

Radiosonde DFM-17



Features and Benefits

- Multi GNSS PTU radiosonde (GPS, GLONASS, BEIDOU)
- Excellent temperature and humidity accuracy
- Highly stable transmitter
- Status indication via status LEDs
- Optional XDATA interface
- Optional barometric pressure sensor
- Optional ground check via Near Field Communication (NFC)



Overview

The DFM-17 radiosonde is designed for reliable measurement of the atmospheric profile of pressure, temperature, humidity, wind speed and wind direction from the ground to a height of 40 km. Data records are continuously sent to the ground station via a stable radio connection.

Sensor boom

All sensors are supplied „Ready-to-Fly“ - 100 % factory-set calibrated. An additional calibration before the flight is not necessary. Temperature and humidity sensors ensure measurements during the ascent, and are not influenced by thermal effects of the housing. A mirrored surface reduces the susceptibility to errors by solar radiation. The ceramic temperature sensor guarantees a fast reaction time due to low mass and heat capacity. The capacitive polymer humidity sensor is protected against icing by a mirrored capsule.

High quality telemetry

The telemetry of the radiosonde was developed for an interference-free transmission of the data and is capable of horizontal distances up to 300 km. The continuous detection and transmission of the measured values of all sensors of the radiosonde is performed in a time window of less than one second.

Indication of the operating status by status LEDs

The operating status of the battery, GNSS and radiosonde sensors is indicated by three status LEDs. This makes it easy to check the proper functionality of the radiosonde before launch.

Near Field Communication (NFC)

The DFM-17 radiosondes can be initialized either via a serial interface or via integrated near field communication.

Technical Data

Size/Weight	Dimensions (body)	90 x 67 x 44 mm
Weight	63 g	
Power	Battery type	2 x Lithium CR123A
	Operating time	> 240 min.
Temperature	Measurement range	-90 to +60 °C
	Resolution	0.01 °C (internal)
	Reproducibility in sounding	< 0.2 °C
Humidity	Measurement range	0 to 100 %rH
	Resolution	0.1 %rH
	Reproducibility in sounding	< 2 %rH
Pressure	Measurement range	1100 to 1 hPa
	Resolution	0.01 hPa (internal)
	Uncertainty > 100 hPa	< 1 hPa
	Uncertainty 100 - 10 hPa	< 0.3 hPa
Uncertainty < 10 hPa	< 0.04 hPa	
Geopotential height	Measurement range	-500 m to 40,000 m
	Resolution	0.1 m
	Uncertainty	< 8 m
	Reproducibility in sounding	< 5 m
Wind speed	Measurement range	0 to 200 m/s
	Resolution	0.01 m/s (internal)
	Uncertainty	< 0.1 m/s
Wind direction	Measurement range	0 to 360°
	Resolution	0.01°
	Uncertainty	< 1°
Telemetry	Sampling rate	1 data set per second
	Tuning range	400 - 405.99 MHz
	Bandwidth	< 12 kHz
	Max. range	> 250 km
	Frequency stability, 90% probability	< 1 kHz
Emission bandwidth	acc. to EN 302 054	
GNSS receiver	Type	GPS / GLONASS / BEIDOU
	Number of channels	72