ELECTRO•SENSORS

Superior • Systems • Solutions

SpeedTalker-DN (UI) DeviceNet Universal Input Shaft Speed Monitor

- Provides measured shaft RPM and alarm states
- Compatible with most pulse output sensors
- Provides isolated DC sensor power
- Network powered DIN rail mountable module
- Integrates into any DeviceNet network
- ODVA Conformance Tested (file #10390)

Product Information

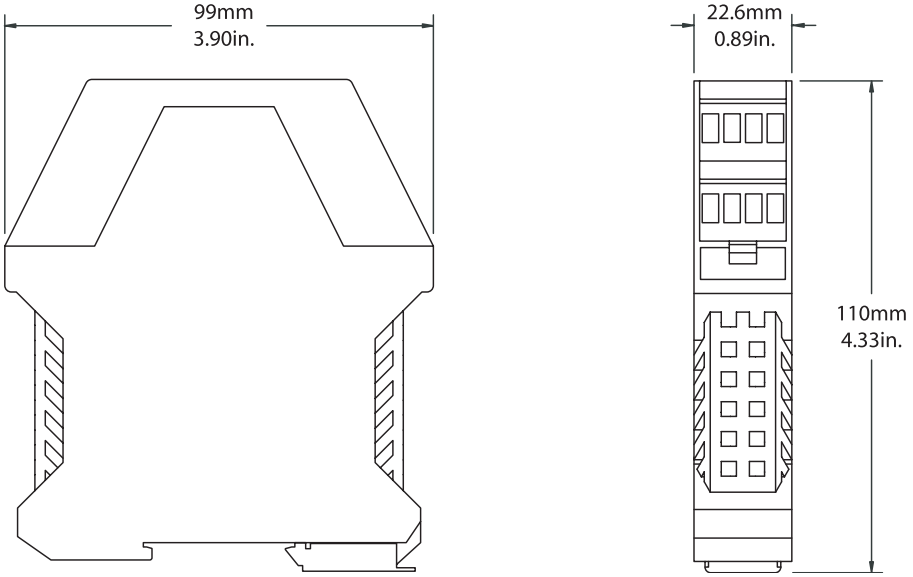
Description

Electro-Sensors' SpeedTalker-DN (UI) converts pulse frequencies from external sensors to RPM units, providing tachometer measurement of up to two rotating shafts and the status of eight alarm functions over DeviceNet.

The electrically-isolated inputs are compatible with most pulse-output sensors and signal sources including incremental shaft encoders, prox, photo-eye and Hall-effect sensors. Sensor signals may be single-ended or differential, single-channel or quadrature. The unit is network-powered and provides isolated dc sensor power. Measurable shaft speeds range from 0.0 to 3,276.7 RPM and the unit may be configured for unidirectional or bidirectional speed measurement.

Each configurable alarm function has on/off, greater/less than, speed threshold, delay time and minimum on-time settings. Configuration is handled over DeviceNet with parameter settings stored in non-volatile memory. An electronic data sheet (EDS) file is provided to aid configuration. RPM measurements and Alarm Status are accessible over the Poll I/O and Explicit Messaging Connections and Alarm Status is provided over the COS I/O connection for slave-initiated alarm notification.

Dimensional Drawings • SpeedTalker- DN (UI)



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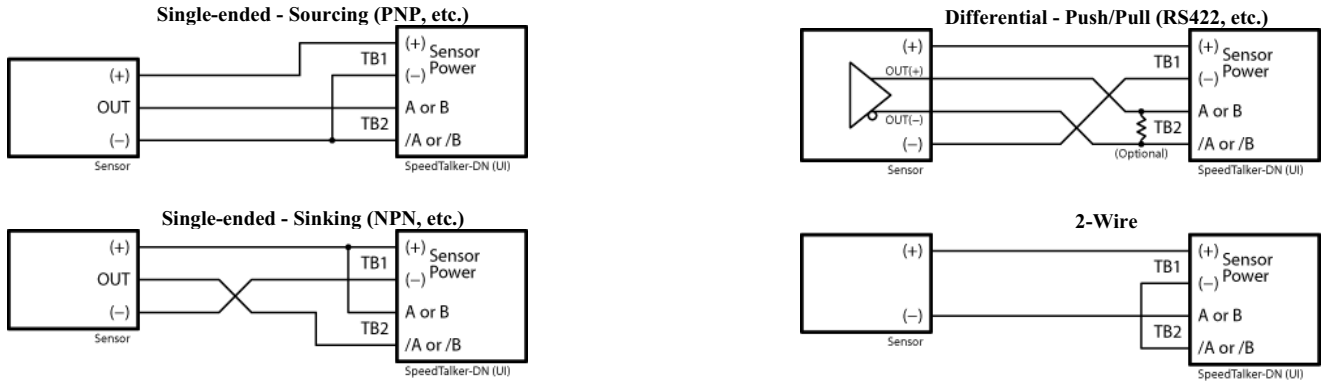
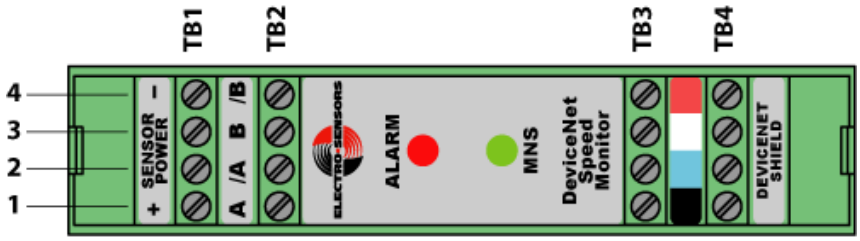
Sensor Connection Diagrams



Terminal Diagram



Notes:

TBI pins 1, 2, are SENSOR POWER **(+)**; pins 3, 4 are SENSOR POWER **(-)**
TB2 pins 1, 2 are Channel A inputs (A, /A); pins 3, 4 are Channel B inputs (B, /B)
TB3 pins 1, 2, 3, 4 are DeviceNet **V-, CAN-L, CAN-H, V+** (respectively)
TB4 (DEVICENET SHIELD) pins 1 ➔ 4 are internally connected

SpeedTalker-DN (UI) Shaft Speed Sensor Specifications

Sensor Input Channels (A to /A, B to /B)
- **Resistance (Ri)** ..... 2.2 kΩ (24V input setting)
  220Ω (5V input setting)
- **Input Current Range** ..... +5 ➔ +25 mA (Vin + or high)
  -25 ➔ +0.3 mA (Vin - or low)
- **RS422 Compatibility** ..... Yes (5V input setting)
  For RI = 120Ω , use an external 270Ω resistor across inputs

Sensor Input Channel Isolation ..... 2500 Vrms
Sensor Power ..... 24 Vdc, 125 mA (-20➔ 50°C), 40mA (70°C)
Sensor Power Isolation ..... 500 V rms (min)
Pulse Frequency Range ..... 0.0112 ➔ 31,250 Hz
Speed Measurement Range ..... 500 V rms (min)
Speed Measurement/ Threshold Resolution ..... 0.1 RPM
Speed Measurement Error ..... 0.02% ± 0.05 RPM
Speed/Alarm Re-Calculation Period ..... 8.192 mS

DeviceNet Implementation
- Node Type ..... Group 2 Only Slave
- Connections ..... Poll, COS, Explicit Message
- Device Profile ..... Generic Device
- Baud Rates 125k, 250k, 500k
- LED Indicators ..... Module/Network Status (MNS)
- Configuration ..... Electronic Data Sheet (EDS) File
- Conformance ..... Passed DeviceNet Conformance Composite 18
  (ODVA Conformance file 10390)

Operating Power (network supplied) ..... 11 Vdc / 70mA(max)
➔ 25 Vdc/50 mA (max)
(0mA Sensor Power Load)
Operating Temperature ..... -20° C to +70° C (-4° F to +158° F)
Mounting ..... 35 mm DIN rail
Dimensions ..... 99mm x 114.5mm x 22.5mm (3.9 in. x 4.5 in. x .089 in)
Weight ..... 114g (0.25 lb)

Specifications subject to change without notice.

ES-510 Rev A

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