

### Kapsch TrafficCom

## **Kapsch SRU-8211.** *RFID UHF All-in-One Reader 18000-63.*

The Kapsch SRU-8211 is a cost-effective and easy deployable All-in-One RFID reader perfectly suited for a wide range of Automatic Vehicle Identification (AVI) applications. The SRU-8211 is the entry product of the Kapsch EPC Class 1 Gen2/ISO 18000-63 compliant UHF RFID reader family with excellent cost-benefit ratio developed for use in harsh environments. For global deployments the Kapsch SRU-8211 reader is available in different product variants, pre-adjusted to specific frequency ranges within the 860-960MHz band of the UHF RFID spectrum and configurable according to local UHF radio regulations.

The Kapsch SRU-8211 reader is suitable for various Automatic Vehicle Identification (AVI) applications, e.g. free-flow access systems, gate/-barrier and parking solutions. The integrated wide range antenna simplifies its installation and reduces infrastructure costs.

Based on the latest RFID standards, such as EPC Gen2v2/ISO 18000-63, the Kapsch SRU-8211 reader supports all market leading RFID Transponder Chip Features for security, authentication and encoding (e.g. NXP's UCODE DNA).

The Kapsch SRU-8211 reader is housed together with the wide range antenna in a robust, die-cast, aluminum case with IP67 protection class. This makes the



reader also suitable for outdoor use in a ruggedized environment.

In addition to the integrated antenna up to three external antennas can be driven by the reader device. The RFID reader can also interface with external sensors,

or control external devices via general purpose digital in-puts and outputs.

The SRU-8211 reader has four freely programmable, multicolor LED elements integrated on the front side of the reader that facilitate direct interaction with the user.

The Kapsch SRU-8211 reader is equipped with an Ethernet communication interface allowing high-performance integration with roadside lane controllers via TCP/IP.

In order to simplify the connection of remote RFID reader devices the Kapsch SRU-8211 reader utilizes the power-over-Ethernet technology compliant to the IEEE 802.3at standard, also known as

PoE+. This enhanced power-over-Ethernet standard is designed for higher performance and allows an RFID transmission power of 2 W without an external power supply.

Initial parameterization of the reader device is supported by an MS Windows™ application with a graphical user interface. The application also allows execution of

basic reader device functions and offers selectable parameter sets compliant to the ISO 18000-63 standard and to national radio regulations, with respect to frequency allocation and maximum emitted RF power.

Various accessories to the Kapsch SRU-8211 reader are available as part of the product range offered by Kapsch.

## Technical data of the SRU-8211 series.

Type		SRU-8211-EU ETSI Version	SRU-8211-US FCC Version
<b>Order No.</b>		<b>34034640000</b>	<b>34034640100</b>
<b>RFID</b>			
Frequency range	[MHz]	865 – 868	902 – 928
Impedance antenna port	[Ohm]		50
max. TX power conducted	[dBm]	30	30
max. TX power radiated	[ERP (ETSI)/ EIRP (FCC)]	33	36
RX sensitivity	[dBm]		typ. –80
Number of antenna ports	[R-TNC]		3
Standards		EN302208-2 V2.1.1, EN301489-3, EN50364, EN62368-1, EN60529, EPC Gen2 V2, UCODE DNA	FCC Part15, UL, IC, EPC Gen2v2, UCODE DNA
<b>Antenna</b>			
Half-power beam width	[°]		65
Gain linear	[dBi]		–
Gain circular	[dBiC]		8.5
<b>Voltage</b>			
Local supply	[VDC]		+10 to +30
Connector			M12, A-coded, 4-pole
Remote-fed	[VDC]		PoE+ according to 802.3at (10-57) (internal supply of GPIO-VCC-Pin not possible with PoE+)
Connector			M12, X-coded, 8-pole, port 1 only
<b>Power consumption</b>			
Local supply	[W]		20
Remote-fed	[W]		20
<b>Ethernet</b>			
Number of Ethernet ports			1
Data rate	[Mbit/s]		10/100
Connector			M12, X-coded, 8-pole
<b>LED visualization</b>			
Freely programmable			4
Fixed			1 (power LED)

## GPIO

Type		3 inputs, 3 outputs (double insulation possible)
Max. input voltage	[V]	30
Max. output voltage	[V]	30
Max. current per output port	[mA]	500
Max. current over all outputs	[mA]	1500
Connector		M12, A-coded, 12-pole

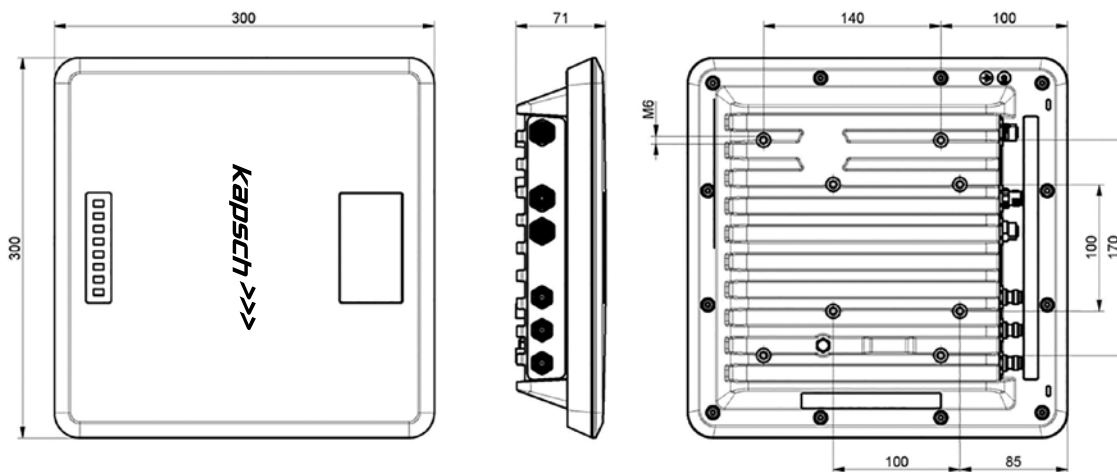
## RFID controller

Processor		ARMv7-A based processor with 600MHz
Flash memory eMMC	[Gbyte]	4
RAM DDR2	[Mbyte]	128
Operating system		Linux

## Mechanical Properties

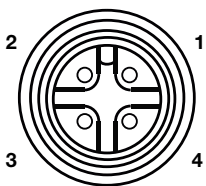
Weight	[kg]	4.00
Degree of protection		IP67
Operating temperature range	[°C]	-20 to +55
Storage temperature range	[°C]	-40 to +85
Dimensions (L x W x H)	[mm]	300 x 300 x 71

## Dimensions [mm]:



### Power supply:

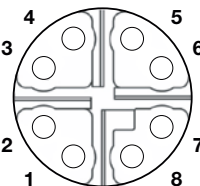
M12, A-coded, 4 pin, male



Pin	Allocation
1	+24V DC
2	GND
3	GND
4	+24V DC

### Ethernet:

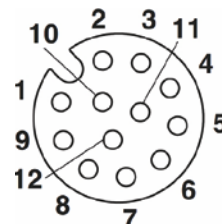
M12, X-coded, 8 pin, female



Pin	Allocation
1	TX+ / PoE+1
2	TX- / PoE+1
3	RX+ / PoE+2
4	RX- / PoE+2
5	PoE+1
6	PoE+1
7	PoE+2
8	PoE+2

### GPIO:

M12, A-coded, 12 pin, female



Pin	Allocation
1	OUT_CMN
2	OUTPUT_1
3	INPUT_3
4	INPUT_CMN
5	INPUT_1
6	GND
7	UB
8	OUTPUT_4
9	OUTPUT_3
10	OUTPUT_2
11	INPUT_2
12	INPUT_4

## **Kapsch TrafficCom**

**Kapsch TrafficCom** is a provider of intelligent transportation systems in the fields of tolling, traffic management, smart urban mobility, traffic safety and security, and connected vehicles. As a one-stop solutions provider, Kapsch TrafficCom offers end-to-end solutions covering the entire value creation chain of its customers, from components and design to the implementation and operation of systems. The mobility solutions supplied by Kapsch TrafficCom help make road traffic safer and more reliable, efficient, and comfortable in urban areas and on highways alike while helping to reduce pollution.

Kapsch TrafficCom is an internationally renowned provider of intelligent transportation systems thanks to the many projects it has brought to successful fruition in more than 50 countries around the globe. As part of the Kapsch Group, Kapsch TrafficCom has subsidiaries and branches in more than 30 countries. It has been listed in the Prime Market of the Vienna Stock Exchange since 2007 (ticker symbol: KTCG). Kapsch TrafficCom currently has more than 5,200 employees, and generated revenue of approximately EUR 693.3 million in fiscal year 2017/18.

**>>> [www.kapsch.net](http://www.kapsch.net)**