

VDL 4000/GSI

Ground Station - Advanced



◀ VDL 4000/GSI

The VDL 4000/GSI Ground Station - Advanced has been developed for advanced CNS/ATM applications that depend on time-critical data communication where predictability, reliability and redundancy is required.

The ground station is a key component at the airport for realising the highest level of operation in A-SMGCS.

The system supports services such that a complete gate-to-gate operation can be realised. These services include ADS-B, TIS-B, FIS-B, Point-to-Point, DGNSS augmentation (GNS-B) and INFO-B.

The ground station operates in accordance with the ICAO standard for the VDL Mode 4 digital radio link. Together with mobile transponders, an integrated system for communication, navigation and surveillance services is created.

The ground station is designed for several operational alternatives, e.g. local services and wide area network solutions. System applications are based on the VDL Mode 4 digital data link and IP protocols.

The ground station can easily interface with other surveillance systems through the standardised Asterix protocol, enabling a complete surveillance picture at the airport derived from several sources.

Ground stations and a ground-based network will provide increased functionality and capability for wide area coverage of advanced ATM applications.

The functionality of the ground station is tailored to system-specific service applications by its software configuration.



CNS Systems™

Maritime and Aviation Solutions



Technical specifications

Equipment

Dual VDL Mode 4 Transponders (hot standby)

Dual GNSS reference receivers

Computer Subsystem:

- Data Management Subsystem
- Monitoring and Control Subsystem

Power supply:

- Uninterruptible power supply
- Power conversion and supply

Standard 19 inch rack:

- Side panels, front and back doors
- Interior mounting devices
- Rack fans
- Sensor Subsystem
- Keyboard & Display

Time Reference Subsystem (TRS)

Installation material:

- GPS antenna (1/receiver)
- VHF Tx antenna (1/VDL4 unit)
- VHF Rx antenna (1/VDL4 unit)
- GPS antenna (TRS)

Transmitter

Tuning range	108.000 - 136.975 MHz
Channel spacing	25 kHz
Frequency stability	+/- 0.0002% = +/- 2 ppm
Tx to Rx turnaround time	< 1 ms
Channel selection time	< 13 ms
Baud rate	19200 bps
Modulation scheme	GFSK
Output power (adjustable)	40 dBm into 50 Ohm (10W)

Receiver

Tuning range	108.000 - 136.975 MHz
Channel spacing	25 kHz
Frequency stability	+/- 0.0002% = +/- 2 ppm
Sensitivity	< -98 dBm
CCI	< 12 dB

External Interfaces

Main Power	110/240 V AC 50/60 Hz
Services	TCP/UDP/IPv 4 and IPv 6, RJ45 Ethernet
Local access	TCP/UDP/IP, RJ45 Ethernet
Remote access	TCP/UDP/IP, RJ45 Ethernet
Protocols	Asterix, SNMP v.2
VHF Tx antenna	N-type female
VHF Rx antenna	N-type female
GPS antenna	TNC female
TRS antenna	N-type female

Environmental

Temperature, operating	+5°C to +40°C (-5 to +45°C extreme conditions)
Temperature, storage (excluding batteries and displays)	-20°C to +50°C

Compliance

CE-mark	
Eurocae ED-109, RTCA DO-278	
ICAO Manual on VDL Mode 4	Doc. 9816
ETSI	EN 301842

Services

ADS-B
TIS-B
FIS-B
INFO-B
GNS-B
Point-to-point

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