

NITESTAR AND SS-10

NITESTAR[®]

DISTANCE MEASURING INSTRUMENT (DMI)

SS-10[™]

SPEED SENSOR

OVERVIEW

The Nu-Metrics[®] NiteStar is a Distance Measuring Instrument (DMI) designed to accurately measure distances as you drive. The NiteStar is easy to install and use, and offers you a cost-effective way to complete the job. Two models are available: the NS-50, a basic DMI, and the NS-60 with extended memory, laptop compatibility, and optional GPS receiver.

The SS-10 is a speed sensor used along with the NiteStar DMI. It is mounted either on the firewall or under the dashboard of the vehicle. The SS-10 conditions and transfers the speed signal to the NiteStar for measurement and display. Signals are automatically converted, and the sensitive design of the SS-10 allows it to operate at low speeds.

FEATURES AND BENEFITS

NITESTAR:

- ▶ Accurately measures distances at ± 1 foot per mile
- ▶ Converts distances to miles, feet or kilometers
- ▶ Capable of detecting bi-directional distance (up/down)
- ▶ Displays distance intervals between points of interest
- ▶ Extensive internal memory for storing data
- ▶ Optional power adapter cable to derive 12 VDC from the cigarette lighter or auxiliary power socket
- ▶ Optional GPS receiver records coordinates for surveying and mapping data
- ▶ Optional Survey Data Management (SDM) software

SS-10:

- ▶ Automatically converts signals
- ▶ Variable sensitivity allows counting at low speeds
- ▶ Permits a reduction in sensitivity for noisy environments
- ▶ Virtually transparent to vehicle electronics, reducing error messages
- ▶ Compatible with most vehicles
- ▶ Mounts to firewall or under dashboard
- ▶ Includes self-diagnostic features to verify cable connection to DMI and operation of SS-10 electronics
- ▶ Ruggedized enclosure withstands temperatures up to 240°F
- ▶ Simplifies the installation of NiteStar, eliminating errors and guesswork



NiteStar DMI



SS-10 Interface

Quixote
Transportation Technologies, Inc.

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NITESTAR SPECIFICATIONS

Power	▶ 9 to 16 VDC, negative ground 90 mA at 12 VDC (max)
Accuracy	▶ ± 1 foot per mile (± 1 meter per kilometer)
Resolution	▶ ± 1 foot (± 1 meter)
Display	▶ Back lighted liquid crystal panel (3 brightness level adjustments and off), 6-digit distance (mi, ft, km), 4-digit interval distance, 3-digit speed (mph, kph, F/S)
Indicators	▶ Up/down arrow, AEC, code, mark, count hold, display hold, calibrate
Keypad	▶ LED back lighted (3 brightness adjustments and off), 15 key, touch-tell silicon rubber
Speed	▶ Displays vehicle speed 0-199 (mph, kph, F/S)
Count	▶ Bi-directional up/down
Calibration	▶ Four vehicle memory
Auto Distance Conversion	▶ Feet, miles, kilometers
Test Mode	▶ Complete system check, simulates distance count
Count Hold	▶ Stops distance count
Display Hold	▶ Freeze display count without loss of accumulating distance
Pre-distance	▶ Capable of starting at a known distance
Output Pulse	▶ 0-5 VDC (low going high)
(PDI) Type	▶ High going low, flip flop, output pulse activate (distance)
(PDI) Setting	▶ Duration (distance, time)
Speed Trap	▶ Operation for computing observed vehicle's speed
Automatic Error Correction	▶ Compensates for sensor error due to vehicle's dynamic motion
Material Calculation	▶ Area, volume, tonnage, cost
Interval Counts	▶ Elapsed distance from last mark, *begin/end accumulation
Memory	▶ 0-99 memory locations, *unlimited with laptop computer use, *20 preset plain language events
Memory Retention	▶ Non-volatile type, greater than 50-year (lifetime) retention
Printer Interface	▶ Serial, 300-9600 baud rate (selectable)
Communications	▶ *RS-232 in/out, selectable baud rate (300-600-1200-2400-4800-9600)
Input Channel	▶ One 8 bit 0-5 VDC analog, one 0-5 VDC digital
Output Channel	▶ One 0-5 VDC digital
Case	▶ High heat resistive ABS
Dimensions	▶ 7.5 in x 2.25 in x 0.88 in (190.5 mm x 57.15 mm x 22.5 mm)
Weight	▶ 0.42 lbs (190.5 g)
Operating Temperature	▶ 32°F to 158°F (0°C to 70°C)
Instrument Warranty	▶ One year parts and labor, 90 days on install and sensor kit

*Available on model NS-60 only

SS-10 SPECIFICATIONS

Power Supply	▶ 10 to 40 VDC, negative ground 15.5 mA (nominal) at 12 VDC
Circuitry	▶ Intelligent design utilizing a micro-processor
Calibration	▶ Two momentary switches available to select one of ten sensitivity settings and nine divisor settings, settings are displayed on seven segment LEDs, switches are pressed to increment and decrement the setting(s)
Maximum Sensitivity	▶ 5 mv RMS at 1 Hz square wave
Divisor Settings	▶ 1:1 , 1:2, 1:3, 1:4, 1:6, 1:8, 1:16, 1:32, 1:64
Sensor Tap Test	▶ Verifies power supply and DMI cables are installed correctly (DMI should read 25 mph, ± 2 mph with a calibration factor of 1000, test executes for 10 seconds)
Sensor Test	▶ Verifies sensor electronics are operating properly (DMI should read 25 mph, ± 2 mph with a calibration factor of 1000, test executes for 10 seconds)
Dimensions	▶ 2.6 in x 4.1 in x 1.8 in (6.5 mm x 10.5 mm x 4.5 mm)
Weight	▶ 0.31 lbs (142 g)
Operating Temperature	▶ -40°F to 257°F (-40°C to 125°C)

OPTIONAL SDM SOFTWARE

SDM (Survey Data Management) software is designed for use with the NiteStar DMI. SDM software allows you to easily organize, view and report information collected during surveys. Data is stored in a standard database and can be transferred from a laptop to a desktop for further processing or analysis. Additional features include:

- ▶ English and metric interfaces
- ▶ Highway inventory data and GPS coordinates stored in a single file
- ▶ Customizable key definitions for each user or application
- ▶ Remote control to operate the NiteStar
- ▶ Convenient, standard reports



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