

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

7/98

COPYRIGHT (c) 1998 CAMPBELL SCIENTIFIC, INC.

WARRANTY AND ASSISTANCE

The **MODEL CS205 10-HOUR FUEL TEMPERATURE STICK** is warranted by CAMPBELL SCIENTIFIC, INC. to be free from defects in materials and workmanship under normal use and service for twelve (12) months from date of shipment unless specified otherwise. Batteries have no warranty. CAMPBELL SCIENTIFIC, INC.'s obligation under this warranty is limited to repairing or replacing (at CAMPBELL SCIENTIFIC, INC.'s option) defective products. The customer shall assume all costs of removing, reinstalling, and shipping defective products to CAMPBELL SCIENTIFIC, INC. CAMPBELL SCIENTIFIC, INC. will return such products by surface carrier prepaid. This warranty shall not apply to any CAMPBELL SCIENTIFIC, INC. products which have been subjected to modification, misuse, neglect, accidents of nature, or shipping damage. This warranty is in lieu of all other warranties, expressed or implied, including warranties of merchantability or fitness for a particular purpose. CAMPBELL SCIENTIFIC, INC. is not liable for special, indirect, incidental, or consequential damages.

Products may not be returned without prior authorization. To obtain a Returned Materials Authorization (RMA), contact CAMPBELL SCIENTIFIC, INC., phone (435) 753-2342. After an applications engineer determines the nature of the problem, an RMA number will be issued. Please write this number clearly on the outside of the shipping container. CAMPBELL SCIENTIFIC's shipping address is:

CAMPBELL SCIENTIFIC, INC.

RMA# _____
815 West 1800 North
Logan, Utah 84321-1784

CAMPBELL SCIENTIFIC, INC. does not accept collect calls.

Non-warranty products returned for repair should be accompanied by a purchase order to cover the repair.



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
Shepshead, 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

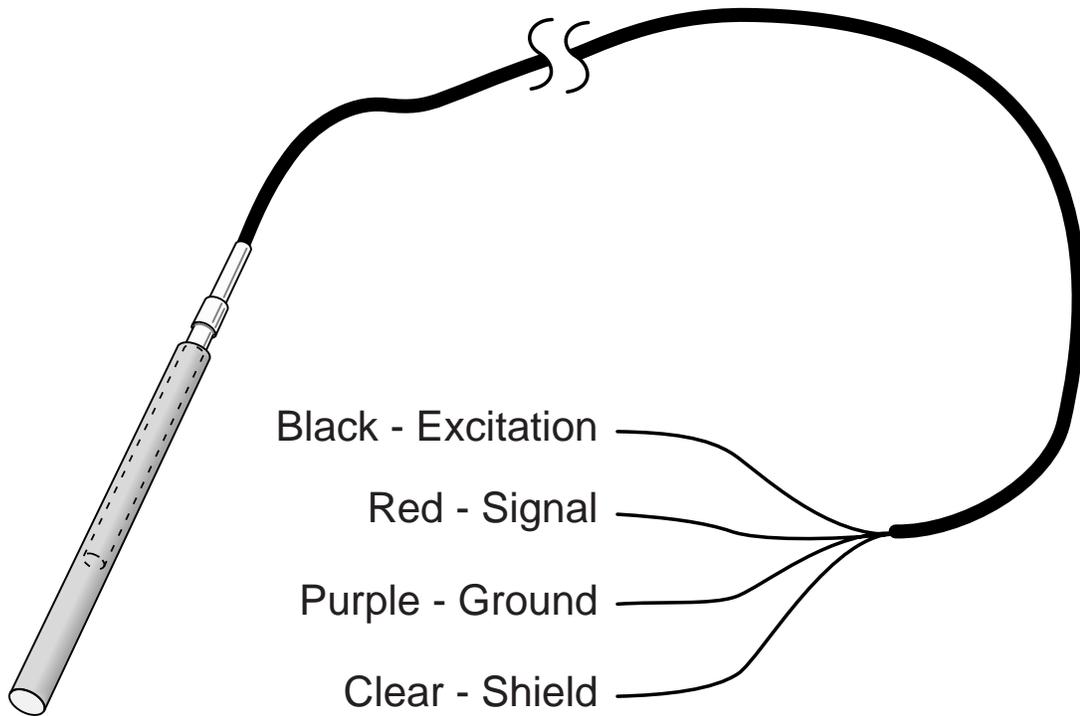


FIGURE 1-1. The 107 probe inserts into the CS205 Fuel Moisture Stick

MODEL CS205 10-HOUR FUEL TEMPERATURE STICK

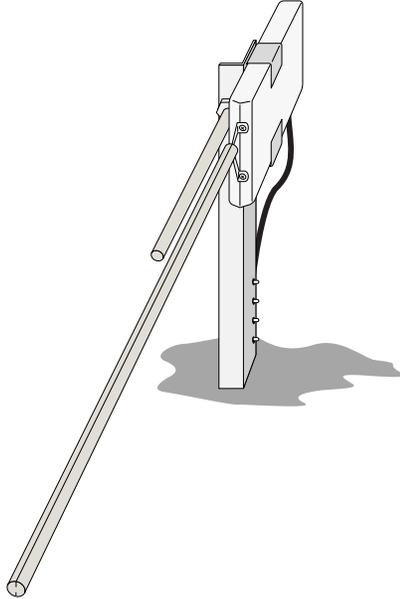


FIGURE 3-1. The CS205 mounts on the mounting stake with the CS505

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.

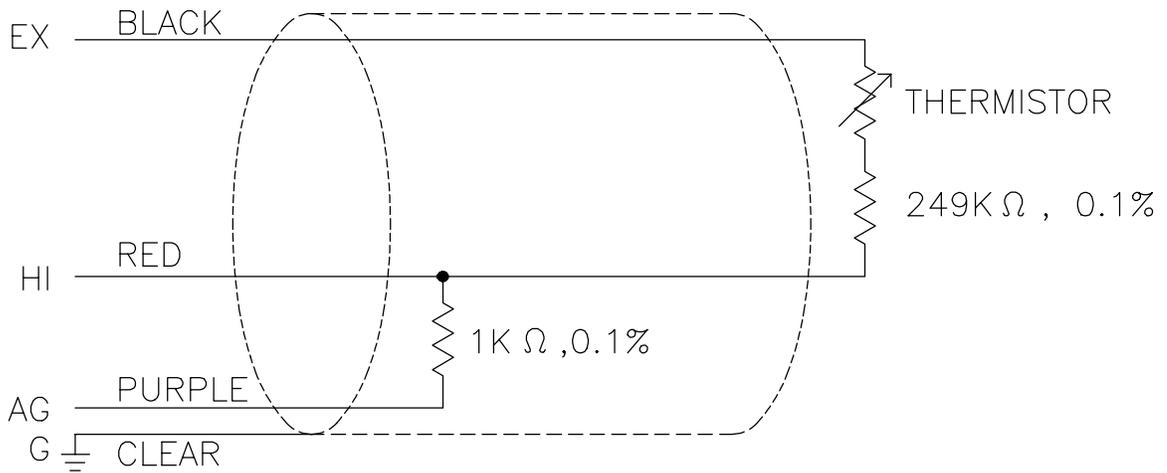


FIGURE 5-1. 107 Thermistor Probe Schematic