MTH-103D

DYNALCO CONTROLS

Tachometer/ Hourmeter/Trip

The MTH-103D™ is a microprocessor-based 5-digit tachometer, hourmeter, and trip. The trip can be programmed to activate on overspeed, underspeed (Class C), or hours. Unit may be pickup- or dc-powered.

2-Year Warranty

ABS TYPE APPROVAL PROGRAM 98-FL1401

LR45322-63 See other side.

FEATURES

- Selectable Overspeed Trip Response: set for instantaneous RPM, average RPM, Class-C underspeed, or hours.
- Both signal and power may be derived from magnetic pickup.
- High accuracy: 5-digit display, 1 rpm resolution, 100,000 hour range.
- Universal: Can be field-calibrated like a digital watch (with the single push button) for any number of pulses per revolution, for trip point value, and for preset/reset hours.
- Displays speed, hours, and the setpoint on command.
- Fast overspeed reaction time of 0.1 second (above 20 Hz input) is independent of sensing gear teeth.
- Display contrast increases with increasing ambient light. Ideal for both indoor and outdoor installations.
- Standard SAE case size fits engine panels with 3-3/8" openings.
- High shock and vibration resistance. Gasketed and spray proof.
- Highly resistant to electrical noise.

SPECIFICATIONS

Power: Magnetic pickup or 9-30 Vdc.

Display: 5 active digits (0 to 99999), non-blinking liquid crystal display (LCD), 0.4" character height.

Input Signal Frequency: From 10 to 13,000 Hz.

Input Signal Voltage (when powered from): **A.** Magnetic pickups — Minimum signal amplitude is 4.0 Vrms. Maximum permissible signal is 15 Vrms: the MTH-103D automatically limits pickup signals at approximately 10 volts peak-to-peak.

B. DC — Nominal 1.5 Vrms signal sensitivity.

Tachometer Accuracy: Quartz crystal-controlled, 1 rpm resolution, within 0.2% under all combined environmental conditions.

Hourmeter: 100,000-hour range (99,999), 1-hour increments. Display is visible and time accumulates only when the signal is applied to terminals A and B.

Trip: Setpoint value is field-settable directly in rpm or hours (count up or down). Normally open solid-state contacts at terminals 5(+) and 6(–) close on trip. Reaction time of 0.1 seconds. Maximum continuous contact rating of 0.15 amps, 400 Vdc.

Trip Accuracy: ±1 unit, maximum.

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Hourmeter Accuracy: 0.2% of reading. Retains count in memory when signal or power is removed.

Isolated Circuit: All circuitry is totally floating, isolated, and insulated from the case and from ground.

Environment Temperature:
Operating: –5°F to +175°F (–20°C to +79°C)
Storage: –40°F to +195°F (–40°C to +90°C)

Vibration: Mil. Std. 810C, Method 514.2, Curve P, to 500 Hz.

Weight: 1.0 lb (0.45 kg)

Magnetic Pickups: Dynalco magnetic pickups M204, M205, M207 and M208 are recommended with the MTH-103D in applications where the pickup is being used for power.

When dc-power is used either the M201, M202, M203, M233, M102 or M142 or equivalent are recommended. Refer to Dynalco Magnetic Pickup brochure for various types and characteristics.

CSA CERTIFICATION (based on application)

Class I, Division 1, Group A, B, C, and D*
Class I, Division 2, Group A, B, C, and D*

When Pickup Powered:

Dynalco magnetic pickup M204, M205, M207, or M208 must be used.

Class I, Division 1, Group A, B, C, and D — When using the trip output of the MTH-103D, a CSA-certified Zener barrier must be used.

Class I, Division 2, Group A, B, C, and D — No Zener barrier required for the trip output.

*When connected per Dynalco drawing A80010401

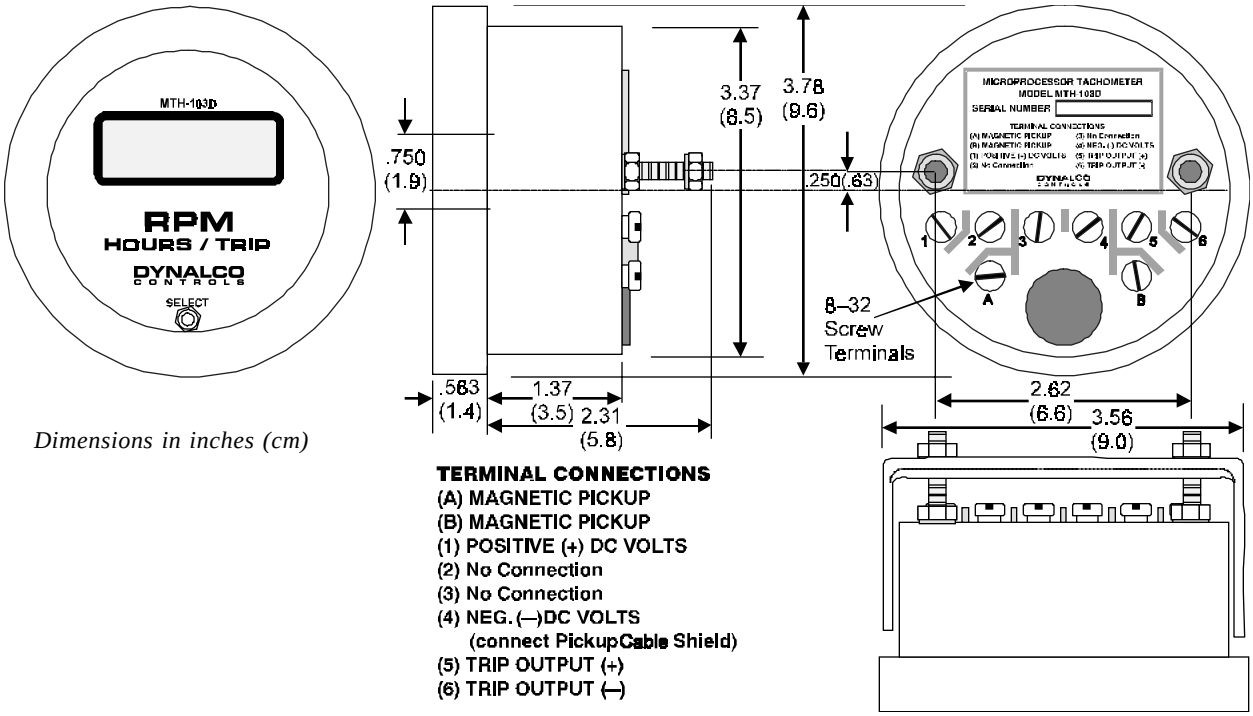
When 9-36 Vdc Powered:

Dynalco magnetic pickup M201, M202, M203, or M233 must be used to provide the speed signal.

Class I, Division 1, Group A, B, C, and D — Certification is contingent on powering the MTH-103D through a CSA-certified Zener barrier. When using the trip output of the MTH-103D, it must also be connected through a CSA-certified Zener barrier.

Class I, Division 2, Group A, B, C, and D — No Zener barriers required.

Outline Drawing & Connections



Dimensions in inches (cm)

TERMINAL CONNECTIONS
(A) MAGNETIC PICKUP
(B) MAGNETIC PICKUP
(1) POSITIVE (+) DC VOLTS
(2) No Connection
(3) No Connection
(4) NEG. (–)DC VOLTS
(connect Pickup Cable Shield)
(5) TRIP OUTPUT (+)
(6) TRIP OUTPUT (–)

CRANE DYNALCO CONTROLS