

1. DESCRIPTION

MCF-LWWS0X is a complete Davis Instruments Vantage Pro2 Weather Station that integrates a LoRaWAN™ communication system.

The station, rugged and flexible, is equipped with a wide range of sensors and it offers reliable weather data under the most demanding circumstances and gives these variables:

- Inside and Outside Temperature and Relative Humidity
- Barometric Pressure
- Rainfall
- Dew Point
- Wind Speed and Direction sensors (detachable)
- Solar radiation (only available in MCF-LWWS00 and MCF-LWWS01)
- PM1, PM2.5, PM10 (only available in MCF-LWWS01 and MCF-LWWS03)
- UV sensor available as optional



2. START UP OF THE DEVICE

2.1 Assembly of the station:

- Setup the weather station following DAVIS INSTRUMENTS Instructions.
- On the DW-6612 solar panel box proceed as follow (see below image):
 - Remove the 6316CEU by sliding down-up and pull.
 - Insert provided 4xAA size batteries on the 6316CEU.
 - Connect the “console” cable “A” coming from the 6820CM, by entering the box using the gasket on the bottom side’s hole.
 - Fasten the 6316CEU to the box



2.2 Antenna:

Mount the antenna on the pole using fasteners. On the DW-6612 solar panel box, connect the antenna connector to the MCF-LW06DAV device (Davis station to LoRaWAN™ interface) as shown below “D” by entering the box using the gasket on the bottom side’s hole.



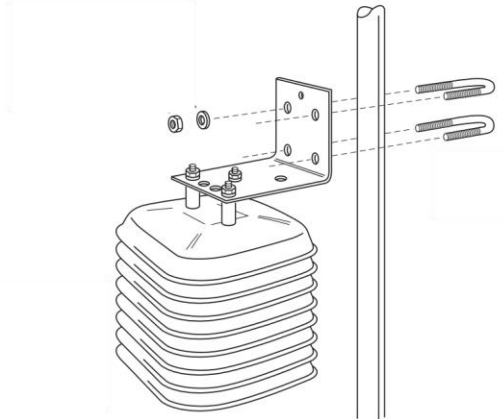
The installation must take place in a place where the LoRaWAN™ signal coverage is good (SF=7 optimal, SF=12 weak).

2.3 Power supply: Connect the red wire terminal “B” to the positive terminal of the battery “C”.

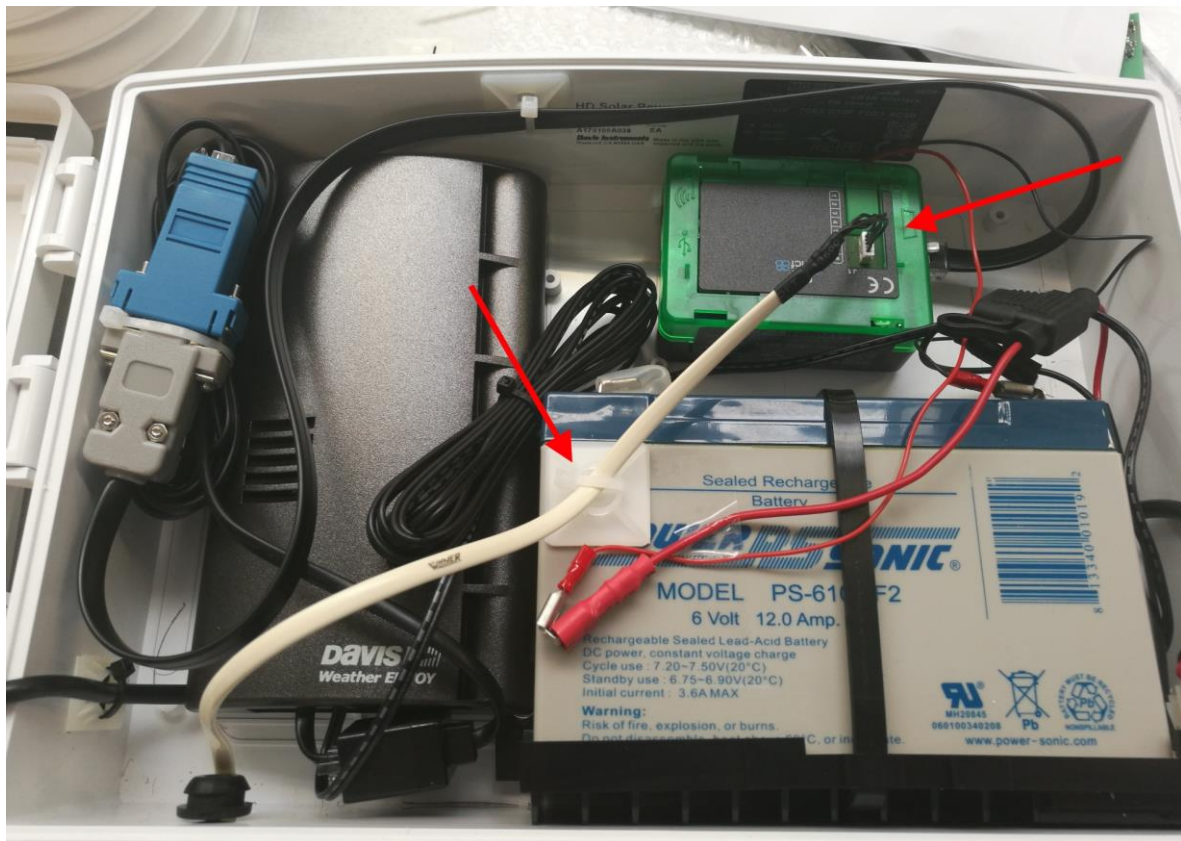
2.4 **Configuration of MCF-LW06DAV:** Connect a PC USB cable to the MCF-LW06DAV device. Please refer to chapter 3 and 4.

3. PM SENSOR FOR MCF-LWWS01 AND MCF-LWWS03

Mount the solar shield with the PM sensor on the pole (at the back of the DW-6612 solar panel box) following the enclosed instruction:



On the DW-6612 solar panel box, connect the cable to the MCF-LW06DAVP device (Davis station to LoRaWAN™ interface) as shown below by entering the box using the gasket on the bottom side's hole:





4. LORAWAN™ ACTIVATION

The device supports the following activations on a LoRaWAN™ network:

NONE: sensor not activated

OTAA: needs settings of appkey and appEUI

OTAA MCF88: Over the air activation according to mcf88 specifications

ABP: needs settings of NwkSkey, AppSkey, DevAddr

The device exits factory activated with **NONE** mode. The devEUI of the device is shown on the product label. MCF-LWWS0X is a Class A LoRaWAN™ device.

5. DEVICE CONFIGURATION

The activation parameters and the device settings can be read and modified via USB using the appropriate "LoRaWEB" desktop application (<https://iot.mcf88.cloud/LoRaWeb/#/configuration>):

LoRaWAN® Parameters ×

LoRaWAN®

Network Key	App Key
<input type="text"/>	<input type="text"/>
Device Address	<input type="text"/>
AppEUI	DevEUI
<input type="text"/>	70B3D1E7C07334
LoRa Band	
Europe EU [868 MHz] ▼	

LoRaWAN® Activation

NONE OTAA MCF88 OTAA ABP

Carrier

Any Objenious

Network

Public Network Private Network

Read Save File Cancel Save LoRaWAN® parameters

← → ↻ iot.mcf88.cloud/LoRaWeb/#/configuration

Setup | Download | Resources | Info | Request offer

Status: **DISABLED** NONE

Device: MCF-LW06DAVP

DevEUI: 70B3D...

Class: A

Firmware version: 0.02.07

CheckSum: 02889B2A

LoRa Version: 2.00.159

Last Reading: Device: 2020/04/30 12:47:50, Local: 2020/04/30 14:47:52

End node info

SETUP | DIAGNOSTIC | ADVANCED

Options

Led working: Yes No

Time Sync uplink: Yes No

Confirmed Uplinks: Yes No

Single Join/Day: Yes No

Period [min]:

Others

USB: Standard Debug

Timezone:

Data retrieval interval (minutes)

6. ORDERING CODE

Ordering Code	Description
MCF-LWWS00	mcf88 LoRaWAN™ Weather Station EU863-870
MCF-LWWS00-AS	mcf88 LoRaWAN™ Weather Station AS923
MCF-LWWS01	mcf88 LoRaWAN™ Weather Station with PM sensor EU863-870
MCF-LWWS01-AS	mcf88 LoRaWAN™ Weather Station with PM sensor AS923
MCF-LWWS02	mcf88 LoRaWAN™ basic Weather Station EU863-870
MCF-LWWS02-AS	mcf88 LoRaWAN™ basic Weather Station AS923
MCF-LWWS03	mcf88 LoRaWAN™ basic Weather Station with PM sensor EU863-870
MCF-LWWS03-AS	mcf88 LoRaWAN™ basic Weather Station with PM sensor AS923
MCF-DW6490	DW-6490 DAVIS VANTAGE PRO2 UV SENSOR