

# Radiosonde DFM-17



## Features and Benefits

- Multi GNSS radiosonde (GPS, GLONASS, BEIDOU)
- Highly stable transmitter
- Low weight, small size
- Simplified handling
- Status LED's
- XDATA Interface
- Near Field Communication (NFC)
- Optional barometric pressure sensor



## Overview

The DFM-17 radiosonde is designed to reliably measure the atmospheric profile of pressure, temperature, humidity, wind speed and wind direction from the surface to an altitude of 40 kms. Continuous data sets are sent to the groundstation by a high quality radio-telemetry link.

## Sensor Boom

All sensors are delivered "Ready-to-Fly" - 100 % factory calibrated and with no additional ground calibration necessary prior to launch. The temperature and humidity sensor boom ensures precise measurements during ascent, it is unaffected by any thermal influences of the sonde-housing. A mirrored surface reduces errors due to solar radiation. The ceramic temperature sensor ensures a fast response time due to its low mass and low thermal capacity. The capacitive polymer humidity sensor is protected against icing by a mirrored capsule.

## High Quality Telemetry

The radio transmission from the radiosonde meets demanding radio requirements and can cope with long slant ranges, even as far as 300 km. The frequency deviation during all flight conditions is less than 0.1 kHz. The continuous on-board measurements of all sensors and transmission of their data is performed in a time-window of less than one second.

## Status LED's

Thanks to the three status LED's they indicate the condition of power, GNSS and sensors. All necessary information before launch can be seen directly at the radiosonde before take-off.

## Near Field Communication (NFC)

The ground-check of the DFM-17 can either be done by serial cable or wireless by NFC.

## Technical Data

Weight	63 g, ready to start
Size	90 mm x 67 mm x 44 mm
Battery	Dry Lithium
Battery operating time	> 180 min
Power supply	Push button / NFC
Wind finding	GNSS (GPS, GLONASS, BEIDOU)
Transmission-rate	One full data set per second
Bandwith	< 20 kHz
Frequency deviation	+/- 0.1 kHz
Modulation	FSK
Output power telemetry	100 mW, typical
Error correction telemetry	Code-spreading, interleaving
Temperature resolution	0.1 °C
Temperature random error	< 0.2 °C
Humidity resolution	1 % rH
Humidity random error	< 4 % rH
Pressure accuracy	< 0.3 hPa
Geopotential height accuracy	< 10 m
Wind speed accuracy	< 0.2 m/s
Accuracy horizontal position	< 5 m