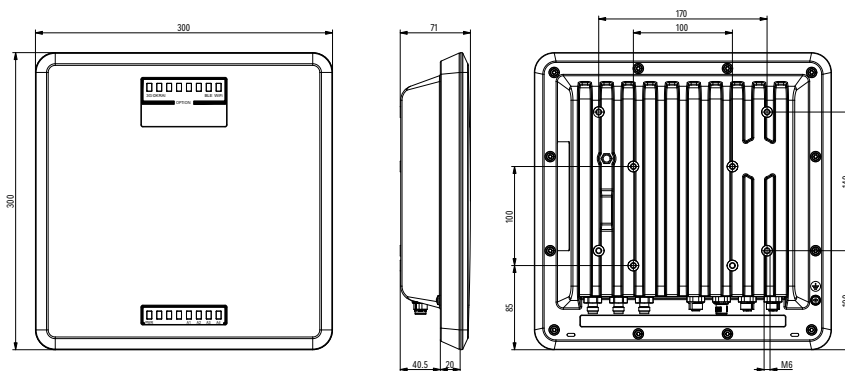


This makes the reader compliant to the Crypto Suite requirements for road tolling of ISO/IEC 29167-10. The reader fulfill as well the performance test for ISO/IEC 18046-2 and conformance test for ISO/IEC 18047-6.



> General Specifications

Type		ETSI Version RRU 7700	FCC Version RRU 7700
Order number		52010592	52010594
RFID			
Frequency range	[MHz]	865–868	902 - 928 MHz 915 - 921 MHz European Upper Band
Impedance antenna port	[Ohm]	50	
Max. TX power conducted	[dBm]	33	30 (33 dBm with extended cable length)
Max. TX power radiated	[dBm ERP] [dBm EIRP]	33	36
RX sensitivity	[dBm]	typ. –80	
Number of antenna ports	[R-TNC]	4	
Standards		EN18031-1:2025, EN302208-2 V2.1.1, EN301489-3, EN50364, EN62368-1, EN60529, EPC Gen2 V2	EN18031-1:2025, FCC Part15, UL, IC, EPC Gen2 V2 (in preparation)
		UCODE DNA, ISO/IEC 29167-10; ISO/IEC 18046-2; ISO/IEC 18047	
ITS functionality			
Vehicle identification		high-speed identification mode; selectable by SW ¹⁾	
Data transmission (air interface)		Profile optimized data throughput ¹⁾	
Key Handling		on edge level, with embedded High Secure Memory (HSM) module	
Voltage			
Local supply	[VDC]	+10 to +30	
Connector		M12, A-coded, 4-pole	
Remote feed	[VDC]	PoE+ according to 802.3at (35–57) ► Make sure that the router/switch supports 30 W in the static mode. ► Use the cable the length of which does not exceed 100 m. ► Make sure to use a Cat 6 cable or a higher level cable. ► Note that the internal supply of GPIO-VCC-pin is not possible with PoE+.	
Connector		M12, X-coded, 8-pole, port 1 only	
Power consumption			
Local supply	[W]	25.4	
Remote feed	[W]	25.4	
Embedded PC			
Processor		ARMv7-A based processor, 2 cores @ 800 MHz	
Flash memory (eMMC)	[Gbyte]	8	
RAM DDR3	[Gbyte]	1	
Operating system		Linux	
Ethernet			
Number of Ethernet ports		2	
Data rate	[Mbit/s]	10/100	

¹⁾ For the high-speed identification mode, please make sure that this mode is allowed in the respective country.

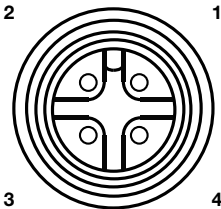
> General Specifications

Type		ETSI Version RRU 7700	FCC Version RRU 7700
Order number		52010592	52010594
LED visualisation			
Freely programmable		12	
Fixed		1 (power LED)	
GPIO			
Type		4 inputs, 4 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 600 MHz	
Flash memory eMMC	[Gbyte]	4	
RAM DDR2	[Mbyte]	128	
Operating system		Linux	
Mechanical properties			
Weight	[kg]	4.26	
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	

* if all connections are made with a Kathrein cable or have Kathrein protective caps

> Power Supply

M12, A-coded, 4-pin, male

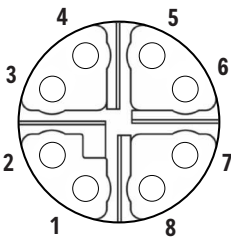


Pinout Power Supply

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

> Ethernet

M12, X-coded, 8-pin, female

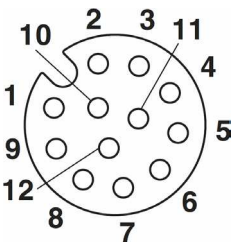


Pinout communication PoE+

Pin	Data	PoE
1	TX+	PoE Mode A
2	TX-	PoE Mode A
3	RX+	PoE Mode A
4	RX-	PoE Mode A
5		PoE Mode B
6		PoE Mode B
7		PoE Mode B
8		PoE Mode B

> GPIO

M12, A-coded, 12-pin, female

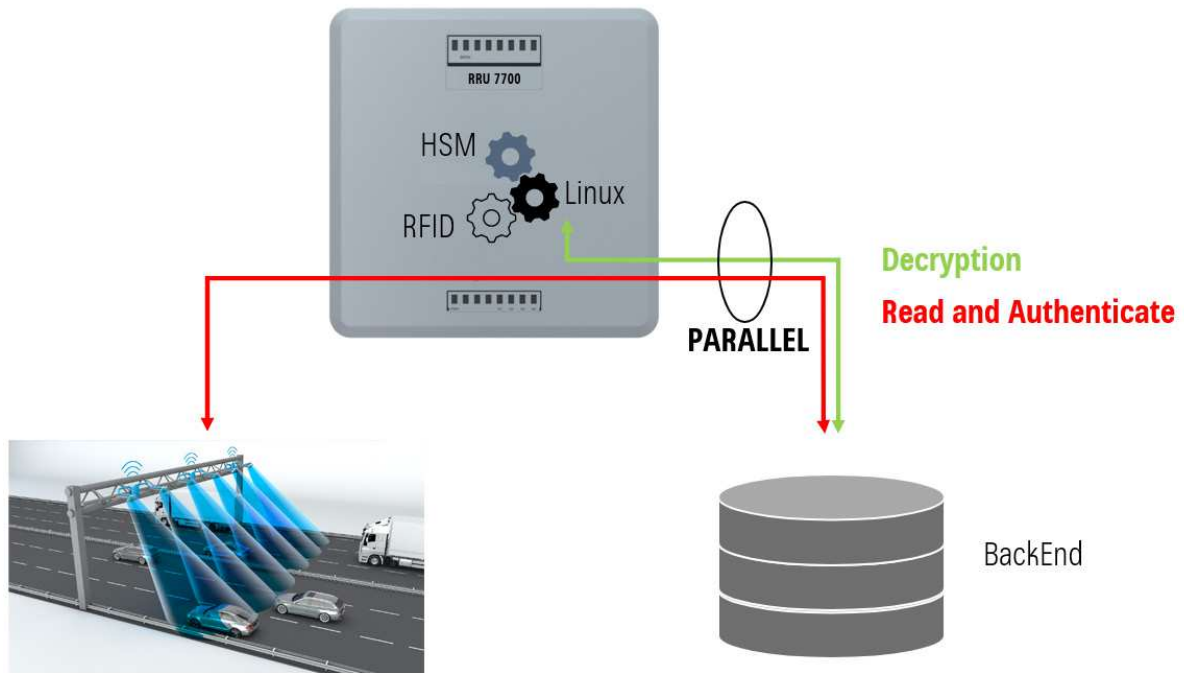


Pinout general purpose input output

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

> Feature of the Kathrein High Secure Memory (HSM-)Modul

Data Encryption and Key Handling with the enhanced HSM of RRU 7700:



Data Decryption:

- Read and Authenticate in parallel
- High Secure handling and transmission of the keys
- High Speed decryption up to 300 km/h

Key Diversification:

- Unique key for each transponder
- Key handling inside HSM