reverse side of this card to calculate Signal Frequency and Gate Time.

To calibrate an SPD-100 or SPD-100L

1. Remove the sealing plug on the back of the housing.
2. Apply the calculated signal frequency to terminals 1 and 2. *A Dynalco F-16 or F-15 signal generator is ideal.*
3. Select the appropriate gate time range on the 4-position switch. *See label on back of SPD-100 or SPD-100L; or Item 3, reverse side of card.*
4. Adjust the vernier potentiometer for the desired display. *See below.*



Example: *If 3390 Hz = 1800 RPM, then gate time is 0.53 seconds.*

1. Apply 3390 Hz to terminals 1 and 2 on tachometer (no polarity).
2. Turn the gate time range switch to (either) position number 1 to select gate time range of 0.26–0.72 seconds.
3. Adjust the vernier potentiometer to obtain a display of 1800.

See label on back of SPD-108, SPD-108L for additional information

**QUICK
GATE TIME
CALCULATION**

$$\frac{60}{\text{Number of Teeth}}$$

{ Assumes the pickup is "seeing" the gear of interest directly, not through a step up or step down ratio.

(For example: 60/113 teeth = 0.53 sec. gate time)

1. Calculating Signal Frequency (in Hz)

Multiply RPM times the number of teeth (or discontinuities), then divide by 60. For example, sensing a ring gear with 113 teeth rotating at 1800 RPM gives a frequency of 3390 Hz.

$$\text{Signal Frequency in Hz} = \frac{(\text{RPM}) \times (\text{Teeth or Discontinuities})}{60}$$

$$\text{Signal Frequency in Hz} = \frac{(1800 \text{ RPM}) \times (113 \text{ Teeth})}{60} = 3390 \text{ Hz}$$

2. Calculating Gate Time (In seconds)

Divide the number to be displayed on the SPD-100 or SPD-100L by the corresponding signal frequency.

$$\text{Gate Time} = \frac{1800 \text{ RPM}}{3390 \text{ Hz}} = 0.53 \text{ seconds}$$

3. Gate Time Range Selection on 4-Position Switch

Select either position for each number pair on the switch:

Position 1: 0.26–0.72 sec.

Position 2: 0.72–1.43 sec.

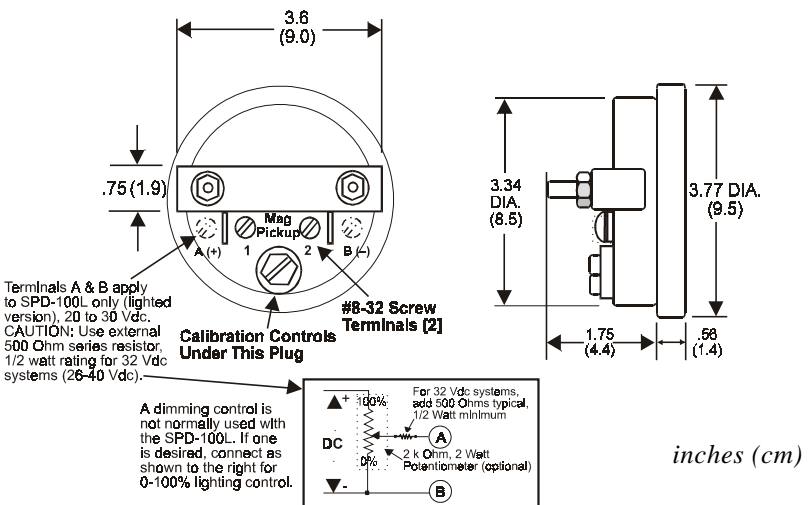
Position 3: 1.43–2.85 sec.

Position 4: 2.85–5.70 sec.

Optional Calibration Method: On-engine

- Select the appropriate gate time range on the 4-position switch.
- Connect the magnetic pickup output to terminals 1 & 2.
- Adjust vernier potentiometer on SPD-100 or SPD-100L until its display agrees with another precise digital tachometer.

OUTLINE AND CONNECTION DRAWING



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