

How to Install the SMT-A2



The SMT-A2 is a wireless datalogger used for investigative monitoring applications. The SMT-A2 contains built-in sensors for temperature, relative humidity and moisture content. You will be able to install the SMT-A2 by following two easy tasks: (1) Attaching the SMT-A2 to the structure; and (2) verifying sensor data and radio link.

The following knowledge is required for deploying the SMT-A2:

- How to operate the SMT-A2. Refer to the SMT-A2 datasheet.
- How to operate the SMT Building Intelligence Gateway Software
- Understanding of moisture monitoring

Equipment and Supplies

Before you can deploy the SMT-A2, you must have the following equipment:

Select different screw lengths depending on the penetration depth required

- An SMT-A2 datalogger
- Two #5 1/2" screws
- A #1 Robertson screw driver or a drill with #1 Robertson bit
- A laptop running the SMT Building Intelligence Gateway Software

Attaching the SMT-A2

You will attach the SMT-A2 to the structure with two screws. The screws provide two functions. First, the screws provide mounting support. Second, the screws act as moisture sensing probes.



WARNING: You must inspect the area screws will penetrate for electrical wiring. If you don't, severe electrical shock may result.

Follow these steps to attached the SMT-A2 to the structure:

- 1 Decide and document the location you want to install the SMT-A2. Inspect the area for any hazards.
- 2 Firmly hold the SMT-A2 against the surface you are monitoring with one hand. With your other hand screw the screws through the moisture tabs and into the surface, as shown in Figure 1.



Figure 1. SMT-A2 installed on a wood surface

Verifying Sensor Data and Radio Link

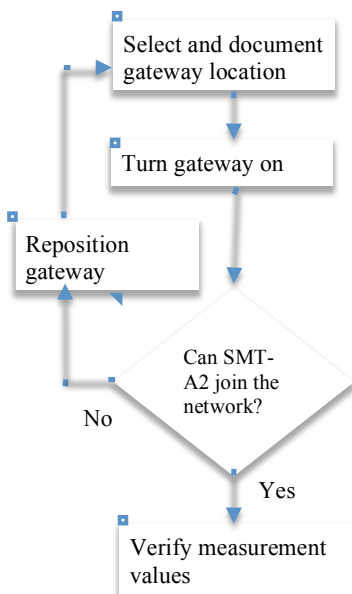


Often the SMT-A2 is installed in areas not easily accessible. Verifying the installation can save you money and time by avoiding future site visits.

CAUTION: If you incorrectly attach the SMT-A2 to the structure, the SMT-A2 will record incorrect sensor data, which will compromise your moisture investigation.

Verifying sensor data and the radio link is an important step in the installation process. You should complete the following steps after attaching each SMT-A2:

- 1 Place the SMT Building Intelligence Gateway in the location you will collect data. Document the location because it will be used during future data collection tasks.
- 2 Turn the gateway on to create wireless sensor network.
- 3 Select “Join Network” on the SMT-A2 menu. The SMT-A2 will provide you feedback on the LCD screen indicating if a network was found and the signal strength of the radio link. If the SMT-A2 is unable to join the network, move the gateway to a new location and repeat step 1.
- 4 Select “Perform Measurement” on the SMT-A2 menu. The SMT-A2 will display the current measurements on its LCD screen and transmit them to the gateway. You should verify the sensor measurements are within acceptable ranges and the gateway recorded the real-time data.



Troubleshooting

- 1 Display shows no link symbol and no wireless reception bars.

Ensure SMT-I2 has been successfully associated with the Building Intelligence Gateway.

Ensure the SMT-I2 and SMT-A2 are on the same PAN. The PAN on the SMT-I2 can be queried by double clicking on the serial number in BiG located under the *Devices* tab. Select *Get* under PAN to view the PAN. To query the PAN on the A2 select *Info* from the main screen on the unit.

- 2 Display shows no information

Refer to the SMT-A2 datasheet troubleshooting section.

Collecting Data from the SMT-A2

Sensor data is collected wirelessly from the SMT-A2 datalogger.

- 1 Place the SMT building Intelligence Gateway in the location documented in the Installation process.
- 2 Turn on the SMT building Intelligence Gateway.
- 3 Wait until all installed SMT-A2s have transmitted their logged data. An SMT-A2 tries to transmit data every 2 minutes and can take up to 10 minutes for it to transmit its entire log of data.



Note: shutting down the SMT building Intelligence Gateway before SMT-A2's have finished transmitting data may result in loss of data

Things to consider:

- SMT-A2 will attempt to transmit data every two minutes
- Transmission of a long can take up to 10 minutes
- Only one SMT-A2 can communicate over the wireless link at a time. The time spend collection data is proportional to the number of devices installed. If multiple SMT-A2 devices are installed, they will transmit data one after the other (cliché?)
Interference from other devices operating in the 2.4Ghz spectrum may cause data to be re-transmitted.