SSI Technologies - Application Note AT-AN17

Acu-Trac® USB Adapter Configuration Kit

Product Overview

Product Description

The Acu-Trac® Level Sensor USB Adapter Configuration Kit provides the user the following flexibility

- The ability to re-configure the Acu-Trac® Level Sensor to support virtually any tank/container size or shape up to 3.0 meters in depth.
- The ability to easily set up the Acu-Trac® Level Sensor's analog output.

SSI's Acu-Trac® Level Sensor technology allows the user to optimize the level sensor's operating parameters for level, motion, and ambient temperature, which improves performance, while delivering accurate level measurements day in and day out.

The Acu-Trac® Level Sensor Configuration Kit comes complete with hardware, software and user's guide on the CD. (The Acu-Trac Sensor is sold separately.)

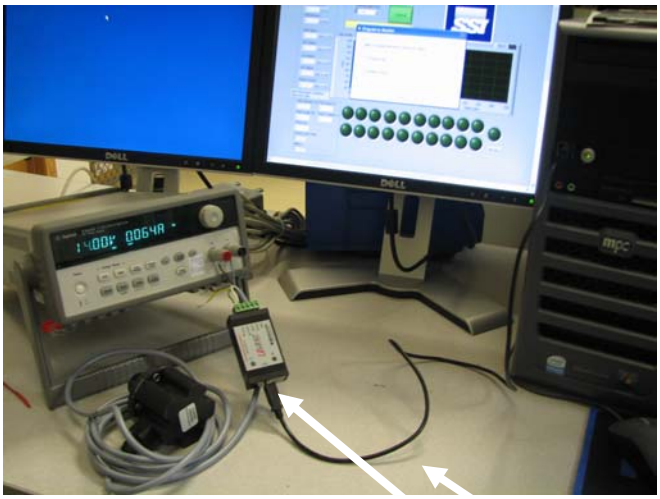
Software

The kit includes the following software application tools:

- Acu-Trac® Level Sensor Configuration CD-ROM
- RS485 to USB Driver CD ROM

The Acu-Trac® Level Sensor Configuration Software allows the user to:

- ***Read*** the level sensor's current configuration.
- **Change the settings** for the tanks size and shape, communications mode, and response time.
- ***Write*** the changes back to the level sensor.
- **Learn Gauge**: This window allows you to change the level sensor's analog output to correctly drive the fuel gauge.
- **Monitor:** This window allows you to monitor the outputs of the level sensor.



Acu-Trac® Configuration Kit Hardware - USB Adapter and Cable

Hardware

The hardware items included in this kit are

- RS485 to USB Converter

The RS485 to USB Adapter converts the RS485 level sensor broadcasts into a signal readable through your computer's serial USB port.

- 1 Meter USB Interface Cable

This cable provides the USB serial data connection between your PC and the RS485 to USB Adapter.

- Level Sensor Interface Harness

Additional application notes and the user's guide can be found on SSI website **www.ssitechnologies.com**

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System Requirements

The Acu-Trac® Level Sensor Configuration software requires that you have a minimum system, which meets or exceeds the following:

- Pentium® Processor-based personal computer or Laptop
- Windows® NT, Windows® XP, Windows 2000, and above operating system
- CD-ROM Drive
- 64 MB of RAM memory

Electrical Connections

The electrical interface to the Acu-Trac® level sensor is through a 5-pin Packard Connector or integral harness. Refer to the illustrations below for each I/O Electrical connection to the Acu-Trac® level sensor.

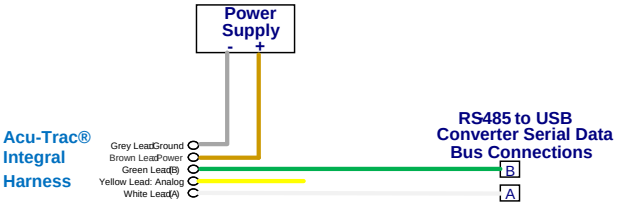

Figure 1 Acu-Trac® Sensor with integral harness

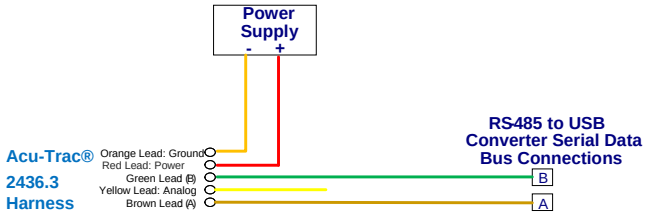

Figure 2 Acu-Trac® Sensor with Packard connector

Ground

The ground lead must be connected to ground (battery negative) for the level sensor to function. The level sensor's internal electronics are ground isolated from the tank to prevent ground loops. All sinked current will be returned through this connection.

Supply Voltage

The power lead must be connected to DC Power (Battery Positive) for the level sensor to function. The power source to the level sensor should contain a fuse with minimum amperage rating of 1 Amp and maximum amperage rating of 5 Amps. The level sensor will function when the supply voltage is between 10 and 16 Volts for the 12 Volt sensor and between 11 and 34 Volts for the 24 Volt sensor. This connection is protected from over voltage, load dumps, and other electrical transients.

Analog Output Connection

Two different analog outputs are available depending on which level sensor was purchased. The voltage output part is primarily used to drive a gauge. The current output part is primarily used to interface with industrial equipment.

Data Link Positive (A) Connection

Connect the Data Link Positive (A) wire to the data link positive (A) connection on the RS-485 to USB adapter (A) position.

Data Link Negative (B) Connection

Connect the data link negative (B) wire to the data link negative (B) connection on the RS-485 to USB adapter (B) position.

Data Link Adapter to PC Connection

Prior to using the Level Sensor Configuration software, connect the USB B Plug Connector to the RS-485 to USB adapter and the USB A Plug Connector to your PC.

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