

# Installation and Operation Guide

## *SmartCable™ Universal Serial Gage Interface*

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This guide describes how to set up and use the **SmartCable™** Universal Serial gage interface with the GageMux or any Mitutoyo compatible external interface or device. Follow the instructions in this guide to:

- Set up and configure the **SmartCable™** to operate with your gage in the desired mode
- Connect the **SmartCable™** to the external device and power on
- Interface with the **SmartCable™** and assist in the configuration of your SPC software or other programs to accept or request output or reconfigure operating modes from the computer

## System Requirements

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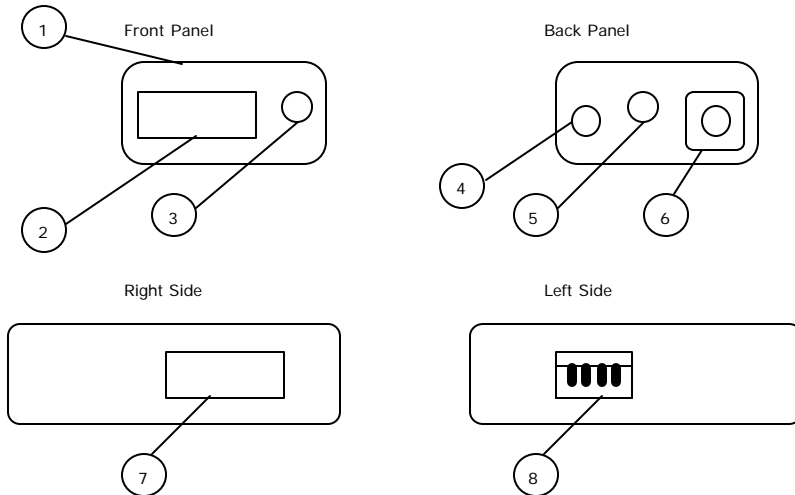
Before you begin to setup and install the **SmartCable™** interface we recommend that you check to see that you have the following components and your system meets these requirements:

1. **SmartCable™** gage interface
2. Any Mitutoyo compatible device (GageMux multiple gage interface, Mitutoyo DP1, etc.)
3. Optional Mode Keys and or Power Supply (Available from Gage Connections)

## SmartCable™ Interface Components

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Below is a diagram showing the side panels of the **SmartCable™** interface and a description of each component.



1. LED Indicator (located on top)
2. Gage Input Connector (or cable to gage connector)
3. Foot switch Input Connector (2.5mm phono jack, standard contact closure switch)
4. Mode Reset Push-button
5. Output Interface Cable (to Mitutoyo device)
6. Power Jack Connector
7. Optional Mode Key Connector
8. Mode Selection DIP Switch

## SmartCable™ Configuration and Setup

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The DIP switch bank on the left side of the **SmartCable™** configures the interface to operate in various modes. The following is a description of these modes and instructions on how to set the switches for operation.

### Communications Parameters:

Note: The DIP switch bank switches are numbered 1 to 4 from left to right.

Switch #1: Baud Rate Select (see table below).

Switch #2: Baud Rate Select (see table below).

Switch	#1	#2
1200	ON	ON
2400	ON	OFF
4800	OFF	ON
9600	OFF	OFF

\*Note: The communications parameters of your gage must be selected to match the following:

Data Bits/ Parity: Must be equal to 8, for example Odd Parity and 7 Data Bits is equal to 8 total bits, No Parity and 8 Data Bits is equal to 8 total bits.

Stop Bits: Must be equal to 1.

### Field Input Locator:

Switch #4: Input Field Locator (see table below).

Switch #2: Input Field Locator (see table below).

Switch	#3	#4
Field 4	ON	ON
Field 3	ON	OFF
Field 2	OFF	ON
Field 1*	OFF	OFF

The Field Locator selects which field the gage will send the actual reading in. The following output examples show readings in Field 2:

```
UT 2.03 G<cr>
```

```
12, 34.0065, OK1<cr>
```

For Field 3 the output may look like this:

```
#4 Temp1 112.3 Degrees F
```

\*Note: Field 1 can be selected for many gage outputs because the SmartCable will ignore all characters except for numbers, decimal point, and sign (+ or -). For example the first output listed under Field 2 above could be used with Field 1 because there are no other numbers in the string that may be interpreted as another reading.

## Connecting the **SmartCable™** & Powering On

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To connect the **SmartCable™** interface to the external device, plug the interface cable connector to the connector on the external device (GageMux or other interface). Connect the gage cable to the gage. (See section on cable specifications and modifications for more information regarding cable connections)

\*Note: Any time the **SmartCable™** is connected to the external device or powered on, it is recommended that you press the mode reset button to ensure proper initialization.

Power to the **SmartCable™** interface is provided through the interface cable connector for most applications. A power jack connector on the back panel is provided for those applications which do not provide power through this connector. (9V DC MAX input power. Center Pin Negative.)

On power up and any time the mode reset button is pressed, the interface will reconfigure itself to the various modes and the LED indicator should flash on and off one time to signal that the **SmartCable™** is ready to receive data.

## Operating the **SmartCable™**

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The **SmartCable™** is now ready to accept data from your gage. The unit will automatically transfer data from the gage to the external interface (GageMux) whenever data is transmitted. The SmartCable can not request data from the gage, and therefore the foot switch input is disabled. If you have trouble getting data from your gage, re-verify the communications parameters and field locator setup.

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## Cable Specifications and Modifications

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The **SmartCable™** is shipped with a DB25 Pin male connector on the gage end of the cable. This connector can be changed and modified to your gages specific connector pinout and type. The following describes the connections required by the SmartCable and the color code and pin for each wire used:

Pin 2    Green    Transmit Data (output)

Pin 3    White    Receive Data (input)

Pin 7    Black    Signal Ground



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