

# SSI Technologies - Application Note AT-AN15

## Acu-Trac™ Smart 485 Configuration Kit

### Product Overview

#### Product Description

The Acu-Trac™ Smart 485 Level Transducer Configuration Kit provides the user the following flexibility

- The ability to re-configure the Acu-Trac™ Smart 485 Level Transducer to support virtually any tank/container size or shape up to 2.5 meters in depth.
- The ability to easily set up the Acu-Trac™ Smart 485 Level Transducer's analog output.

SSI's Acu-Trac™ Smart 485 technology allows the user to optimize the level transducer'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™ Smart 485 Level Transducer Configuration Kit comes complete with hardware, software and user's guide on the CD. The Acu-Trac Smart 485 Level Transducer is sold separately. Additional application notes and the user's guide can be found on SSI website [www.ssitechnologies.com](http://www.ssitechnologies.com)

#### Hardware

The hardware items included in this kit are

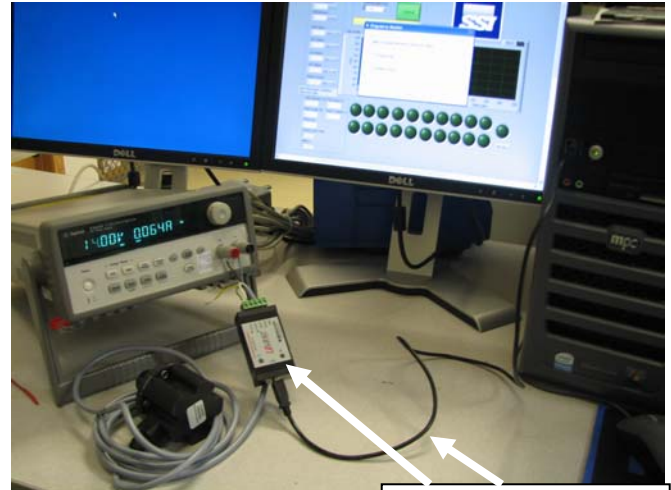
- RS485 to USB Converter

The RS485 to USB Adapter converts the RS485 level transducer 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



Acu-Trac™ Smart 485 Configuration Kit Hardware - USB Adapter and Cable

#### Software

The kit includes the following software application tools:

- Acu-Trac™ Smart 485 Level Transducer Configuration CD-ROM
- RS485 to USB Driver CD ROM

The Acu-Trac™ Level Transducer Configuration Software allows the user to:

- **Program the Level Transducer**
  - Change the settings for the tanks size and shape.
  - **Write** the changes back to the transducer.
- **Monitor the Level Transducer**

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#### System Requirements

The Acu-Trac™ Level Transducer 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, Vista and above operating system
- CD-ROM Drive
- 64 MB of RAM memory

#### Electrical Connections

The electrical interface to the Acu-Trac™ Smart 485 level transducer is through a 5-pin Packard Connector or integral harness. Refer to the illustrations below for each I/O Electrical connection to the Smart 485 transducer.

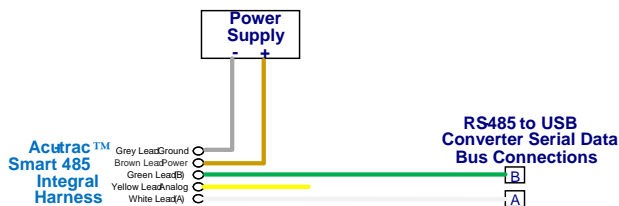


Figure 1 Acu-Trac™ Smart 485 with integral harness

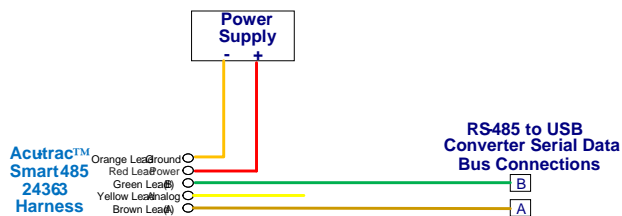


Figure 2 Acu-Trac™ Smart 485 with Packard connector

#### Ground

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

#### Supply Voltage

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

#### Analog Output Connection

The Yellow lead is the analog output. Two different analog outputs are available depending on which level transducer 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 Transducer Configuration software, connect the USB B Plug Connector to the RS-485 to USB adapter and the USB A Plug Connector to your PC.