

**MODEL CS205 10-HOUR FUEL TEMPERATURE STICK
INSTRUCTION MANUAL**

7/98

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CAMPBELL SCIENTIFIC, INC.

815 W. 1800 N.
Logan, UT 84321-1784
USA
Phone (435) 753-2342
FAX (435) 750-9540
www.campbellsci.com

Campbell Scientific Canada Corp.
11564 -149th Street
Edmonton, Alberta T5M 1W7
CANADA
Phone (403) 454-2505
FAX (403) 454-2655

Campbell Scientific Ltd.
Campbell Park
80 Hathern Road
Shepshed, Leics. LE12 9RP
ENGLAND
Phone (44)-50960-1141
FAX (44)-50960-1091

MODEL CS205 10-HOUR FUEL TEMPERATURE STICK

1. GENERAL DESCRIPTION

The CS205 Temperature Stick is a Ponderosa pine dowel 4.5 inches long and 0.5 inches in diameter. The dowel is fabricated to USFS specifications, to be used as a fuel moisture sensor. Campbell Scientific, Inc. has bored a hole and cut a split into one end of the dowel. A model 107 Temperature Probe is inserted into the CS205 to measure fuel temperature.

The CS205 Fuel Temperature Stick mounts on the 10974 Fuel Moisture/Temperature Mounting Stake. The CS205 is most commonly installed along with a CS505 Fuel Moisture Sensor but can be used alone.

2. SPECIFICATIONS

Fuel Temperature Stick	
diameter	0.5 inches
length	4.5 inches
wood type	Ponderosa Pine
bore hole	about 1/4 inch

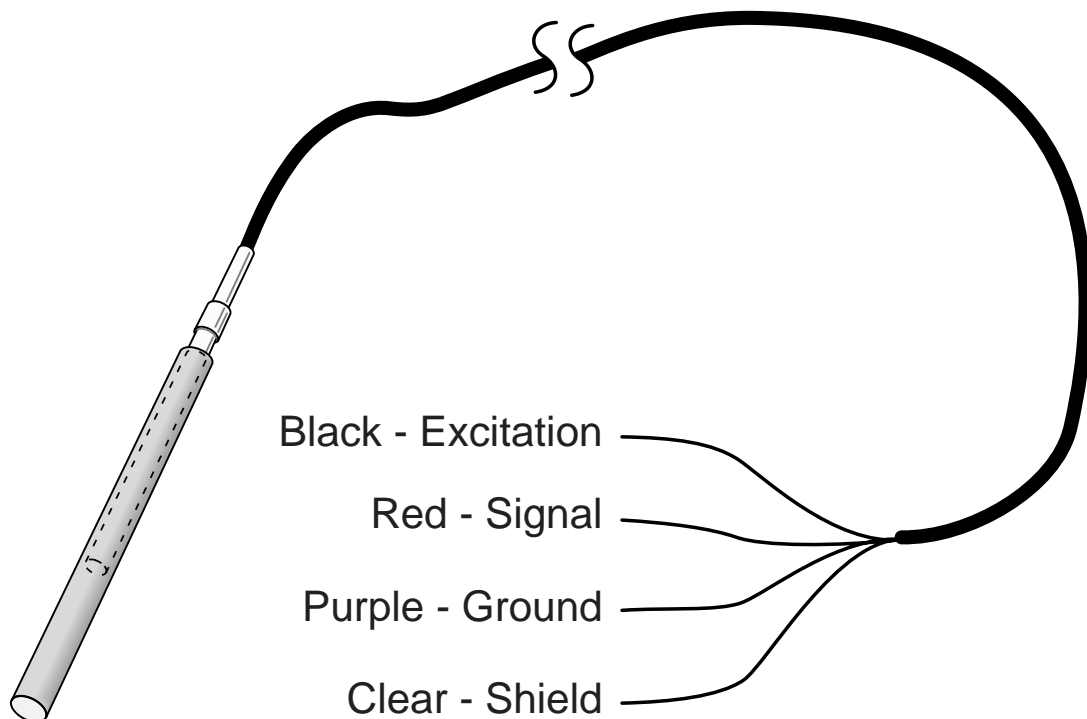


FIGURE 1-1. The 107 probe inserts into the CS205 Fuel Moisture Stick

MODEL CS205 10-HOUR FUEL TEMPERATURE STICK

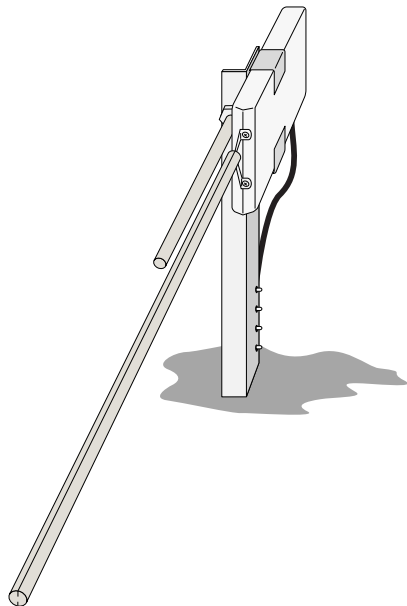


FIGURE 3-1. The CS205 mounts on the mounting stake with the CS505

3. INSTALLATION AND WIRING

Insert a 107 temperature probe into the CS205 Fuel Moisture Stick. The CS205 installs in the white compression fitting on the 10974 Fuel Moisture/Temperature Mounting Stake. Loosen the compression fitting so that the CS205 can be inserted. The CS205 inserts into the compression fitting so that compression is applied to the split end of the stick gripping the 107 probe.

Connections to the datalogger for the 107 are shown in Figure 1-1. The probe is measured by a single-ended analog input channel. The red lead is connected to either a HI or LO input. The black lead connects to any excitation channel.

Please refer to the 107 probe manual for a complete discussion of the 107 probe.

4. PROGRAMMING

Instruction 11 is used to measure temperature. Instruction 11 provides AC excitation, makes a single ended voltage measurement, and calculates temperature with a fifth order polynomial. A multiplier of 1.0 and an offset of 0.0 yields temperature in Celsius. For Fahrenheit, use a multiplier of 1.8 and an offset of 32.

EXAMPLE 1. Sample CR500/CR10(X)/21X Instructions

01:	P11	Temp 107 Probe
01:	1	Rep
02:	9*	IN Chan
03:	3*†	Excite all reps w/EXchan 3
04:	11*	Loc [:Air_Temp]
05:	1	Mult
06:	0	Offset

* Proper entries will vary with program, datalogger channel, and input location assignments.

† Excitation/Integration Codes:

Code	Result
0x	excite all rep with channel x
1x	increment chan x with each rep
2x	excite all reps with channel x, 60 Hz rejection, 10 ms delay
3x	excite all reps with channel x, 50 Hz rejection, 10 ms delay
4x	increment chan x with each rep, 60 Hz rejection, 10 ms delay
5x	increment chan x with each rep, 50 Hz rejection, 10 ms delay

5. MAINTENANCE AND CALIBRATION

The 107 Probe requires minimal maintenance.

The CS205 Fuel Moisture Stick should be changed annually or more frequently as required. The wood should visually appear fresh and new not gray or discolored.

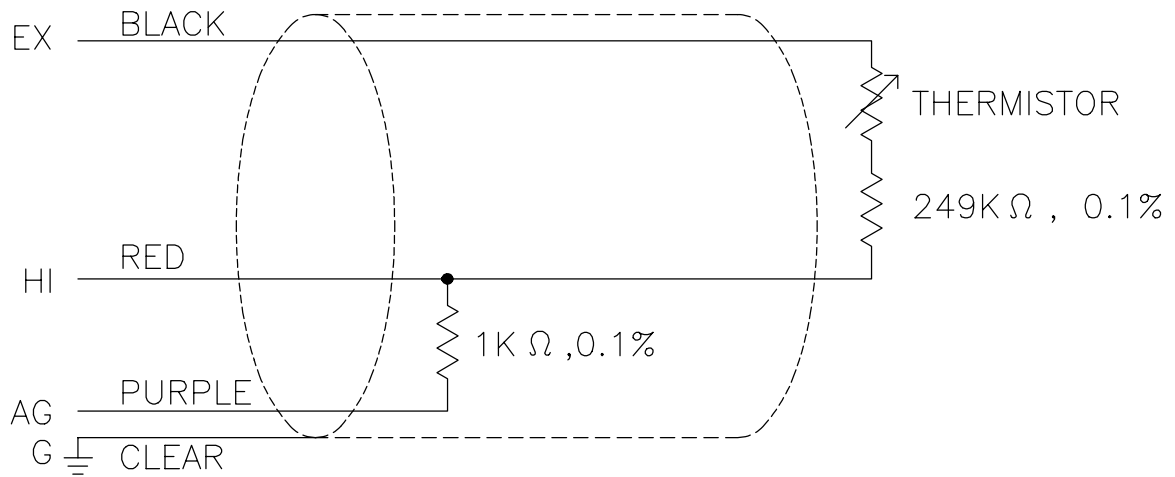


FIGURE 5-1. 107 Thermistor Probe Schematic