kapsch
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Access Transceiver for Parking & Access Control.

Kapsch Access Transceiver TRX-1x21-A provides a Dedicated Short Range Communication (DSRC) with onboard units and transponders for secure and hands-free Automatic Vehicle Identification (AVI) applications, such as control of parking areas, gated communities, payment applications or generating traffic statistics. Full compliance with DSRC standards according to CEN TC278 secures interoperability with different systems.

Product Description.

Kapsch Access Transceiver TRX-1x21-A acts as the stationary communication device between DSRC vehicle transponders and an access control system. Their main purpose is to automatically identify and report the identity and the content of the Onboard Unit (OBU) or transponder (TRP) to the host computer. The host computer is part of the access control system and controls all peripherals such as barriers, vehicle detection sensors as well as the access transceiver. Standard interfaces and configurable parameters secure easy installation with new and existing parking and security systems.

Main Characteristics.

- Easy to implement in different access systems.
- Open Software Interface for easy customer adaptations.
- SW configurable DSRC parameters.
- Ethernet and RS485/RS422 Interface (RS232 with external converter).
- Weather resistant, robust and compact housing complying IP67.
- High Security Level.
- Full compliance to DSRC standards according to CEN TC278.
- Interoperable with CEN/DSRC compliant equipment from different manufacturers.
- Multiple DSRC Applications and OBU/TRP vendors supported.

Kapsch TrafficCom

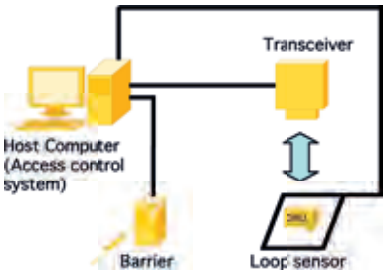
Communication Zone.

The Kapsch Access Transceiver performs a transaction with the OBU/TRP within the communication zone. The size of this zone depends on the mounting height, the position of the transceiver, the antenna characteristics of the transceiver and the OBU/TRP, as well as the DSRC parameters configured via the software. Two different communication zones are designed to guarantee an optimal fit to the installation environment and the system requirements.

Technical Specification:

Mechanical				
• Dimensions:	TRX-1221-A: 260 x 170 x 86 mm			
	TRX-1321-A: 260 x 170 x 101 mm			
• Weight:	3 kg			
• Housing:	alloy die casting, RAL 9006, white aluminium			
• Mounting Position:	2.5 m – 6.5 m above road			
Electrical				
• Frequency Range:	5.795 GHz – 5.815 GHz		Voltage of Power Supply: 24 – 48 VDC	
	(5.815 GHz – 5.835 GHz for special markets)			
• Channel 1:	5.7975 GHz ± 2.5 MHz		Power Consumption: 11W / 4W standby	
• Channel 2:	5.8025 GHz ± 2.5 MHz		Radiated Power: ≤ +33dBm EIRP	
• Channel 3:	5.8075 GHz ± 2.5 MHz			
• Channel 4:	5.8125 GHz ± 2.5 MHz		Security: Encryption, DES, 3DES	
• Data Rate (down-/uplink): 500 kbit/s / 250 kbit/s				
• Flash Memory	8 MB			
• SDRAM	16 MB			
• Non-Volatile RAM	≤ 512 kB			
• Real Time Clock	X			
Interface				
• TRX-1321-A/1221-A, Serial interface RS422/RS485 (incl. Termination resistors; TxD and RxD only) & Ethernet/TCP/IP				
Supported Protocols: TCP/IP, BLL4, WIEGAND, EMI				
Environmental Conditions				
• Operation Temperature:	-33°C - +55°C			
• Storage Temperature:	-40°C - +70°C			
• Protection Classification:	IP 67			
• Vibrations:	3,5 mm / (1 .. 9) Hz			
	10 m/s² / (9 .. 150) Hz			
• Shock:	150 m/s² / 11 ms			
Antenna Characteristics				
• Antenna Polarization:	left hand circular			
• Typical communication zone at a mounting height of 5,5 m tilted, centre of lane				
• OBU	Truck		Car	
	TRX-1221-A	TRX-1321-A	TRX-1221-A	TRX-1321-A
	Width: 3 m	Width: 2 m	Width: 4 m	Width: 3 m
	Length: 3 m	Length: 3 m	Length: 3 m	Length: 3 m
	(elliptical)	(elliptical)	(elliptical)	(elliptical)

System architecture



Typical Installations
The transceiver is mounted at the entrance at the access area above the lane using the available infrastructure. For special requirements a transceiver bracket is available with which the transceiver is turnable in two axles.

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