Product Manual

Sensor

CS250DM

PT-1000 Class A, Precision Air Temperature Sensor

Revision: 04/2021

CSL I.D - 1362

RELIABLE SINCE 1974 MONITORING

CAMPBELL SCIENTIFIC

Guarantee

This equipment is guaranteed against defects in materials and workmanship. We will repair or replace products which prove to be defective during the guarantee period as detailed on your invoice, provided they are returned to us prepaid. The guarantee will not apply to:

- Equipment which has been modified or altered in any way without the written permission of Campbell Scientific
- Batteries
- Any product which has been subjected to misuse, neglect, acts of God or damage in transit.

Campbell Scientific will return guaranteed equipment by surface carrier prepaid. Campbell Scientific will not reimburse the claimant for costs incurred in removing and/or reinstalling equipment. This guarantee and the Company's obligation thereunder is in lieu of all other guarantees, expressed or implied, including those of suitability and fitness for a particular purpose. Campbell Scientific is not liable for consequential damage.

Please inform us before returning equipment and obtain a Repair Reference Number whether the repair is under guarantee or not. Please state the faults as clearly as possible, and if the product is out of the guarantee period it should be accompanied by a purchase order. Quotations for repairs can be given on request. It is the policy of Campbell Scientific to protect the health of its employees and provide a safe working environment, in support of this policy a "Declaration of Hazardous Material and Decontamination" form will be issued for completion.

When returning equipment, the Repair Reference Number must be clearly marked on the outside of the package. Complete the "Declaration of Hazardous Material and Decontamination" form and ensure a completed copy is returned with your goods. Please note your Repair may not be processed if you do not include a copy of this form and Campbell Scientific Ltd reserves the right to return goods at the customers' expense.

Note that goods sent air freight are subject to Customs clearance fees which Campbell Scientific will charge to customers. In many cases, these charges are greater than the cost of the repair.

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About this manual

Please note that this manual was originally produced by Campbell Scientific Inc. primarily for the North American market. Some spellings, weights and measures may reflect this origin.

Some useful conversion factors:

Area: 1 in^2 (square inch) = 645 mm^2

Length: 1 in. (inch) = 25.4 mm
1 ft (foot) = 304.8 mm
1 yard = 0.914 m
1 mile = 1.609 km

Mass: 1 oz. (ounce) = 28.35 g
1 lb (pound weight) = 0.454 kg

Pressure: 1 psi (lb/in^2) = 68.95 mb

Volume: 1 UK pint = 568.3 ml
1 UK gallon = 4.546 litres
1 US gallon = 3.785 litres

In addition, while most of the information in the manual is correct for all countries, certain information is specific to the North American market and so may not be applicable to European users.

Differences include the U.S standard external power supply details where some information (for example the AC transformer input voltage) will not be applicable for British/European use. *Please note, however, that when a power supply adapter is ordered it will be suitable for use in your country.*

Reference to some radio transmitters, digital cell phones and aerials may also not be applicable according to your locality.

Some brackets, shields and enclosure options, including wiring, are not sold as standard items in the European market; in some cases alternatives are offered. Details of the alternatives will be covered in separate manuals.

Part numbers prefixed with a "#" symbol are special order parts for use with non-EU variants or for special installations. Please quote the full part number with the # when ordering.

Recycling information

At the end of this product's life it should not be put in commercial or domestic refuse but sent for recycling. Any batteries contained within the product or used during the products life should be removed from the product and also be sent to an appropriate recycling facility.

Campbell Scientific Ltd can advise on the recycling of the equipment and in some cases arrange collection and the correct disposal of it, although charges may apply for some items or territories.

For further advice or support, please contact Campbell Scientific Ltd, or your local agent.

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Safety

DANGER — MANY HAZARDS ARE ASSOCIATED WITH INSTALLING, USING, MAINTAINING, AND WORKING ON OR AROUND **TRIPODS, TOWERS, AND ANY ATTACHMENTS TO TRIPODS AND TOWERS SUCH AS SENSORS, CROSSARMS, ENCLOSURES, ANTENNAS, ETC**. FAILURE TO PROPERLY AND COMPLETELY ASSEMBLE, INSTALL, OPERATE, USE, AND MAINTAIN TRIPODS, TOWERS, AND ATTACHMENTS, AND FAILURE TO HEED WARNINGS, INCREASES THE RISK OF DEATH, ACCIDENT, SERIOUS INJURY, PROPERTY DAMAGE, AND PRODUCT FAILURE. TAKE ALL REASONABLE PRECAUTIONS TO AVOID THESE HAZARDS. CHECK WITH YOUR ORGANIZATION'S SAFETY COORDINATOR (OR POLICY) FOR PROCEDURES AND REQUIRED PROTECTIVE EQUIPMENT PRIOR TO PERFORMING ANY WORK.

Use tripods, towers, and attachments to tripods and towers only for purposes for which they are designed. Do not exceed design limits. Be familiar and comply with all instructions provided in product manuals. Manuals are available at www.campbellsci.eu or by telephoning +44(0) 1509 828 888 (UK). You are responsible for conformance with governing codes and regulations, including safety regulations, and the integrity and location of structures or land to which towers, tripods, and any attachments are attached. Installation sites should be evaluated and approved by a qualified engineer. If questions or concerns arise regarding installation, use, or maintenance of tripods, towers, attachments, or electrical connections, consult with a licensed and qualified engineer or electrician.

General

- Prior to performing site or installation work, obtain required approvals and permits. Comply with all governing structure-height regulations, such as those of the FAA in the USA.
- Use only qualified personnel for installation, use, and maintenance of tripods and towers, and any attachments to tripods and towers. The use of licensed and qualified contractors is highly recommended.
- Read all applicable instructions carefully and understand procedures thoroughly before beginning work.
- Wear a **hardhat** and **eye protection**, and take **other appropriate safety precautions** while working on or around tripods and towers.
- **Do not climb** tripods or towers at any time, and prohibit climbing by other persons. Take reasonable precautions to secure tripod and tower sites from trespassers.
- Use only manufacturer recommended parts, materials, and tools.

Utility and Electrical

- **You can be killed** or sustain serious bodily injury if the tripod, tower, or attachments you are installing, constructing, using, or maintaining, or a tool, stake, or anchor, come in **contact with overhead or underground utility lines**.
- Maintain a distance of at least one-and-one-half times structure height, or 20 feet, or the distance required by applicable law, **whichever is greater**, between overhead utility lines and the structure (tripod, tower, attachments, or tools).
- Prior to performing site or installation work, inform all utility companies and have all underground utilities marked.
- Comply with all electrical codes. Electrical equipment and related grounding devices should be installed by a licensed and qualified electrician.

Elevated Work and Weather

- Exercise extreme caution when performing elevated work.
- Use appropriate equipment and safety practices.
- During installation and maintenance, keep tower and tripod sites clear of un-trained or non-essential personnel. Take precautions to prevent elevated tools and objects from dropping.
- Do not perform any work in inclement weather, including wind, rain, snow, lightning, etc.

Maintenance

- Periodically (at least yearly) check for wear and damage, including corrosion, stress cracks, frayed cables, loose cable clamps, cable tightness, etc. and take necessary corrective actions.
- Periodically (at least yearly) check electrical ground connections.

WHILE EVERY ATTEMPT IS MADE TO EMBODY THE HIGHEST DEGREE OF SAFETY IN ALL CAMPBELL SCIENTIFIC PRODUCTS, THE CUSTOMER ASSUMES ALL RISK FROM ANY INJURY RESULTING FROM IMPROPER INSTALLATION, USE, OR MAINTENANCE OF TRIPODS, TOWERS, OR ATTACHMENTS TO TRIPODS AND TOWERS SUCH AS SENSORS, CROSSARMS, ENCLOSURES, ANTENNAS, ETC.

Table of contents

1. Introduction

The CS250DM delivers extremely accurate and precise air temperature data necessary for IEC 61724 Class A solar monitoring applications and delta temperature (ΔT) calculations for temperature gradient and stability analysis.

2. Precautions

- READ AND UNDERSTAND the Safety section at the front of this manual.
- When opening the shipping package, do not damage or cut the cable jacket. If damage to the cable is suspected, consult with a Campbell Scientific support engineer.
- Although rugged, the CS250DM should be handled as a precision scientific instrument.

3. Initial inspection

- Upon receipt of the CS250DM, inspect the packaging and contents for damage. File damage claims with the shipping company.
- The model number, cable length, Modbus address, and serial settings are printed on a label at the connection end of the cable. Check this information against the shipping documents to ensure the expected product and cable length were received.

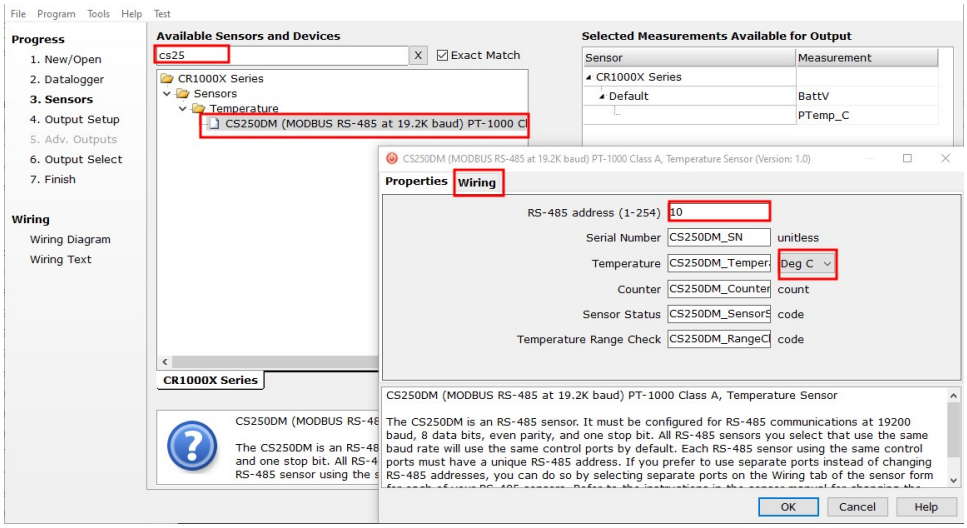
4. QuickStart

A video that describes data logger programming using ***Short Cut*** is available at: www.campbellsci.eu/videos/cr1000x-data logger-getting-started-program-part-3. ***Short Cut*** is an easy way to program your data logger to measure the sensor and assign data logger wiring terminals. ***Short Cut*** is available as a download on www.campbellsci.eu.

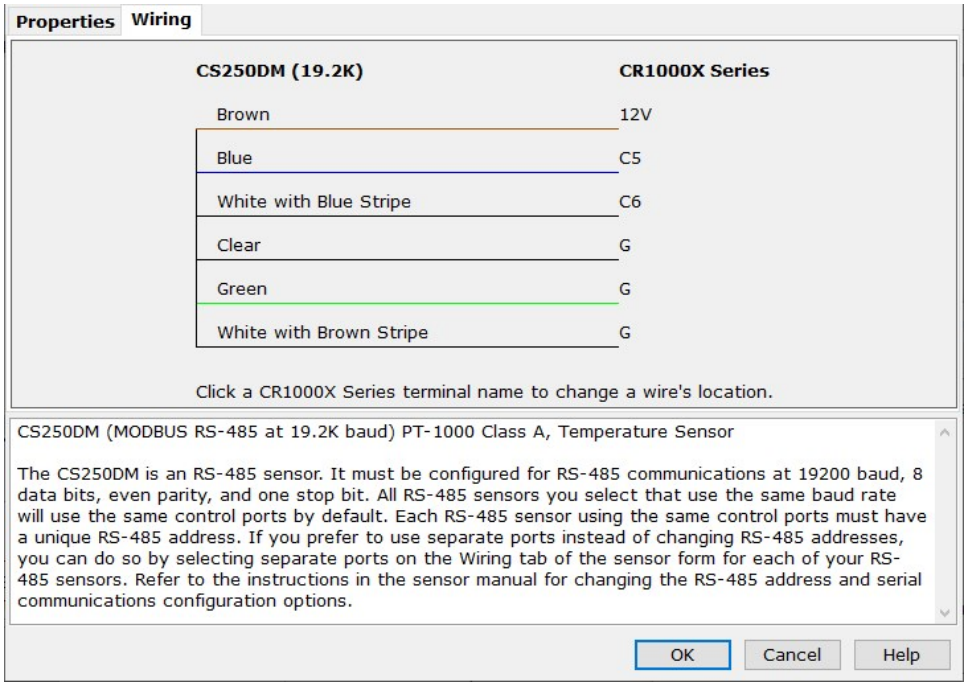
It is included in installations of ***LoggerNet***, ***RTDAQ***, and ***PC400***.

The following procedure also shows using ***Short Cut*** to program the CS250DM.

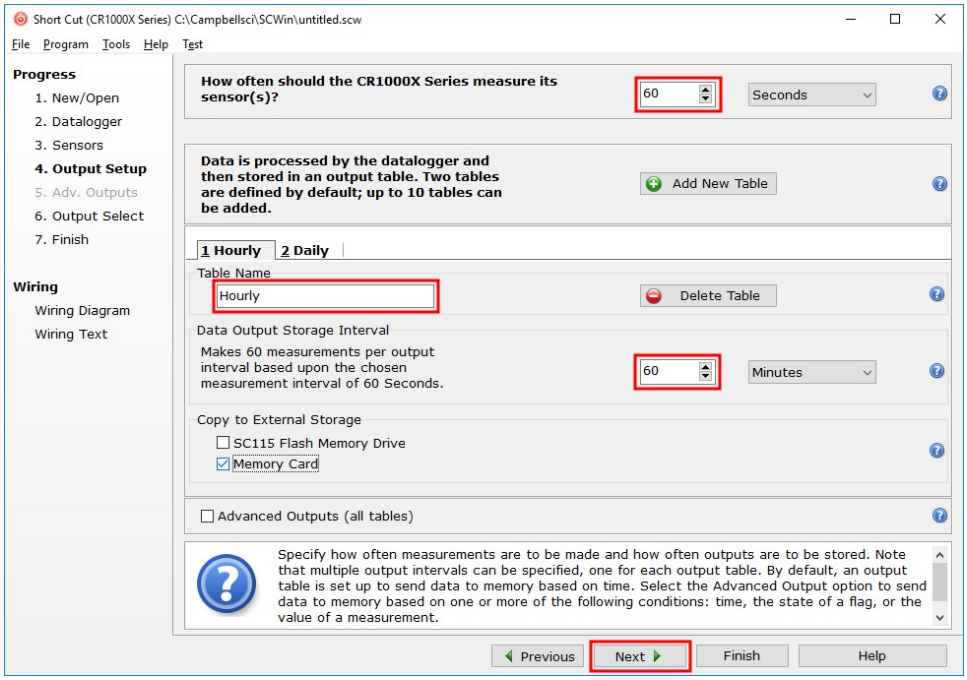
1. Open ***Short Cut*** and click **Create New Program**.
2. Double-click the data logger model.
3. In the **Available Sensors and Devices** box, type CS250DM. You can also locate the sensor in the **Sensors** > **Temperature** folder. Double click the sensor model. Type the **RS-485 address**; default address is printed on the cable. The RS-485 address must be unique and may need to be changed if another sensor on the terminal has the same address. Refer to Device Configuration Utility (p. 14) for information on changing the address. The temperature defaults to degree C. This can be changed by clicking the **Temperature** box and selecting one of the other options.



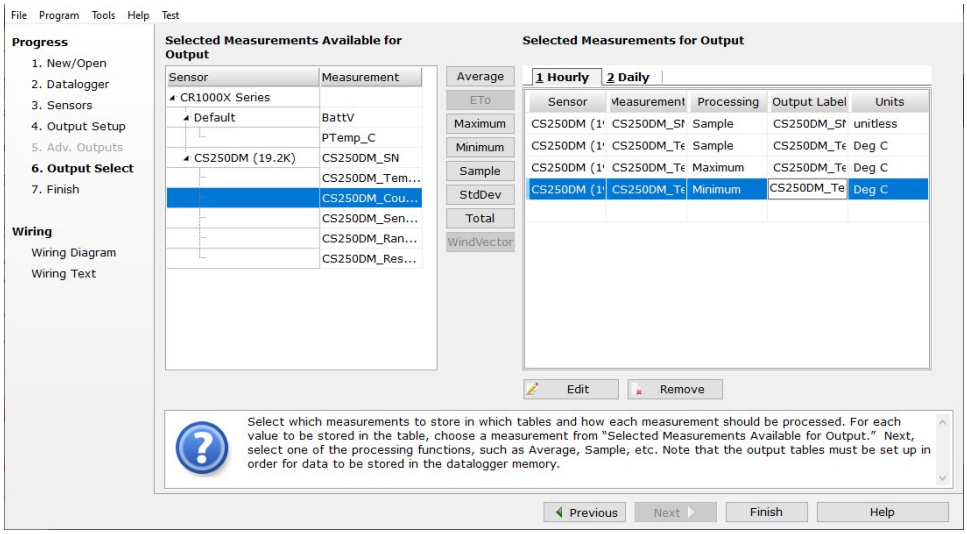
4. Click on the **Wiring** tab to see how the sensor is to be wired to the data logger. Click **OK** after wiring the sensor.



5. Repeat steps three and four for other sensors you want to measure. Click **Next**.
6. In **Output Setup**, type the scan rate, a meaningful table name, and the **Data Output Storage Interval**.



7. Select the measurement and its associated output option.



8. Click **Finish** and save the program. Send the program just created to the data logger if the data logger is connected to the computer.
9. If the sensor is connected to the data logger, check the output of the sensor in the data display in ***LoggerNet***, ***RTDAQ***, or ***PC400*** to make sure it is making reasonable measurements.

5. Overview

The CS250DM uses a precision PT-1000 class A platinum resistor thermometer (PRT) to provide the highest level of accuracy. The cable includes a Campbell Scientific precision analogue-to-digital, smart-sensor module for making the measurements. The module design is optimized for the class A PRT that minimizes self-heating and lead-wire resistance. Measurement electronics are surge protected with 1200 V isolation and environmentally protected with a rugged overmoulding with an IP65 rating.

When exposed to sunlight, the CS250DM should be housed in the 41303-5A 6-plate radiation shield or RAD06 6-plate radiation shield.

Features:

- High accuracy and precision
- Exceeds IEC 61724-1 standards for ambient air temperature measurements
- Exceeds EPA standards for ΔT measurements when used with an aspirated radiation shield
- Digital Modbus RS-485 output ensuring data quality over long cable lengths
- Compatible CRBasic data loggers: CR6, CR1000X, CR3000 (with MD485), CR800 series (with MD485), CR300 series (with MD485), CR1000 (with MD485),
- Easily interfaces with the MeteoPV Platform without coding
- Directly connects with Modbus RTU RS-485 Networks

6. Specifications

Sensing element:

Precision:	1000 ohm Class A platinum (PT1000)
Accuracy:	± (0.15 + 0.002t) °C
Long-term stability:	Maximum R_o drift = 0.04% after 1000 hours at 400 °C
Measurement temperature range:	–75 to +250 °C
Time constant:	15 seconds in 5 m/s wind

Measurement uncertainty:	± (0.15 + 0.002t) °C
Element stem material:	316L Stainless Steel sheathed
Surge protection:	1200 V isolation
Supply voltage:	5 to 30 VDC
Power consumption:	15 mA
Temperature coefficient:	TCR = 3850 ppm/K
Communications	24-bit ADC
Protocol:	Modbus RTU protocol (over RS-485)
Format:	8 data bits, 1 stop bit, even parity as default (user-configurable)
Baud rate:	19,200 bps as default (user-configurable)
Modbus ID:	Last two digits of serial number as default (user-configurable)
Stem diameter:	0.32 cm (0.125 in)
Overall stem length:	6.35 cm (2.5 in)
Cable (Sensor head to DM board)	
Wire size and type:	24 AWG (7/32,RT38) copper
Insulation type:	PFA insulated (Teflon®)
Insulation rating:	–75 to +250 °C
Sheath:	Thin PFA sheathed overall
Number of cores:	3
Physical properties:	Good abrasion and moisture resistance
Overall diameter:	2.1 mm (0.08 in)
Sensor dimensions:	17.2 x 11.1 x 6.1 cm (6.8 x 4.4 x 2.4 in)
Cable (DM board to PT)	
Wire size and type:	24 AWG (7/32) tinned copper
Insulation type:	PVC
UL:	AWM 10012 1000V 105°C
Filler:	Fibrillated polypropylene as required for uniform round construction

Drain:	24 AWG (7/32) tinned copper (cabled, touching foil)
Shield:	Aluminum/Mylar (100% coverage, 25% minimum overlap, foil facing in)
Nominal wire diameter:	0.61 mm (0.024 in)
Weight:	90.7 g with 3.2 m cable (0.2 lb with 10.5 ft cable)
Compliance:	View documents at: www.campbellsci.eu/cs250dm

7. Installation

If you are programming your data logger with ***Short Cut***, skip Wiring (p. 7), and Programming (p. 8). ***Short Cut*** does this work for you. See QuickStart (p. 1), for a ***Short Cut*** tutorial.

This section discusses the following.

7.1 Wiring

The RS-485 output can be directly read by a MeteoPV, CR6, CR1000X, or Modbus RTU RS-485 network (Table 7-1 (p. 8)). Other Campbell Scientific data loggers can use an MD485 multidrop interface to read the RS-485 output. Refer to the MD485 manual for more information. The Modbus address must be unique and may need to be changed if another sensor on the bus has the same address. Change the Modbus address using the ***Device Configuration Utility*** or through

Modbus commands. For more information, refer to Device Configuration Utility (p. 14) or Modbus register map (p. 12).

Table 7-1: Wire Colour, Station Connection, and Function

Wire colour	Station or data logger terminal	Function
Blue	**A–** (**C** odd)	RS-485 A/A' [–]
White/blue striped	**B+** (**C** even)	RS-485 B/B' [+]
Brown	**12V**	5 to 30 VDC
White/brown striped	**G**	Ground (power)
Green	**G**	Modbus common
Clear	**G**	Shield

7.2 Programming

Short Cut is the best source for up-to-date programming code for Campbell Scientific data loggers. If your data acquisition requirements are simple, you can probably create and maintain a data logger program exclusively with ***Short Cut***. If your data acquisition needs are more complex, the files that ***Short Cut*** creates are a great source for programming code to start a new program or add to an existing custom program.

> NOTE:
> ***Short Cut*** cannot edit programs after they are imported and edited in ***CRBasic Editor***.

A ***Short Cut*** tutorial is available in QuickStart (p. 1). If you wish to import ***Short Cut*** code into ***CRBasic Editor*** to create or add to a customized program, follow the procedure in Importing Short Cut code into CRBasic Editor (p. 17). Programming basics for CRBasic data loggers are provided in the following section. A downloadable example program is available at www.campbellsci.eu/downloads/cs250dm-program-example

7.2.1 Modbus programming

The RS-485 output can be directly read by a CR6-series, CR1000X-series, or Modbus RTU RS-485 network. Other Campbell Scientific data loggers can use an MD485 multidrop interface to read the RS-485 output. Refer to the MD485 manual for information about using the MD485.

A CR6 or CR1000X data logger programmed as a Modbus Master can retrieve the values stored in the Input Registers (Modbus register map (p. 12)). To do this, the CRBasic program requires

SerialOpen() followed by ModbusMaster(). The SerialOpen instruction has the following syntax:

```
SerialOpen (ComPort, Baud, Format, TXDelay, BufferSize, Mode)
```

The Format parameter is typically set to logic 1 low; even parity, one stop bit, 8 data bits. The Mode parameter should configure the ComPort as RS-485 half-duplex, transparent.

The ModbusMaster() instruction has the following syntax:

```
ModbusMaster (Result, ComPort, Baud, Addr, Function, Variable, Start, Length,
Tries, TimeOut, [ModbusOption])
```

The Addr parameter must match the sensor Modbus address. The Modbus address must be unique and may need to be changed if another sensor on the terminal has the same address. The default value for the Modbus address is the last two digits of the sensor serial number, with exceptions for serial numbers ending in 00 and 01. These exceptions default to Modbus addresses of 110 and 111, respectively. The default Modbus address and serial settings are printed on the cable. To collect all of the CS250DM values, the Start parameter needs to be 1 and the Length parameter needs to be 5. ModbusOption is an optional parameter described in the *CRBasic Editor* Help.

7.3 Siting

The general EPA guidance for standard meteorological stations is to locate the sensor over an open, level area at least 9 m (29.5 ft) in diameter. The surface should be covered by short grass or the natural earth surface where grass does not grow. Sensors should be located at a distance of at least ten times the height of any nearby obstruction and at least 30 m (98.4 ft) from large, paved areas. Sensors should be protected from thermal radiation and adequately ventilated. Protect the filter at the top of the sensor from exposure to liquid water.

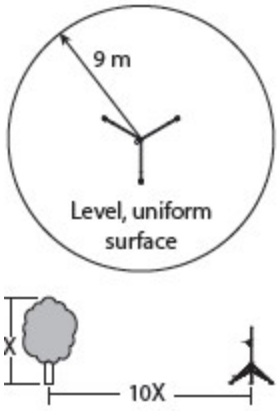


FIGURE 7-1. Clearances

The sensor should be installed at a standard measurement height which varies depending on the guides being used:

- 1.5 m (4.92 ft) (AASC)
- 1.25 to 2.0 m (4.1 to 6.5 ft) (WMO)
- 2.0 m (6.5 ft) (EPA)

When used in the field, the CS250DM must be housed in a radiation shield. Typically, the RAD06 6-plate radiation shield is used.

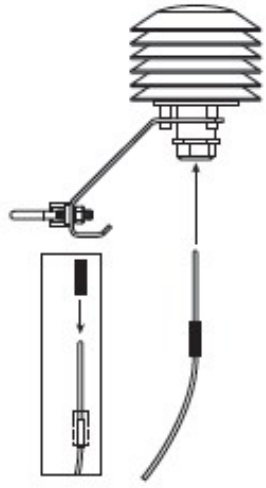
The white colour of these shields reflects solar radiation, and the louvred construction allows air to pass freely through, thereby keeping the sensor at or near ambient temperature. The RAD06 uses a double-louvred design that offers improved sensor protection from insect intrusion and driving rain and snow. In addition, compared to shields of a similar appearance, the RAD shields have lower self-heating in bright sunlight combined with low wind speeds giving a better measurement. The RAD06 attaches to a crossarm, mast, or pipe with a 2.5 to 5.3 cm (1.0 to 2.1 inch) outer diameter.

Tools required for installing a radiation shield to a tripod or tower include:

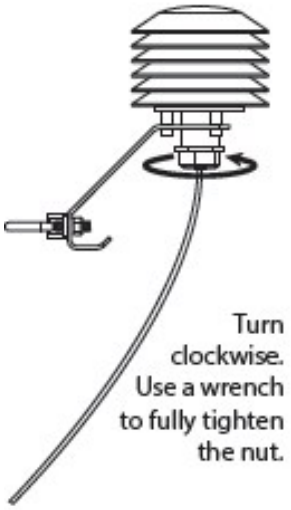
- adjustable wrench (to suit 12 mm (1/2 in) nuts)
- small screwdriver provided with data logger
- small Phillips screwdriver
- UV-resistant cable ties
- small pair of diagonal-cutting pliers
- adjustable wrench with a minimum 50 mm (2 in) jaw size.

7.4 Installation in a radiation shield

1. Insert the CS250DM in the sleeve.
2. Loosen the nut on the entry gland at the bottom of the shield.
3. Insert the sensor into the gland.



4. First tighten the nut on the gland by hand until the sensor is held firmly in place. Then use the large adjustable wrench to further tighten the gland by 1/2 to 1 turn.



7.5 Mount the shield

1. Attach the radiation shield to the tripod mast, crossarm, or tower leg using the supplied U-bolt or band clamp.
2. Route the cable to the data logger, and secure the cable to the mounting structure using cable ties.

> CAUTION:
> Failure to secure the cable can lead to breakage of the wires due to fatigue caused by blowing back and forth in the wind.

7.6 Long cable lengths

Digital data transfer eliminates offset errors due to cable lengths. However, digital communications can break down when cables are too long, resulting in either no response from the sensor or corrupted readings. Maximum cable lengths depend on the number of sensors connected, the type of cable used, and the environment of the application. Follow these guidelines when using long cables:

- Use low capacitance, low resistance, screened cable (as supplied by Campbell Scientific) to reach distances of several hundred metres.
- Ensure that the power ground wire has low resistance and is connected to the same ground reference as the data logger control terminals.
- Be aware that daisy-chaining sensors reduces the maximum cable length roughly in proportion to the number of sensors connected in parallel.

7.7 Modbus register map

Table 7-2 (p. 12) provides the input register map (function code 4) and Table 7-3 (p. 13) provides the holding register map (functions 3, 6, and 16).

Table 7-2: Input register map

Input register	Value	Modbus data type	Description
30001	Serial number	Float[1]	Specifies the sensor serial number assigned by the factory
30003	Temperature	Float[1]	The stored value is in degrees Celsius.

Table 7-2: Input register map

Input register	Value	Modbus data type	Description
30005	Counter	Float[1]	The counter provides an indicator that the sensor is actively taking measurements. This value will increment once per measurement, resetting to 0 after 10,000.
30007	Sensor status	Float[1]	0 = good 1 = open/short
30009	Temperature range check	Float[1]	0 = good/in range 1 = out of range

[1]Modbus float is a 32-bit integer.

Table 7-3: Holding register map

Holding register	Value	Modbus data type	Description
40001	Modbus address	Unsigned short[1]	Modbus device address (1 to 247)
40002	Baud rate	Unsigned short[1]	1 = 9600 bps 2 = 19200 bps 3 = 38400 bps 4 =57600 bps 5 = 115200 bps
40003	Parity	Unsigned short[1]	0 = no parity 1 = odd 2 = even
40004	Stop bit	Unsigned short[1]	1 = 1 stop bit 2 = 2 stop bits
40005	Termination resistor	Unsigned short[1]	0 = off/disable 1 = on/enable

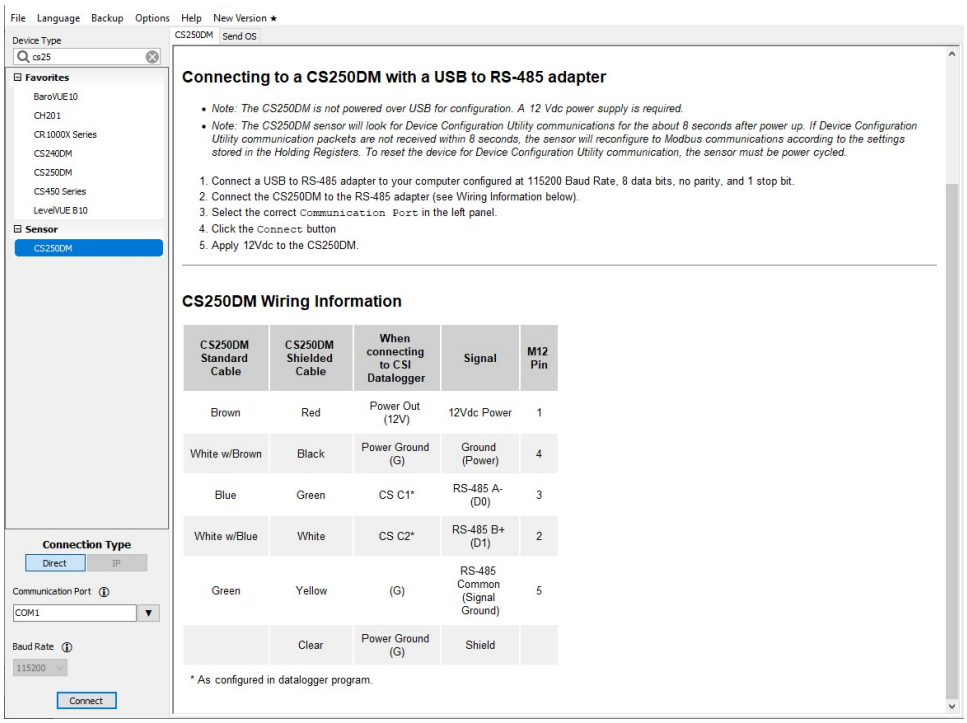
[1]Unsigned short data is a 16-bit positive integer.

7.8 *Device Configuration Utility*

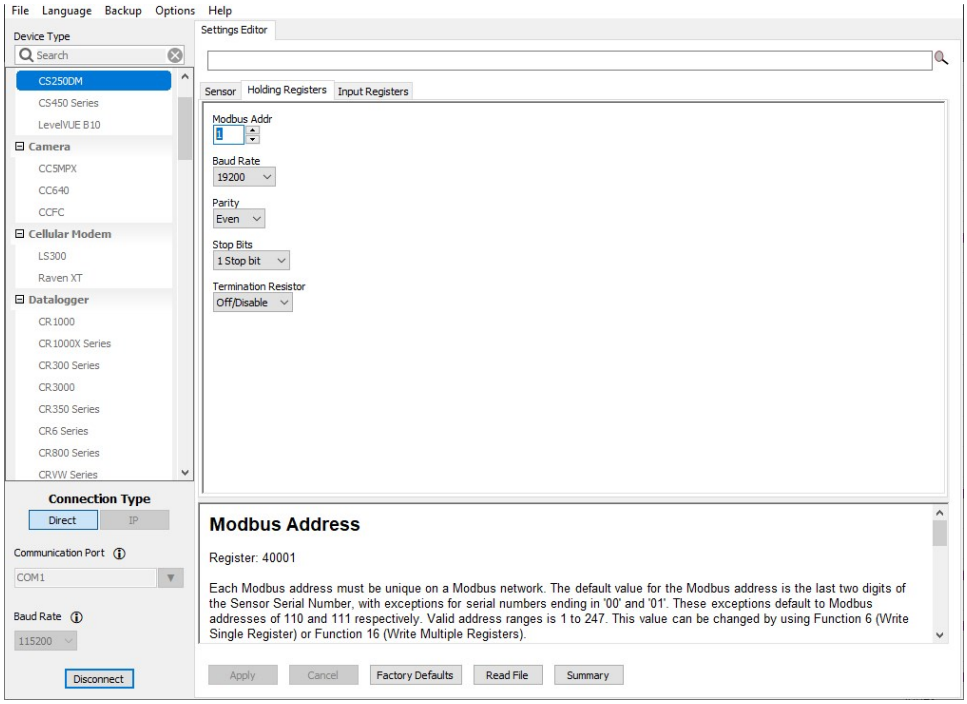
Device Configuration Utility is bundled in Campbell Scientific data logger support software and is available, at no cost, from www.campbellsci.eu/downloads. Use ***Device Configuration Utility*** to change the CS250DM settings, view stored values, and update the CS250DM operating system (OS). It also provides CS250DM wiring information.

Connection to ***Device Configuration Utility*** requires a USB-to-RS-485 adapter and a 12 VDC power supply. Use the following procedure for connecting to ***Device Configuration Utility***:

1. Open ***Device Configuration Utility***.
2. Under **Device Type**, click **CS250DM**.
3. Follow steps listed under **Connecting to a CM250DM with a USB to RS-485 adapter**.



4. Click the **Holding Registers** tab to change settings. The default Modbus address and serial settings are printed on the cable. The Modbus address must be unique and may need to be changed if another sensor on the terminal has the same address. The default value for the Modbus address is the last two digits of the sensor serial number, with exceptions for serial numbers ending in 00 and 01. These exceptions default to Modbus addresses of 110 and 111, respectively. Most Modbus systems use the default **Baud Rate**, **Parity**, **Stop Bits**, and **Termination Resistor** values.



5. Click the **Input Registers** tab to view the stored values.

8. Maintenance and troubleshooting

NOTE:
All factory repairs and recalibrations require a returned material authorization (RMA) and completion of the "Statement of Product Cleanliness and Decontamination" form. Refer to the Assistance page at the front of this manual for more information.

8.1 Maintenance

The CS250DM requires minimal maintenance. Periodically check cabling for proper connections, signs of damage, and possible moisture intrusion. Check the radiation shield monthly to make sure it is free from dust and debris. To clean the shield, first remove the sensor. Dismount the shield. Brush all loose dirt off. If more effort is needed, use warm, soapy water and a soft cloth or brush to thoroughly clean the shield. Allow the shield to dry before remounting.

8.2 Troubleshooting

Symptom: Temperature is NAN, –INF, –9999, –273

Verify wiring of sensor to the data logger; cross-reference data logger program or the measurement system wiring diagram.

Symptom: Incorrect Temperature

Check the cable for signs of damage and possible moisture intrusion.

Symptom: Unstable Temperature

Make sure the shield and ground wires are connected to data logger ground, and the data logger is properly grounded.

Appendix A. Importing *Short Cut* code into *CRBasic Editor*

Short Cut creates a .DEF file that contains wiring information and a program file that can be imported into the ***CRBasic Editor***. By default, these files reside in the C:\campbellsci\SCWin folder.

Import ***Short Cut*** program file and wiring information into ***CRBasic Editor***:

1. Create the ***Short Cut*** program. After saving the ***Short Cut*** program, click the **Advanced** tab then the **CRBasic Editor** button. A program file with a generic name will open in CRBasic. Provide a meaningful name and save the CRBasic program. This program can now be edited for additional refinement.

   > **NOTE:**
   > Once the file is edited with ***CRBasic Editor***, ***Short Cut*** can no longer be used to edit the program it created.

2. To add the ***Short Cut*** wiring information into the new CRBasic program, open the .DEF file located in the C:\campbellsci\SCWin folder, and copy the wiring information, which is at the beginning of the .DEF file.
3. Go into the CRBasic program and paste the wiring information into it.
4. In the CRBasic program, highlight the wiring information, right-click, and select **Comment Block**. This adds an apostrophe (') to the beginning of each of the highlighted lines, which instructs the data logger compiler to ignore those lines when compiling. The **Comment Block** feature is demonstrated at about 5:10 in the CRBasic | Features video.

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Global Sales & Support Network

A worldwide network to help meet your needs

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