

# SPD-700 Series

**DYNALCO**  
C O N T R O L S

## Digital Tachometer/ Rate Meter

*Solid-state and self-powered, the SPD-700™ Series meter operates directly from magnetic pickups and pulsers. No ac or dc power is required. Signal and power are derived from the signal source.*

**2-Year  
Warranty**



See "Third Party Approvals"

### FEATURES

- Self-powered: can be used in remote locations. Not sensitive to line noise, spikes, or grounding.
- Intrinsically safe system when used with qualified Dynalco magnetic pickups. (See Third Party Approvals.)
- Begins operating at speeds as low as 50 RPM (with appropriate gear and pickup). Lowest frequency range limited by gate time and corresponding display.
- Field-calibrated by jumper-selecting a gate time range, and by adjusting the vernier potentiometer accessible through a normally covered hole on the front of the instrument.
- Digital ease of readability with large 0.5 inch high digits. Greater accuracy and resolution than analog instruments.
- Displays RPM or any other rate information such as FPM or GPM.



- Display contrast ratio increases with increasing ambient light; eliminates LED fade-out under high ambient light conditions.
- Ideal for indoor installations; for outdoor use a weatherproof enclosure is required.
- Highly immune to sour gas that so easily attacks the springs and other components of analog meters.
- Physically interchangeable in mounting holes and cutouts with standard 4½-inch rectangular analog meters.

### Third Party Approvals

The SPD-700 Series is approved for use in Cl. I, Div. 1, Grps. A, B, C, D hazardous locations when used with Dynalco magnetic pickups M134, M135, M139, or M204.

Also, Groups C and D locations when used with Dynalco magnetic pickups M160, M201, M202, M231, or M233.

**WARNING:** Substituting components or connecting unauthorized equipment to the input signal terminals may impair intrinsic safety.

# SPECIFICATIONS

## External Power Requirements

No external power required. All models are signal powered. Signal derived from pickups, pulsers, shaft encoders, etc.

## Input Signal Voltage

◆ Minimum signal amplitude: 2 Vrms (6 volts peak-to-peak). Typical threshold: approximately 1.5 Vrms.

◆ Maximum permissible signal is 13 Vrms (40 volts peak-to-peak).

◆ Typical tachometer input resistance is 20 kΩ at 4.5 volts peak-to-peak; 100 Ω at 40 volts peak-to-peak.

**Note:** No danger of overvoltage when operating from magnetic pickups. The internal resistance and inductance of a pickup—combined with the collapsing input resistance of the tachometer at signals above 9 volts peak-to-peak—limits the pickup output voltage to well below unsafe values.

## Input Signal Frequency

Maximum input signal frequency 12,000 Hz. Lowest input frequency limited by gate time and corresponding numerical display.

## Isolated Circuit

All circuitry is totally floating; i.e. totally isolated and insulated from the case and from ground.

## Display

4 active digits (0000 to 9999). Non-blinking LCD display. Optional decimal point can be placed after the 1st, 2nd, or 3rd digit.

## Temperature Range

Operating: 0°F to +165°F (−18°C to +74°C)

## Stability of Reading

±0.0050%/°F (±0.0028%/°C); no change with signal amplitude for signal levels above 2.5 Vrms.

## Readout Accuracy

0.1% of reading.

## Field-Selectable Gate Time Ranges

◆ SPD-700: from 0.26 to 5.7 seconds

◆ SPD-708: from 0.13 to 2.85 seconds

This accommodates calibrations for an extremely broad range of corresponding pulses per second.

## Weight

1 lb (0.45 kg)

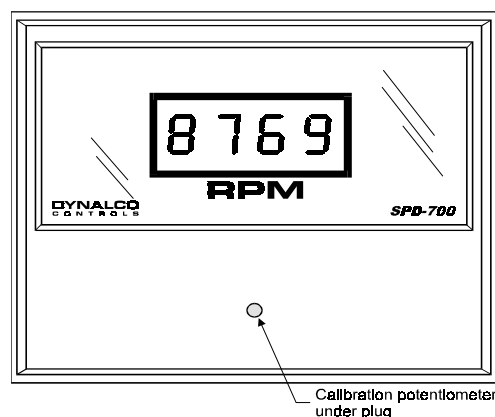
## How to Order

### SPECIFY:

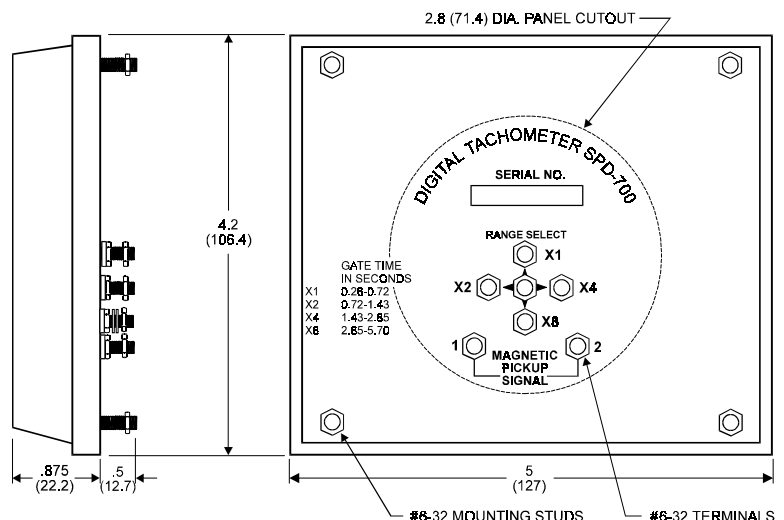
1. a. **SPD-700**  
*Gate time range=0.26 to 5.7 seconds*
- b. **SPD-708**  
*Gate time range=0.13 to 2.85 seconds*
2. Magnetic pickup type
3. Decimal point location, if needed.
4. Legend: e.g. RPM, FPM, YPM, GPM, GPS, IPS; X100, X1000

**For factory calibration:** Advise the gate time required or the number to be displayed at a given signal frequency. Or, just indicate the number of gear teeth or discontinuities per revolution.

*Be sure to determine if the gear is rotating at the speed of interest or if some step-up or step-down ratio must be considered.*



For outdoor use, the SPD-700 should be in a weatherproof enclosure.



Dimensions in inches (millimeters)

**CRANE DYNALCO CONTROLS**

SPD-700 AND SPD-708 ARE TRADEMARKS OF DYNALCO CONTROLS.  
DYNALCO CONTROLS RESERVES THE RIGHT TO CHANGE THESE SPECIFICATIONS WITHOUT NOTICE.  
FOR COMPLETE SPECIFICATION INFORMATION, CONTACT A DYNALCO REPRESENTATIVE.