INSTRUCTION MANUAL

HUB-SDM5
7/04

Warranty and Assistance

The **HUB-SDM5** 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.

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CAMPBELL SCIENTIFIC, INC.
RMA#_____
815 West 1800 North
Logan, Utah 84321-1784

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HUB-SDM5

1. Introduction

The HUB-SDM5 is a junction box and is used to connect multiple Synchronous Device for Measurement (SDM) or SDI-12 devices/peripherals to a single Campbell Scientific, Inc. datalogger. The HUB-SDM5 consists of an environmental enclosure with six weather resistant bulkhead fittings and five terminal strips.

2. HUB-SDM5 Specifications

Terminal Strips:

Three spring-loaded guillotine connections per terminal; two terminals in common through a jumper creates five banks

Operating Temperature:

-55°C to +85°C

Operating Humidity:

Noncondensing 0% – 95%

Dimensions:

Length: 17.8 cm (7.0")
Width: 19.7 cm (7.75")
Depth: 13.3 cm (5.25")

Weight:

0.82 kg (1.8 lbs)

3. General

Inside the HUB-SDM5 enclosure are five pairs of terminal strips. These terminal strips are mounted on a DIN rail and an orange end cap separates each pair. Each pair of terminal strips is connected to each other by means of a jumper. The terminal strips are used to connect up to six wires to each other. The wires are secured to the terminal by a spring-loaded guillotine.

4. Installation and Wiring

A U-bolt is used to mount the HUB-SDM5 to a 1.25 inch NPT pipe.

The spring-loaded guillotines are opened with a small flat blade (2.5 X 50 mm) screwdriver (p/n 8125). Orient the screwdriver blade so that the blade edge is perpendicular to the orange separators. Gently insert the small flat blade

screwdriver into the square slot located next to the circular wire port until it bottoms out. For the cluster of four wire ports located on the left hand side of the HUB-SDM5, the guillotine release slot is located to the right of the wire port. For the wire ports on the right hand side of the HUB-SDM5, the guillotine release slot is located to the left of the wire port. Once the screwdriver has been completely inserted and has bottomed out, firmly press the screwdriver down until the guillotine snaps open. Insert and hold the wire as the screwdriver is removed.

4.1 Wiring SDM Devices

Before connecting the SDM signal cable to the terminals, strip the wire insulation back to expose ¼ inch of bare wire. Feed the cable through the bulkhead fitting. Neatly separate the five wires into the following order, SDM data, SDM clock, SDM enable, SDM ground, and SDM shield.
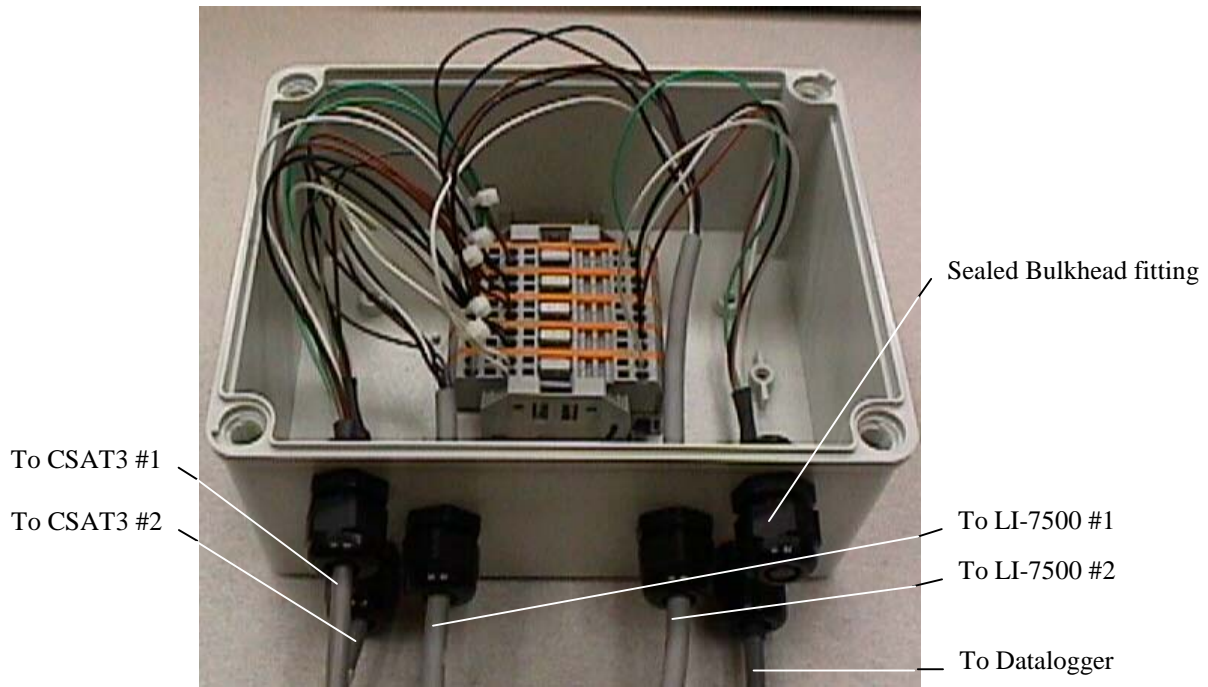

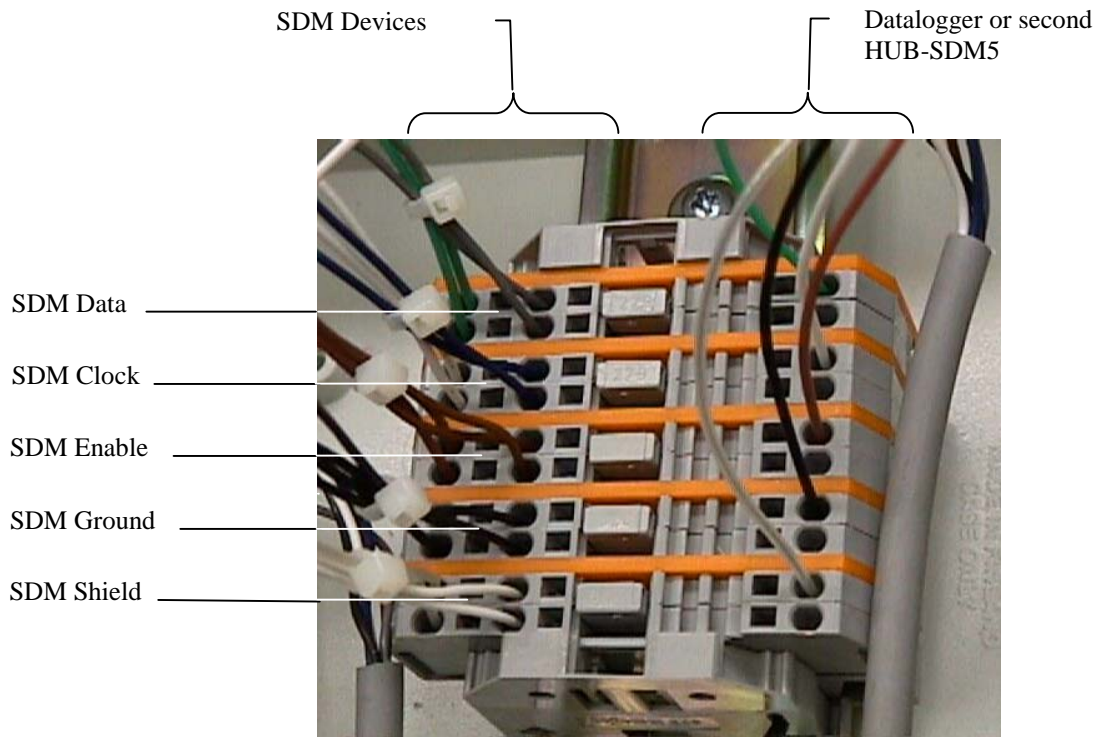*FIGURE 1. HUB-SDM5 connecting four SDM devices to a datalogger.*

SDM Devices — Datalogger or second HUB-SDM5

SDM Data

SDM Clock

SDM Enable

SDM Ground

SDM Shield

FIGURE 2. HUB-SDM5 terminal strip connecting four SDM devices to a datalogger.

4.2 Wiring SDI-12 Devices

Before connecting the SDI-12 signal/power cable to the terminals, strip the wire insulation back to expose ¼ inch of bare wire. Feed the cable through the bulkhead fitting. Neatly separate the four wires into the following order, SDI-12 data, SDI-12 power, SDI-12 ground, SDI-12 shield.
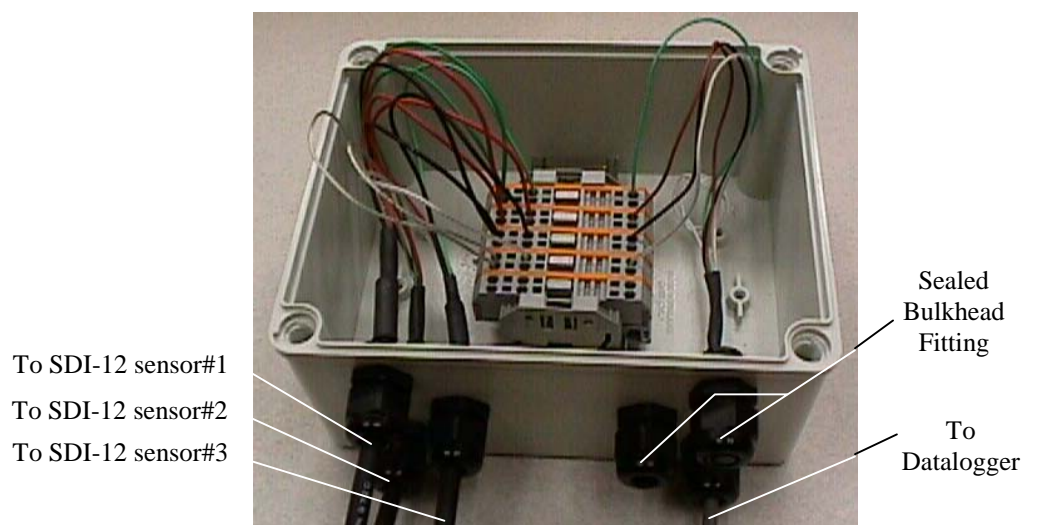

To SDI-12 sensor#1
To SDI-12 sensor#2
To SDI-12 sensor#3

Sealed Bulkhead Fitting

To Datalogger

FIGURE 3. HUB-SDM5 connecting three SDI-12 devices to a datalogger.

SDI-12 Devices   Datalogger or second
HUB-SDM5

SDI-12 Data

SDI-12 Power
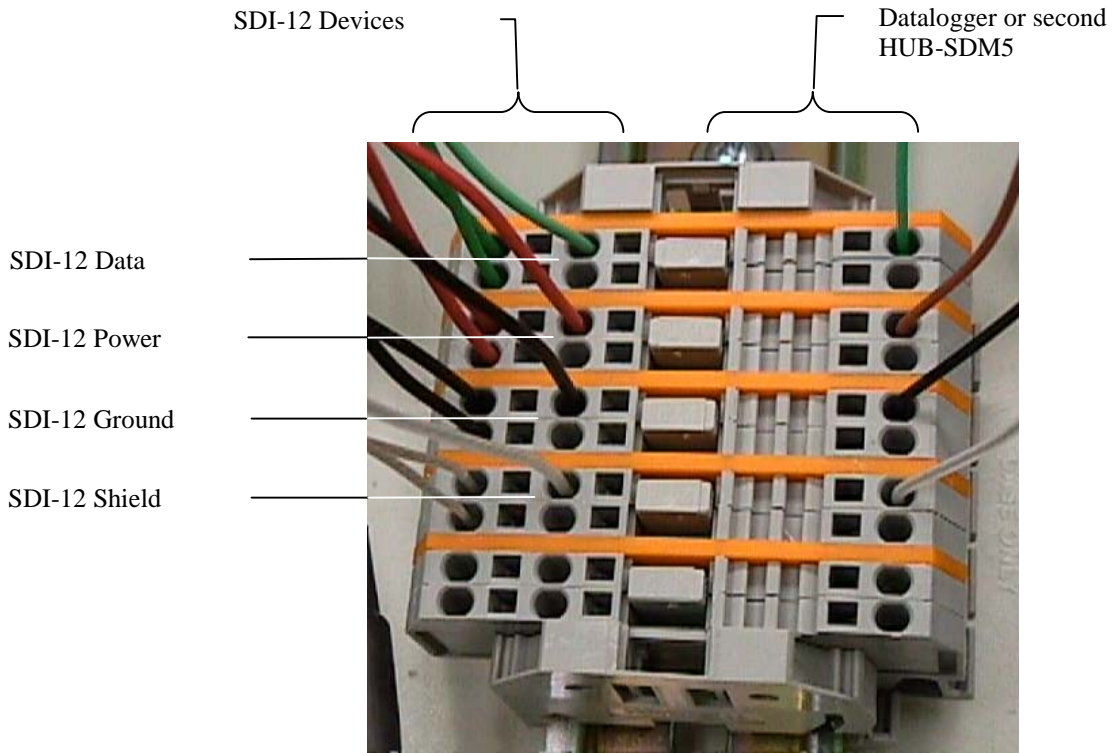
SDI-12 Ground

SDI-12 Shield

*FIGURE 4. HUB-SDM5 terminal strip with SDI-12 devices
connected to a datalogger.*

5. Generic Junction Box

The HUB-SDM5 can be used as a generic junction box. In its default
configuration, six, five conductor cables can be connected to each other.
Three, ten conductor cables can be connected to each other by removing the
jumper between the terminal strips. Use a small screwdriver to pry the jumper
out.

6. Maintenance

There are no user-serviceable parts in the HUB-SDM5. Make sure that all
unused bulkhead fittings are sealed with a plug and that the lid is tightly
fastened.

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