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ST-5000 *SMART* Transmitter

E-Calc Instructions

1. Bring target to a stable, typical process temperature. In general, the E-Calc feature works well with temperature values of at least a few hundred degrees and an emissivity value of 0.3 and higher.
2. Mount sensor so it is looking at target. Keep in mind that the field of view is 3:1. That is, if the sensor is 3" away from the target, the spot size is 1".
3. Connect RS-232 cable from ST-5000 to serial port on computer. The RS-232 connector on the transmitter is accessed by "prying" the small cover on the front of the unit. Note also the location of the "**COMM**" button near the RS-232 port.
4. Connect a DC supply in the range of 12-36 VDC to the transmitter. See wiring diagram enclosed.
5. From Windows Explorer, open "csetup" which is on the enclosed floppy disk. "csetup" is a simple utility that establishes the protocol for HyperTerminal, a standard Windows communication application. This gives you access to an intuitive DOS type menu structure that actually resides on the transmitter.
6. After double clicking on "csetup", you should see a blank HyperTerminal screen. At this point, press the **COMM** button for about 2 seconds. You should observe a menu appear on the screen indicating that communications has been established.
7. While there are many other features available to you, I will just highlight the procedure for calculating emissivity.
 - a. Make sure that CAPS LOCK is on since all commands have to be in upper case.
 - b. Type "**E**" to select emissivity.
 - c. Type "**C**" to select calculate mode. At this point a temperature is displayed based on the current emissivity setting.

- d. Press “**COMM**” button on transmitter. You will observe the following:
Temp =
- Type in the actual temperature as measured with a contact thermocouple, RTD or other reference probe.
- e. Press **Enter**. The transmitter will then begin the calculation process. The actual length of time may vary but should be completed in a few minutes.