



VS 4000 TETRA/TEDS MOBILE RADIO UNIT

The VS 4000 combines the power and performance of the VS 4000 TETRA radio unit with the new, flexible and user-friendly FPG3 series front panels. It is ready to support dual-mode functionality to allow soft migration from conventional FM to TETRA, saving costs and operational effectiveness.

Conceived as a high end fully featured device, the VS 4000 supports TETRA Enhanced Data Service (TEDS) thus providing wideband data connectivity boosting most advanced data applications such as image/video transmission. Moreover, since the FPG3 series front panel provide a built-in Wi-Fi hot spot capability, the TEDS wideband connectivity can further be extended to handheld devices.

A variety of interfaces (LAN, USB, CAN BUS) is provided for flexibility and ease of installation and maintenance.

The FPG3 Plus front panel allows to control multiple radio units or alternatively a single radio unit may be controlled by multiple front panels.

Additionally DMO Repeater/Gateway, Air Interface and End-to-End Encryption features and integrated GPS receiver make VS 4000 fulfil the most demanding mobile communications requirements of mission critical users.

KEY FEATURES

- Dual Mode FM-TETRA capability
- TEDS wideband data transmission
- DMO Repeater/Gateway feature makes it possible to facilitate communications even outside the network coverage
- Air Interface and End-to-End encryption
- Embedded GPS positioning and TETRA standard LIP protocol support
- Richness of interfaces (LAN, USB, CAN bus)
- SD and SIM card support
- Bluetooth and Wi-Fi hot spot connectivity (in FPG3 Plus)

VS 4000

TECHNICAL SPECIFICATION

GENERAL	
Frequency bands	380MHz – 470MHz 806MHz – 870MHz
Channel bandwidths	TETRA: 25KHz TEDS: 25/50KHz FM: 12.5KHz
Modulation schemes	TETRA: $\pi/4$ D-QPSK TEDS: 4-QAM, 16-QAM and 64-QAM FM mode: Angle modulation FM/PM (conventional)
Receiver	Class Class A+B (ETSI EN 300 392-2 / ETSI EN 300 396-2)
Sensitivity	Static: -112dBm Dynamic: -103dBm
Power supply	Nominal +12Vdc (range +10.8 to 15.6Vdc, extended +10 to 32Vdc)
AF power	8W @1KHz into a 4 Ohm load

TRANSMIT POWER	
TETRA/TEDS	ETSI EN 300 392-2 Power Class 2 (10W nominal)
FM mode	10W (as an option)

ENVIRONMENTAL CONDITIONS	
Operative temperature	-25° to +55°C (VS 4000), -20° to +55°C (FPG3 series management panel)
Storage temperature	-40° to +85°C (humidity EN 300 019-1-1 class 1.3)
Transportation temperature	-40° to +85°C (humidity EN 300 019-1-2 class 2.3)
Protection degree	IEC 60529 class IP54
Salt and fog protection	MIL STD 810 F - Method 509.4
Mechanical conditions	ETSI EN 300 019-1-5 & IEC 721-3-7 Class 5M3 (ground vehicular installations) MIL STD 810 E/F - Method 516.4/5, procedures I / V MIL STD 810 E/F - Method 514.4/5, procedure I, category 20 (Vibration Tests for U.S. highway truck transportation and composite wheeled vehicle transportation)

MECHANICAL FEATURES	
VS 4000 radio unit	Dimensions (H x W x D): 47.3 x 178 x 134mm Weight 1150g
FPG3 series management panel	Dimensions (H x W x D): 60 x 188 x 60mm (incl. rotary knob and rear connectors) Weight: about 370g

SAFETY	
EC marked	Radio unit: according to R&TTE directive 1999/5/EC Management Panel: according to the ETSI EN 55022 class B and ETSI EN 55024
Electromagnetic compatibility (EMC)	TETRA: ETSI EN 301 489-1 and ETSI EN 301 489-18 FM Mode: ETSI EN 301 489-5 Bluetooth: ETSI EN 301 489-17
RoHS	Radio unit: compliant Management Panel: Compliant with ETSI EN 60950 European Directive 2000/53/CE, 2002/95/CE, 73/23/CEE, 93/68/ CEE

GPS RECEIVER	
Antenna	Integrated in TETRA antenna
Channels	20
Acquisition sensitivity	-155dBm
Tracking sensitivity	-159dBm
Position accuracy	5m

SECURITY	
End-to-End Encryption	Supported algorithms AES 56/128-bit, IDEA 128-bit, Custom (128-256 bit) on demand



Front management panel - FPG3 Plus model