



SmartTrak® 100 Series Meters and Controllers: 100, 101, and 140

Note: A copy of this *Quick Install Guide*, the user software and the manual are also included on the product information CD included in your shipment.

SAFETY

1. Apply power only after reviewing wiring diagrams printed on the back of this card and in the instruction manual under Chapter 2.
2. Apply gas flow only after checking plumbing connections for leaks.
3. **NEVER TEST FOR LEAKS A WITH LIQUID LEAK DETECTOR.** If liquid seeps into the electronics or the hidden sensor compartment, the instrument may be damaged. Instead, use a pressure-decay test (if liquid MUST be used at all, limit it to the fittings and keep it off the body of the instrument).

INSTALLATION

1. Consult the SmartTrak's data label (on the rear of the instrument) for ALL proper operating parameters. If the information on the data label does not match your process conditions, contact your representative or Sierra Instruments' customer service.
2. Install a 10-micron in-line filter upstream of your instrument. If the gas contains any moisture, use an appropriate dryer or desiccant. Particles larger than 10 micron and moisture may damage your instrument.
3. Mount according to data label orientation. Horizontal flow is preferable and is the factory default UNLESS the factory calibration was performed specifically for vertical flow upward or downward, as listed on the application data sheet. Orientation is listed on the data label and on the calibration certificate.
4. **DO NOT APPLY POWER TO THE OUTPUT LOOP.** This is NOT a loop-powered device.
5. Apply power only after reviewing wiring diagrams printed on the back of this card and in the instruction manual under Chapter 2. Power is applied via the HD DB15 connector. The CAT-5 RJ45 connector is for the Sierra Remote Pilot Module or provided CRN cable. **DO NOT use the CAT5 RJ45 port for Ethernet—damage to your computer system or the instrument may occur.**

OPERATION

1. First, power the unit. If you are using the Sierra provided power supply, it is recommended you attach the D-sub connector to the SmartTrak before plugging the adapter into the wall. If you do not do this step, the unit may take longer to start than normal. This will not damage the unit. The green LED above the RJ45 connector will light when the unit powered.
2. Our mass flow controllers are shipped with a zero setpoint in automatic valve operation mode. For safety considerations, it is recommended *you* confirm this prior to applying gas to the unit.
3. Apply the gas listed on the data label to the inlet at the recommended pressure (listed on the data label/calibration certificate). Your SmartTrak meter and/or controller will begin to measure or control mass flow. This will be displayed on your user software or display module.
4. Mass flow controllers will need a setpoint input in order to control flow. Do so carefully! You can digitally input a setpoint using the provided user software or Pilot Module, or you can control flow directly with your analog setpoint source. NOTE: You can change the setpoint source type using the software or Pilot Module. The unit ships in the configuration initially chosen (or default if not specified). This information is also listed on the data label and on the calibration certificate. This information is also inherent in the model code. See the instruction manual for details.
5. DO NOT leave a setpoint applied for an extended period of time to a controller when the gas supply is off or blocked. Damage may result from excessive heating, and the unit will become hot enough to burn you. Alternatively, you can maintain your setpoint value but close the valve by switching *valve operation* to “closed” digitally with either the user software, the product display module, or with an analog ground to the appropriate pin (see below).

Wiring Definitions for Optional Communication Cable (Pinout)		
Pin #	Wire Color in Cable	Function
1.	Brown	Analog ground/output
2.	Red	0-5 VDC output (or 0-10, 1-5 VDC)
3.	Orange	Analog ground/RS-232
4.	Pink	Valve override purge
5.	Yellow	Power return (-)
6.	Green	Power input (+)
7.	Green/White	RS-232 transmit (out)
8.	Blue	Setpoint
9.	Purple	Not used
10.	Gray	Analog ground/setpoint
11.	White	Reference voltage
12.	Black	Valve override close
13.	Brown/white	RS-232 receive (in)
14.	Red/white	4-20 mA output
15.	Red/Black	Not used
	Shield Wire (no insulation)	Chassis (earth) ground

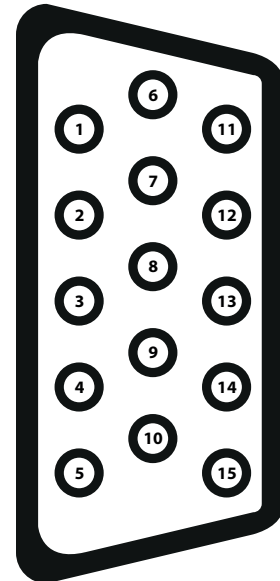


Figure: Pin Locations on Instrument

IMPORTANT NOTES:

- Pins 1, 3, and 10 are connected together inside the instrument. DO NOT tie these grounds together outside the instrument. Must have one connection per analog ground.
- Unused cable wires should be isolated and insulated from one another or damage could occur.

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