iMet-50

403MHz GPS Pilotsonde

General

Battery	Lithium
Operating time	> 135 min
Weight	80g
Dimensions (L x W x H)	235 x 70 x 30 mm
Power / control	Push button

GNSS Receiver

Number of channels	99
GNSS systems used	GPS, GLONASS, Galileo, QZSS
Cold start acquisition time	35 s (nominal)
Reacquisition time	1 s (nominal)
Horizontal position accuracy	3 m (CEP)

Telemetry

Transmission type	Synthesized
Maximum range	> 250 km*
Frequency band	400 - 406 Mhz
Frequency stability	+/- 2 kHz
Deviation (peak to peak)	4.8 kHz
Output power	200 mW
Emission bandwidth	According to EN 302 054
Sideband radiation	According to EN 302 054
Modulation	GFSK
Data rate	4800 bit/s
Frequency selection	402, 403, 404, 405 MHz

Wind

Wind speed and direction reporting during the sounding is derived from the GNSS position information. Processing algorithms ensure that wind vectors are not affected by swinging of the radiosonde beneath the balloon.

Wind speed range	0 to 150 m/s
Wind speed resolution	0.1 m/s
Wind speed uncertainty	0.5 m/s
Wind speed reproducibility	0.25 m/s
Wind direction range	0 to 360°
Wind direction resolution	0.01°
Wind direction uncertainty	1°
Wind direction reproducibility	1°

Key Features

- Multi-constellation GNSS wind calculation
- Compact and light weight
- Compatible with all InterMet ground equipment and software
- Xdata interface for 3rd party sensors
- Synthesized crystal controlled oscillator
- Simple to use:
    Dry cell lithium battery
    Push button frequency selection

The iMet-50 pilotsonde is based on the full-featured iMet-54 radiosonde design. It offers winds-only sounding profiles at an affordable price. The design incorporates a robust multi constellation GNSS receiver for wind vector calculations. The iMet-50 pilotsonde is compatible with all InterMet ground antenna/receiver systems, allowing the user to operate PTU + Wind or Wind only sondes with the same equipment. The accuracy and range of the iMet-50 pilotsonde system far exceeds that of traditional optical theodolite systems. The tracking of the pilotsonde signal is fully automated and not limited by cloud cover, as is the case with optical theodolite systems.

D-Met sounding software produces PILOT and high resolution BUFR messages as well as tables and graphs of the wind vectors.

Specifications subject to change without notice

* Subject to balloon dimensions and atmospheric conditions

InterMet Africa
International Met Systems