

GPS Radiosonde

iMS-100



Outline

GPS radiosonde is an upper-air sounding instrument to measure various types of meteorological data; wind speed, wind direction, pressure, temperature and humidity. Wind speed, wind direction and pressure are calculated from the travel speed and altitude obtained by GPS positioning techniques. Every 1 second measured data are transmitted to ground receiving system via 400-406 MHz band.

Compact and commonly-used devices are aggressively adopted in iMS-100 to achieve downsizing (just only 38 g including one battery) and its cost reduction. iMS-100 also serves for total operation cost saving by using smaller balloon and reducing the gas amount depending on the target height. Furthermore, the lightweight package greatly enhances safety in the sounding operation even without parachute when it accidentally falls down on land, especially.

Improved sensor boom achieves higher accuracy in temperature measurement. Also, newly developed high response humidity sensor enables more accurate humidity measurement even in low temperature environment (below -40°C). In addition to the advantages of cost and safety, the innovative downsizing can minimize pendulum motions and heat contamination from the sonde itself during launch, which improves the measurement performances in terms of wind and temperature.

Features:

Compact & Light Weight Radiosonde

- Much higher accurate measurements of temperature and humidity, wind for the upper-air soundings
- Light weight 38 g iMS-100 helps enhancing safe operation especially when it falls down to the ground.
- Tiny iMS-100 effectively reducing overall operational costs (smaller balloon, fewer gas consumption) depends on the target height
- Downsized iMS-100 can contribute to reduce environmental burden through the entire life cycle (manufacturing, transportation, storage, and disposal)
- One lithium battery enables more than 4 hours sounding operation.
- High stability transmitter complying with ETSI (EN 302 054 V1.1.1)
- Easy preparation through wireless infrared communication (IrDA) between radiosonde and sonde checker unit before launch
- Biomaterial package, which is environmental friendly, is optionally available

Block Diagrams



