

19" rack-mounted sounding system for use in client-server architecture



Main benefits

- Completely maintenance-free (without air filter)
- Ideal for office applications
- Software defined radio and antenna diversity for optimal range
- Inbuilt GNSS receiver and re-radiator streamlines launch preparation
- Industry standard USB interface to attached sounding workstation

Key specifications

Compatibility	All Graw radiosondes including DFM-17 and PS-15
Sounding workstations	One or multiple Windows PCs connected via IP network running grawMet software
Radio receiver	400-406 MHz, Software Defined Radio, Dual Antenna Switching
Connectivity	AC power source, GNSS repeater and re-radiator

Product description

GS-I is the heart of a highly innovative sounding system concept to accommodate the needs of institutional users who need to get the most out of their system. The sounding system can be installed miles away both from the launch site and the data processing facility.

The sounding data is transmitted to one or multiple independent workstations, enabling redundancy and varied data processing, while also allowing for the integration of raw data streams with the user's real-time processing systems. Radiosondes can be initialised before flight to be available for every workstation in the network

Technical Data

Operational capabilities / Scope of application

General	
Operating system	Windows® 10 professional or newer for sounding workstation
Service availability	> 99%
Receiving range	> 250 km, no altitude restrictions
Software	GRAWMET X
Frequency range	400 – 406 MHz
Tuning steps	20 kHz
Sampling rate	1 Hz
Status information	frequency, signal strength, GNSS status
Meteorological data	raw data (PTU, Wind)

Redundancy	
Mains	independent A/B power paths, each path powers half of the receivers
Network	fully redundant
Telemetry	two separate antenna inputs

Interfaces / Connections

Radio interfaces	
Antenna Input	N-Type for telemetry (2x) TNC-Type for station GNSS each with 12 V (DC) / 200mA amplifier power supply
Antenna Thru	N-Type for telemetry (2x) TNC-Type for station GNSS
GNSS repeater	SMA output

Data transmission to network	
Network connection	etherCON CAT.6a (compatible with RJ45)
Supported standards	10/100/1000BASE-T
Workstation connections	up to 16 concurrent connections to each receiver

Site and installation conditions

Standard configuration	GS-I		
Mains	PowerCon True1 TOP Inlet/Outlet combination, lockable and fused		
Mains power supply	110 V (AC) to 240 V (AC), 50 – 60 Hz		
Power consumption	< 100 Watt		
Dimensions	483 x 345 x 44 mm		
Weight	4,2 kg		
Operating conditions	0 – 40 °C, 10 – 90 %RH non-condensing		
Storage conditions	-10 – 60 °C, 5 – 95 %RH non-condensing		
Degree of protection	IP20	IP44 (during transport)	IP20

Component characteristics

Radio receiver	
Topology	dual IF Software Defined Radio
Input MUX	switchable between two channels
Modulation	FSK/GFSK
Frequency range	400-406MHz
Tuning steps	20 kHz

Radio receiver	
Sensitivity (12dB SINAD)	-110 dBm
Image rejection	60 dB
Spurious-free dynamic range	90 dB
Third Order Intercept Point IIP3	0 dBm
Input impedance	50 Ohm

Amplifier	AS-1-4-400M	AS-1-4-1G6M
Amplification antenna – receiver	0.0 ± 1.0 dB	
Amplification antenna – thru	0.5 ± 1.0 dB	
System impedance	50 Ohm	
Return loss	> 10 dB	
Third Order Intercept Point IIP3	-2 dBm	1 dBm
Noise figure	0.5 dB	0.45 dB

Impressum/Disclaimer

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