

Mercure Digital Precision Thermometer/Psychrometer **User Manual**



CONNECTING AND POWERING UP

The Mercure is supplied without the PRT leads or power leads connected.

You will need to connect them. The various leads are located inside the box. They must be fitted in order. Firstly, fit the PRT s onto the blue connector ports at the base of the Mercure. Do not connect the power first, always connect the PRT s first

The ends of the flying leads from the PRT s have a screw-thread and are easily fitted. Do not overtighten, there is a waterproof rubber gasket to prevent any moisture ingress (IP67) Connect the power lead into the rear of the Mercure.

Non-rechargeable lithium battery option

Fit the battery, which you will purchase locally. The '+' and '-' ends are visible inside the battery box.

Connect the end of the cable to the rear of the Mercure

Solar panel kit option

Fit the solar panel onto the overlapping main roof of the instrument Shelter. Place the recharging pack on the floor of the instrument Shelter. Guide the exiting cable from the solar panel, through the holes in the lower roof and down into the interior of the Shelter. Connect the end of cable to the recharging pack. Connect the black exiting cable, from the recharging pack, into the rear of the Mercure.

12 V DC power supply

MetSpec will supply the connecting end (to the Mercure) pre-fitted to a wire. You will need to advise us of the correct length of cable, which will be dependent upon the distance from the power supply to the Mercure. You will be responsible for attaching the wire directly onto your chosen power supply.

POWERING UP PROCEDURE

Once connected to the power supply, the time will appear on the display - in 24:00 hour format

This disappears from the display after 12 seconds.

Wait for 2 more minutes then press the silver button, once. The time display will reappear. Press again immediately. This initiates the cycle in this order:

1. The upper display - The current temperature from PRT 1
2. The lower display - The current temperature or relative humidity from PRT 2

Then

3. The maximum values since you first connected and powered up the Mercure
4. The minimum values since you first connected and powered up the Mercure

Then

-24

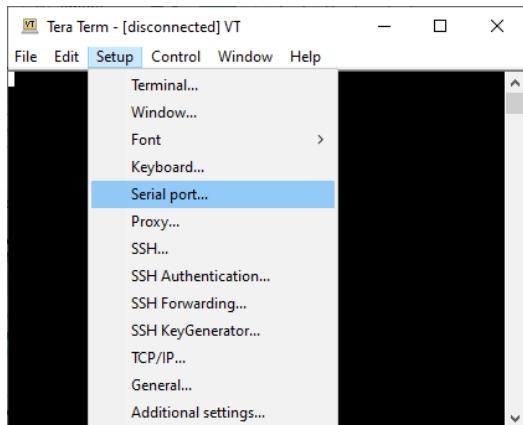
Preceded by '-24' on the display, the Mercure will show -50 and 99. The values at -'24' will be available after the first time 0900 is reached. When read later during the day (or the next day) these will be the maximum and minimum readings since the unit was started up

Notes: You can press again at any time to accelerate the sequence. You can change reset/rollover time This is explained later in the manual.

USING TERATERM FOR SETUP AND DATA RETRIEVAL

You will need to download a free copy of Teraterm <https://tera-term.en.softonic.com/>, unless you already have it on your computer or laptop.

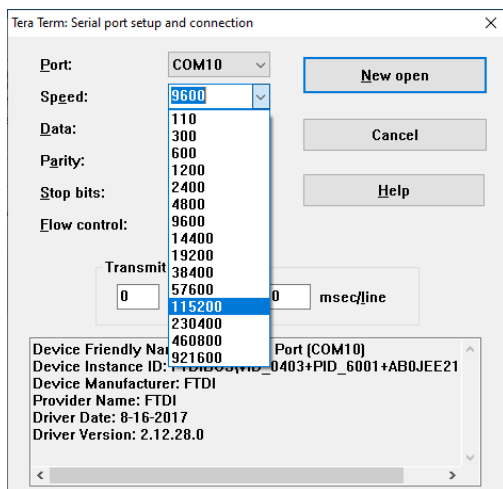
1. **Connect the Mercure to your laptop with the male-male connector - from the USB port on the front of the Mercure**
2. **Open Teraterm**



3. **Select the correct settings**

4. **Serial Port Configuration**

Set the serial port configuration to 115200 baud and click **new open**



MENU COMMANDS

- **<ENTER> with no extra parameters shows the current readings temperature, relative humidity and Battery voltage**
 - Example <ENTER>
 - Response "T1: 17.49, RH: 80.11, BAT: 3.33"

```
COM10 - Tera Term VT
File Edit Setup Control Window Help
2020/11/09 17:23:321 T1: 19.55, RH: 100.00, BAT:3.44
2020/11/09 17:23:331 T1: 19.55, RH: 100.00, BAT:3.44
2020/11/09 17:23:331 T1: 19.55, RH: 100.00, BAT:3.44
2020/11/09 17:23:331 T1: 19.55, RH: 100.00, BAT:3.44
2020/11/09 17:23:501 T1: 19.60, RH: 99.58, BAT:3.44
2020/11/09 17:23:521 T1: 19.68, RH: 99.58, BAT:3.44
2020/11/09 17:23:531 T1: 19.68, RH: 99.58, BAT:3.44
2020/11/09 17:23:531 T1: 19.68, RH: 99.58, BAT:3.44
2020/11/09 17:24:131 T1: 20.60, RH: 91.53, BAT:3.44
2020/11/09 17:24:131 T1: 20.60, RH: 91.53, BAT:3.44
2020/11/09 17:24:141 T1: 20.60, RH: 91.53, BAT:3.44
```

- **Set the Time (T)**
 - Example: set the time to 9am T 0900 <ENTER>
 - Response "Time is now 09:00"
- **Set the Date (D)**
 - Example: set the date to 04 October 2020 D 201004 <ENTER>
 - Response "Date is now 04/10/2020"
- **View files in termaterm**
- **Display the log entries (L) Example. L <ENTER>**
 - Displays the details of the logs in memory
- **To view the daily files, example for 25 November 2020**
 - L(SPACE)20201125.csv(RETURN)
- **Show the next item on the LCD Display (N)**
 - Example N <ENTER> , N <ENTER> , N <ENTER> ...
 - Shows the next item on the LCD Display
 - Each time is the same as pressing the button on the front panel
- **Show the Max/Min Reset time**
 - m(ENTER)
- **Change the Max/Min Reset time**
 - m(ENTER) time
 - Example m(SPACE) 0800(ENTER)

CALIBRATION

- **Adjust calibration values for each sensor (A)**
 - o Example the actual temperature is 19.43 degrees and probe 1 is reading 19.2.
 - o A1 19.43 <ENTER>
 - o This will calibrate the probe to 19.43 degrees, it may take a few seconds to average out
 - o Similar example with probe 2 A2 19.43 <ENTER>

INSTRUCTIONS FOR THE MERCURE 55 TO DOWNLOAD DATA FILES TO EXCEL

With the unit powered on, but not in display mode (with the displays blank).

- Remove the protective rubber insert from the Data-key receptacle at the rear of the Mercure. Insert the key black plastic Nexus Data-key into the slot.
- Press and hold the silver button. Press continuously. Do not take your finger off the button. Wait and see the time displayed whilst continuing to press the button.
- When the time display stops, stop pressing - remove your finger from the button and wait. As the files are downloaded onto the data-key, you will see 'pct' (percentage) of progress of the download, displayed.
- Finally the time will show again. Wait until the time display stops and then remove the key. Insert the key into the connector to your laptop and you should see the files opening automatically in Excel.
- You will see a list of files, up to 55 days. They will cover the period since the Mercure was powered up.
- Click on one and you will see the readings and also the battery voltage in 1-minute lines.
- You can create graphs and do analysis to identify maximum and minimum values for each daily file.