

VDL 4000/VTE

Vehicle Transponder Equipment

◀ VDL 4000/VTE

The VDL 4000/VTE transponder has been developed to meet the stringent demands of safe surface movement operations and more efficient utilisation of airport resources.

The vehicle Transponder operates in accordance with the ICAO standard for the VDL Mode 4 digital radio link.

It is the only standardised data link that is also suitable for time-critical applications and is characterized by very high delivery probability from the unique self-organized TDMA VHF data link. Its FM modulation scheme (GFSK) gives the data link long range at low power including very good transmission characteristics on the ground, e.g. at airports.

The transponder is an important component of the Airport Organiser system through its ability to transmit information where users can share information in real time, enabling collaborative decision making (CDM).

Information from the airport database can be interfaced to the system and distributed to all users as Information Broadcast (INFO-B). Automatic Dependent Surveillance Broadcast (ADS-B) in/out is provided for positioning and identification of all ground vehicle movements.

The equipment features applications for task assignment, monitoring and vehicle coordination in ground handling as well as surveillance, routing, guidance and control for the highest level of operation in Advanced Surface Movement Guidance and Control Systems (A-SMGCS).

The VDL 4000/VTE consists of transponder, combined VHF/GPS antenna, tray, cabling and connectors.



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Technical specifications

General

Power requirements	12 - 30 VDC
DC - DC converter	Option
GNSS receiver (EGNOS option)	16 parallel channels

Transmitter

Number of transmitter	1
Tuning range	112.000 - 136.975 MHz
Channel spacing	25 kHz
Frequency stability	+/-0.0005% = +/- 5 ppm
Tx to Rx turnaround time	< 1 ms
Channel switching time	< 13 ms
Baud rate	19200 bps
Modulation scheme	GFSK
Output power	30 - 40 dBm (1 - 10 W) adjustable

Receiver

Number of receivers	2
Tuning range	108.000 - 136.975 MHz
Channel spacing	25 kHz
Frequency stability	+/- 0.0005% = +/- 5 ppm
Sensitivity	<-98 dBm
CCI	<12 dB

External Interfaces

RS 422	1
Maintenance interface RS 232	1
RS 232	2
VHF combined TX/Rx	1
GNSS antenna	1

Compliance

Eurocae ED-109, RTCA / DO-278	
ICAO SARPs and annex 10 compliant	
Operating temperature	-15°C - +50°C

Physical characteristics

Size (W x H x L)	125 x 80 x 225 mm (without connectors)
Weight	2.8 kg
Cooling	Not required

Functions

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

Included

Combined VHF/GPS antenna, tray, cabling and connectors
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