Davis

TERMINAL BOX

The Terminal Box provides easy, reliable connections for splicing wires and cables. All connections are housed in a weather-resistant enclosure. The terminal box can simplify and speed up the task of wiring the weather station sensors, sensor interface module (SIM), and communication lines.

Note: *The terminal blocks in the Terminal Box are rated for 300V, 10A and are intended for 26-16 AWG (.08-1.5 mm) wire. When wiring, all applicable building and electrical codes must be followed.*

When connecting shielded cables to shielded cables, connect each colored wire to the same colored wire on the extension cable (or other cable). In twisted-pair cables, all black wires are ground and may be shorted together.

When connecting standard cables to standard cables, you may also connect each colored wire to the same colored wire on the extension cable (or other cable). In some cases, however, wires may be combined in order to use fewer terminals on the terminal block. Consult the table below:

SENSOR	WIRES IN STD. CABLE	WIRES USED	NOTES FOR STANDARD CABLES
Rain Collector	4	2	Twist RED and BLACK as one wire and GREEN and YELLOW as another wire.
Temp/Hum Sensor	6	5	Twist RED and BLACK as one wire (ground).
Temp Sensor	4	2	Twist RED and BLACK as one wire (ground). Ignore GREEN.
UV/Leaf Wetness Sensor	6	3	Twist RED and BLACK as one wire (ground). Ignore GREEN and BLUE.
Solar Radiation Sensor	4	3	Twist RED and GREEN as one wire (ground).
Anemometer	4	4	
SIM/Junction Box Cable	8	8	

COMPONENTS

The Terminal Box includes the following components. Please make sure you have all listed components before continuing.

- ◆ Terminal Box with Terminal Blocks
- ◆ Two #8 x Ω" (19 mm) Self-Threading Screws

TOOLS AND MATERIALS NEEDED

You may need some of the following tools and materials in order to install the terminal box.

- ◆ Medium Slotted Screwdriver
- ◆ Small Slotted Screwdriver
- ◆ Drill with #29 (.136", 3.5 mm) Drill Bit
- ◆ Center Punch

MOUNTING THE TERMINAL BOX

You may mount the Terminal Box against a wall or other vertical surface or you may simply lay it down on a horizontal surface. The preferred mounting method is to mount it on a vertical surface in a protected location with the rubber grommet facing down.

Note: *You may install the wires through the grommet and into the terminal blocks before or after mounting the Terminal Box.*

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1. **Hold the Terminal Box against the mounting surface and mark the location of the two screw holes.**

   Use a pencil or a center punch to mark the location of the screw holes.

2. **Drill pilot holes in the marked locations using a drill with a #29 (.136″, 3.5 mm) drill bit.**

3. **Secure the Terminal Box to the mounting surface using the #8 x Ω″ (19 mm) screws as shown below.**
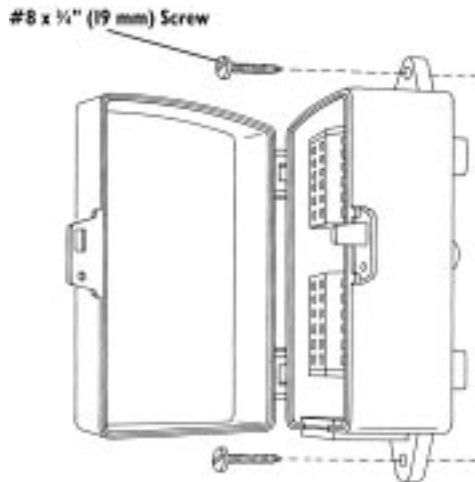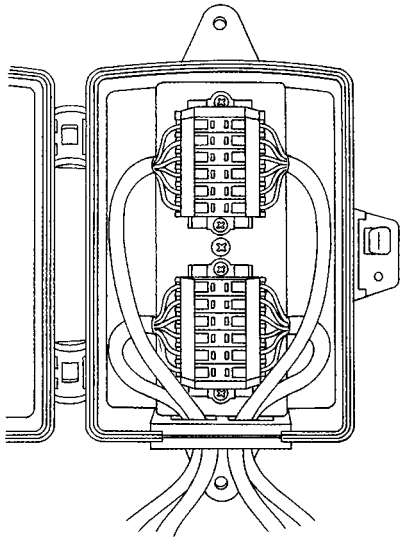

MOUNTING THE TERMINAL BOX

CONNECTING TO THE TERMINAL BLOCK

Route cables into the box by passing them up through the grommets at the bottom of the box. If routing cable to the top terminal block, you may route cables either under the metal plate (to which the terminal blocks are attached) or over the metal plate, as picture below.
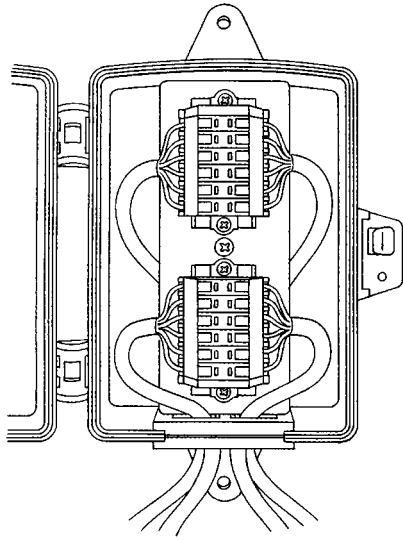

Run Wires Under Metal Plate

**Run Wires Over Metal Plate**

ROUTING CABLES

The Terminal Box uses terminal blocks containing high-reliability stainless steel spring-loaded cage clamps. You will be placing one or two wires into each individual cage clamp in order to make the connection. If placing two wires into a single cage clamp, twist the two wires together before inserting. To place wires into the cage clamp, first strip about 1" (2.5 cm) of the jacket (the outer covering) and shield (the foil-like inner covering on shielded cables) off the cable. Then strip about 5/16" (8 mm) of the insulation (the colored outer covering) off each wire in the cable. Finally, use a small screwdriver to push down on the spring strip next to the terminal, insert the exposed wire into the opening created on the side of the terminal, and release the spring strip. When you release the spring strip, the wire(s) will be held in place by the cage clamp.
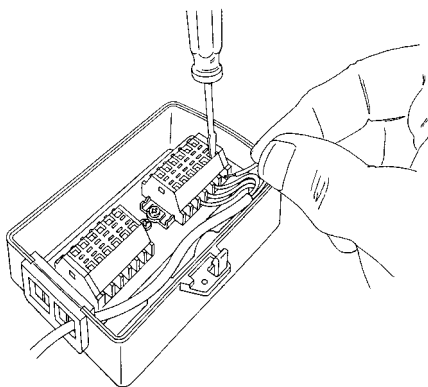
INSERTING WIRES INTO TERMINALS

Each terminal block has 12 terminals. The wire inserted into a terminal on one side of the terminal block connects to the wire inserted into the same terminal on the other side of the terminal block. (The two related terminal blocks are referred to as a "position.") It will probably aid you in keeping track of wire connections if all of the wires coming into the Terminal Box (from the sensor, for example) are connected on one side of the terminal block and all of the wires leaving the Terminal Box (going to the SIM, for example) are connected on the other side of the terminal block.

Wire in left terminal connects to wire in right terminal.
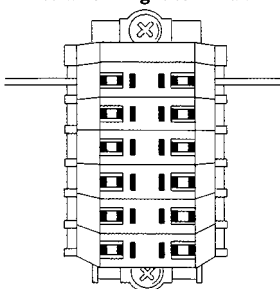
CONNECTING WIRES TO THE SAME POSITION

Using the Terminal Box to Connect Standard and Shielded SIM Cables

If you wish to use the Terminal Box to splice a shielded 8-conductor cable from the SIM to the standard 8-conductor cable running to the console, you will need to determine the wire assignments for the terminal blocks before you remove the modular connector at the end of the standard cable. To do this, hold the standard cable, latch lever upward, facing the terminal block, as shown in the illustration below. The wires in the cable are now in the same sequence as the terminals. For future reference, write the wire colors into the spaces provided below if they do not match those of the shielded cable.
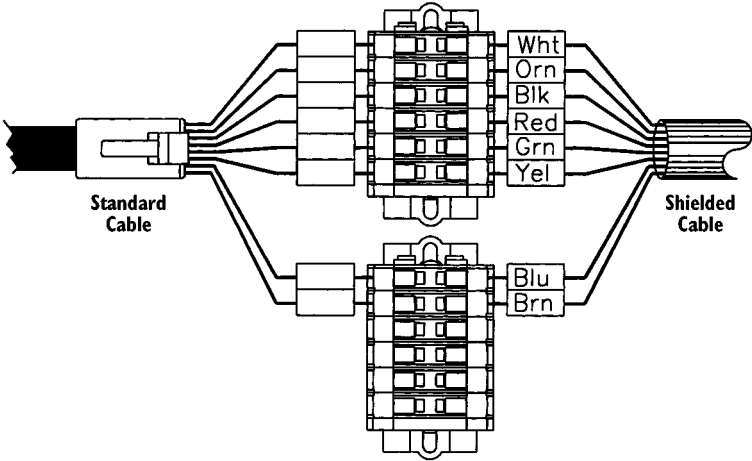
DETERMINING WIRE ASSIGNMENTS

Product Numbers: 7774

Davis Instruments Part Number: 7395-103
Terminal Box
Rev. A Manual (7/8/99)

This product complies with the essential protection requirements of the EC EMC Directive 89/336/EC.

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