

Road Side Unit (RSU) for 5.8 GHz CEN DSRC

Description

The Norbit RSU FZ58058 is a multi-application DSRC RSU designed for short range microwave communication in accordance with relevant CEN/TC278 and ETSI standards.

The Road Side Unit operates in the 5.8GHz microwave band. The integrated antenna has an optimized footprint, making the unit ideal for use in gantries, side-pole installations and wide multilane systems.

The Road Side Unit contains both the antenna system and a networkable computer. This results in a powerful system that enables the customer to easily integrate the Road Side Unit into their own systems.

The FZ58058 are delivered in three functional versions:

- Park and Access. Reading OBUs according to pre-defined rules
- Single-lane tolling. Full flexibility interfacing, allowing interactive control of data read and written to OBU
- Multi-lane free flow tolling. Supports any number of RSUs as a single system. Flexible redundancy modes.

Applications

- Electronic Toll Collection systems
- City Tolling / Congestion Charging
- Enforcement systems
- Single lane and Multi Lane Free Flow systems
- Parking and Access systems
- Traffic monitoring



Features

- Low weight
- Low voltage, wide operating voltage range
- Low antenna side lobes, well-defined communication zone
- Outdoor all-weather usage
- Low visual impact on driver
- Compact all-in-one solution, separate DSRC controller not needed
- Network interface
- Optional use of USB and RS485 interfaces
- Supports multiple simultaneous DSRC protocols, including ENI5509, PISTA, CARDME, A1, AutoPASS, AS4962-A/B, Thailand, Brazil, OGS, CCC, LAC, AVI
- Easy and flexible interfacing with other systems, a range of interface options available
- Easy installation and maintenance
- Integrated web interface allowing software and configuration update
- Redundancy and auto-configuration support
- Speed and direction of travel for detected OBUs
- Estimated OBU position for multi-lane free flow solutions
- Standalone operation or integration into customer computer systems
- Versions with wider antenna lobes available
- Versions suitable for desktop use and vehicle roof-top integration available
- Enclosure made of UV-resistant PP plastic and corrosion resistant aluminium

FZ58058



FZ58058 technical features

Physical

Size	580 x 110 mm
Weight	2.3 kg
Enclosure	Aluminium and Polypropylene PP

Electrical

Power	10 – 32 Vdc (*)
Supply current	< 1 A
Galvanic isolation	Yes

Interfaces

Network	Ethernet 100BaseTx
Serial	RS485 x 2, RS232, USB x 2

Environmental

Operating temperature	-33 °C - +55 °C (**)
Storage temperature	-40 °C - +85 °C
IP class ref. IEC 60529	IP 66
Climatic	4K2, 4Z10, 4Z1, 4Z4, 4Z7
Biological/chemical	4B1, 4C2
Sand/dust	4S3
Shock/vibration	4M4
	Ref IEC 60721-3-4

Lifetime

MTBF, ref. MIL-217F	140.000 hours
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Antenna

Polarization	LHCP
Gain	20 dBi
Beamwidth	19° (±9.5°) @ -3dB
Sidelobe attenuation	> 17dB
Output power	+33dBm (2W) EIRP

Colour

Standard colour	RAL 7042
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(*) 24-48 Vdc with DC/DC converter available

(**) Extended temperature range available

DSRC Communication

Physical layer	EN 12253
Data link layer	EN 12795
Application layer	EN 12834/ISO 15628
EFC application profile	EN/ISO 14906
DSRC Profile	EN 13372 (Profile 0/I)
Interoperability	GSS 3.2, EN 15509
Non-EFC applications	ISO/TS 12813 (CCC) ISO/TS 13141 (LAC) EN 16312 (AVI/AEI) EN ISO 17264 (AVI interfaces) 2014/799/EU RTM/OWL

DSRC compliance verification

Data link layer	ETSI TS 102486-1
Application layer	ETSI TS 102 486-2
EN 14906 compliance	ISO/TS 14907
EN 15509 compliance	EN 15876

Transmitter

Frequency range	5.7975 GHz, 5.8025 GHz, 5.8075 GHz, 5.8125 GHz
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Approvals

EMC	ETSI EN 301 489-1
DSRC	EN 300 674, EN 301 489

Conformance

R&TTE	Ref. 99/5/EC
ERM	ETSI EN 300 674-2-1 EN 55022 Class B
EMC	Ref. 2004/108/EC ETSI EN 301 489 EN/IEC 61000-4-3
LVD	EN 60950-1
RoHS	Ref. 2011/65/EU
WEEE	Ref. 2012/19/EU

Optional accessories

- Pre-made cable
- Tilt and swivel mounting bracket



Ordering information

PartNo 20009-4-XXXXX DSRC Interrogator

Product
version

- Functionality options: A = Access & Parking, S = Single lane tolling, M = Multi-lane tolling
- Back lid options: A = Plane back lid (standard), B = Angled back lid
- Enclosure collar options: B=standard
- Enclosure colour options: A=RAL 7042 (standard), B=RAL 7043
- Antenna gain options: H=High (standard), M=Medium (FZ40058), L=Low (FZ29058)