

RADIOSONDE T-RS-300

Overview

Sertel Radiosonde (T-RS-300) is a battery powered telemetry device. It includes several functional checks temperature check, humidity sensor recondition, humidity check and setting radiosonde parameters.

Features

- Compact In Size
- Battery Operated System
- Programmable Frequency
- High Accurate Measurement
- User Friendly Device
- Automatic data recording and Storage.
- GPS for wind parameters and Altitude calculation
- Battery Shelf Life is 2 years
- Manual and automatic sending of Messages by email, FTP, RS232 and socket.



The **temperature sensor** utilizes linear resistive platinum technology known for its high stability. The small size of the sensor results in low solar radiation error and guarantees fast response. It also incorporates effective protection against evaporating cooling, a phenomenon occasionally encountered when a radiosonde emerges from a cloud top.

The **humidity sensor** integrates humidity and temperature sensing elements. Preflight automatic reconditioning of the humidity sensor effectively removes chemical contaminants and ensures excellent humidity measurement accuracy. The humidity sensor also responds quickly to detect fine structures of the atmosphere. The integrated temperature sensor is used to compensate the effects of solar radiation in real time. The sensor heating function enables an active and effective de-icing method at freezing conditions during the flight.

The **pressure sensor** is the same high- quality, shock-resistant capacitive silicon sensor as the one in the Sertel Radiosonde with revised Electronics and calibration.

The **Ground station** is performed Sertel_TELMET_V1.42RADIOSONDE software. The SERTEL RADIOSONDE has proven data transmission from Radiosonde to receiver up to 200 km radius. This is sufficient for any sounding operations. Due to narrow band transmission more channels are available in the meteorological frequency band.

TECHNICAL DATA

Temperature sensor	Type : Platinum Resistor	Deployment	
Measurement range	-90 °C to -60 °C	Ascent mechanism	Balloon -borne
Resolution	0.1 °C	Max shelf life(battery)	2 yrs
Response Time	0.1 s	Max shelf life(Electronics)	10 yrs
Accuracy	±1°C	Mechanical Specification	
Humidity sensor	Type: Thin – film capacitor	Weight	<180 grams
Measurement range	0 to 100 %RH	Size	150X90X80(in mm)
Resolution	1 %RH	Unwinder	
Accuracy	±4°C	Material of the string	Non –UV treated polypropylene
Pressure	TYPE: Silicon capacitor	Tenacity	<115 N
Measurement Range	1100 to 1hpa	Length of the string	55 m
Resolution	0.1 hpa	Unwinding speed	0.35 m/s
Accuracy	±1 hpa	Weight	25 g
Wind data		Telemetry	
Wind finding options	C/A Code GPS	Transmitter type	Synthesized

Wind Speed Accuracy	0.2m/s	Frequency band	1668.4 MHz - 1690 MHz (on request)
Wind Direction Accuracy	1 degree	Tuning range	1668.6 - 1689.8 MHz (on request)
Transmitter		Maximum transmitting range	Up to 200 km
Runtime	120Minutes(with GPS Locking)	Output power (high – power mode)	200 mW , typical
Wind Finding	GPS	Modulation	GFSK
Transmission rate	On full data packet per second	Power Supply	
Frequency Range	400 to 406MHz	Battery	1 pcs Lithium Thionyl chloride(Li-Socl ₂)
Output Power	100mW	Battery voltage	3.7V