



Dual-Tipping Bucket Data Format



The Dual-Tipping Bucket part of PIERS gauge makes the time-stamped measurement of each tipping bucket “tips” and transmit these measurements to remote server every 15 minutes

Below is an example of a data file and explanation of its content:

	A	B	C	D	E	F
1	Station_Name: PIRS0036_TB					
2	Latitude/Longitude: 30.095764 -95.96945					
3	RSSI: -71					
4	Battery_Voltage: 12.50					
5						
6	10/5/2023	11:45:00	TB_B_tips	153		G
7	10/5/2023	11:45:00	TB_A_tips	157		G
8	10/5/2023	11:43:37	TB_A_tips	157		G
9	10/5/2023	11:43:36	TB_A_tips	157		G
10	10/5/2023	11:41:27	TB_B_tips	153		G
11	10/5/2023	11:41:26	TB_B_tips	153		G
12	10/5/2023	11:38:03	TB_A_tips	156		G
13	10/5/2023	11:38:02	TB_A_tips	156		G
14	10/5/2023	11:35:51	TB_B_tips	152		G
15	10/5/2023	11:35:50	TB_B_tips	152		G
16	10/5/2023	11:33:01	TB_A_tips	155		G
17	10/5/2023	11:33:00	TB_A_tips	155		G
18	10/5/2023	11:31:00	TB_B_tips	150		G
19	10/5/2023	11:30:59	TB_B_tips	150		G
20						

PIERS0036_TB_20231005114500

The Header

- Line 1:** Station name
- Line 2:** The coordinates (Lat/Lon) of the PIERS gauge location. The values are hard-coded and would have to be changed if the gauges has been re-located
- Line 3:** The RSSI value which is the cell signal strength, measured in dB
- Line 4:** Battery voltage

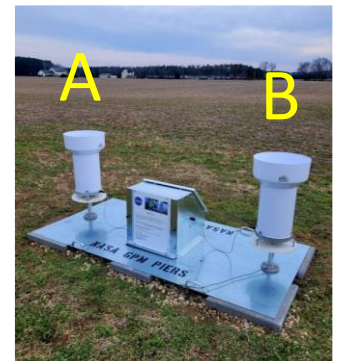
The Body

- Column 1:** Date of the measurement - MM/DD/YYYY
- Column 2:** Time of the measurement – HH:MM:SS
- Column 3:** Label of the measurement (TB_A_tips and TB_B_tips). TB_A – tipping bucket “A” which is located on the left-hand side when facing the door of the gauge housing. TB_B – tipping bucket “B” (see photo below).
- Column 4:** The number of “tips”. Please note, this number gets reset to zero everyday at midnight UTC
- Column 5:** Empty
- Column 6:** The quality of the measurement. The letter “G” means “Good”

The name of the data file is the following:

Station_Name_TB_YYYYMMDDHHMMSS.csv

The logging interval for the dual-tipping bucket system is 15 minutes hence each file is created with 15 minutes interval. Please note, the timestamp in the file name gets written when the system is set to transmit. The data file consists of the measurements that were made 15 min **before** the transmission time.





Parsivel Disdrometer Data Format



The PIERS+ system creates a Parsivel disdrometer data file every 10 minutes. The name of the data file is the following:

Station_Name_Parsivel_YYYYMMDDHHMMSS.csv

Each data file consists of the Parsivel measurements and status values that are being recorded every 10 seconds in the following format:

YYYYMMDDHHMMSS;%22,%18,%12,%11,%01,%33,%08,%03,%04,%93

YYYYMMDDHHMMSS - YearMonthDayHoursMinutesSeconds

22 – Station name

18 – Sensor status

12 – Temperature in the sensor housing [°C]

11 – Number of particles detected and validated

01 – Rain intensity [mm/h]

33 – Radar reflectivity [dBz]

08 – MOR visibility in precipitation

03 – Weather code according to SYNOP (refer to OTT Parsivel operating instructions, Appendix D)

04 – Weather code according to SYNOP (refer to OTT Parsivel operating instructions, Appendix D)

93 – Raw data (refer to OTT Parsivel operating instructions, page 29 and Appendix C)

