

The **M10** radiosonde is a reference in the Upper Air Observation worldwide and insures a guarantee of quality and reliability of PTU and wind data collection.

The **M10** radiosonde has a crossed dipole GNSS antenna and a specific architecture allowing it to continue to operate in a degraded GNSS environment (spoofing, jamming), where standard radiosondes lose their location.

- Resistant to GNSS Spoofing
- Pressure calculated from the GNSS altitude, concept introduced by Meteomodem
- Process facilitated by a fully automatic preparation (frequency change, calibration...) and a simplified balloon train
- External ON/OFF power switch and authorization to release indicated directly on the radiosonde
- GNSS re-transmitter for initialization of the radiosonde inside a room
- Additional analog and digital inputs (XDATA)
- Compatible with the **Robotsonde**, automatic balloon launcher system (up to 24 radiosondes)
- Real-time processing of wet bubble effect
- Certified GRUAN



Technical specifications

GENERAL		CALIBRATION	
Dimensions	95 x 95 x 88.5 mm	Factory calibration	Stored on flash memory
Weight	150 g (batteries included)	Groundcheck	Prior to launch
TEMPERATURE		PRESSURE : Calculated from GNSS altitude	
Sensor type	Thermistor	Range	1100 hPa to 3 hPa
Measurement range	+60 °C to -100°C	Resolution	0.1 hPa
Resolution	0.01°C	Accuracy	< 1.0 hPa from 1100 hPa to 100 hPa
Absolute accuracy	0.3°C		0.3 hPa from 100 hPa to 10 hPa
Repeatability	0.1°C		0.1 hPa < 10 hPa
Reproducibility	0.2°C	Reproducibility	0.2 hPa at 100 hPa
Response time	< 1 s		0.05 hPa at 10 hPa
Measurement rate	1 Hz		
HUMIDITY		TRANSMITTER :	
Sensor type	Capacitor	Compliant with european standard ETSI EN 302054	
Measurement range	0 % to 100 %	Frequency range	400.15 MHz to 406 MHz
Resolution	0.1 %	Frequency step	200 kHz (option 100 kHz)
Absolute accuracy	3 %	Frequency setting	By infrared
Repeatability	2 %	Maximum drift	1 kHz
Reproducibility	2%	Typical output power	200 mW
Response time	< 2 s (1000 hPa, 20°C)	Modulation	FSK
Measurement rate	1 Hz	Transmission rate	1 Hz
WIND MEASUREMENT		BATTERIES	
Horizontal wind accuracy	0.15 m/s	Technology	1.5 V alkaline
Wind direction accuracy	1 °	Autonomy	> 4 h in flight
Horizontal wind resolution	0.01 m/s	Package	4 battery
Wind direction resolution	0.1 °	Storage	> 3 years
Measurement rate	1 Hz		
GEOPOTENTIAL HEIGHT		GNSS RECEIVER	
Altitude range	> 45 km	Type	GPS
Position accuracy	± 5 m	Frequency	1 575.45 mHz, code L1 C/A
Position resolution	0.01 m		
		OPTION	
		Additional sensors (XDATA, OZONE, LOAC, ...)	

Messages

- Edition of WMO messages (**TEMP FM35**, **TEMP SHIP FM36**, **TEMP MOBIL FM38**, **TEMP DROP FM37**, **PILOT FM32**, **PILOT SHIP FM33**, **PILOT MOBIL FM34**, **CLIMAT TEMP FM75**, **BUFR 309052**, **BUFR HR 309052**, **BUFR DROP 309053**, **BUFR HR DROP 309053**, **BUFR PILOT PRESSURE 309050**, **BUFR PILOT ALTITUDE 309051**, **BUFR HR 309056**, **BUFR HR 309057**)
- Edition of STANAG messages (**MECTM - 4082**, **METB2/3 - 4061**, **METCFL**, **METTA - 4140**, **METK3**, **METFM - 2103**, **MET11**, **MET44**, **METSR**, **EACMM**)