Technical Data RF210R – Short Form

Remarks: The RF210R manual does not yet exist, even not in German language. The RF210R manual, once completed, will contain detailed information about field-data, range for certain tags and information about how to implement the RF210R in a production site with communication modules. This detailed information may not be much relevant for RF210R FCC approval.

Below given are short system overview and technical data which are required in order to run the RF210R for testing and to check the reader's function.

RF200 System overview

SIMATIC RF200 is an inductive identification system, based on the standard ISO 15693, which was specially designed for industrial production for controlling and optimization material flow.

Contrary to SIMATIC RF300, SIMATIC RF200 is designed for RFID applications for lower demands on performance (data volume, data transfer speed, diagnostics). SIMATIC RF200 is a low-price RFID system.

Explanation of Technical terms

Component	Description
Communications Modules	Integration of an RFID Identification system is achieved by a communications module.
Reader	The reader achieves the communication with the tag and provides the tag with energy by the reader's magnetic field. The reader also interfaces to various modules (i.e. SIMATIC S7 via ASM 475).
Tag	The RFID-tag stores all data relevant for production and is used as a substitute for optical barcode-tags.

Overview of System Components compatible with RF210R
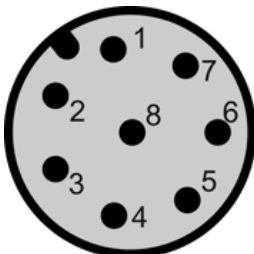
System components	
Communications modules	• ASM 456 • ASM 475 (S7 300/ ET 200M) • RF160C • RF170C • RF180C • RF182C
Tags	• MDS D124 • MDS D160 • MDS D324 • MDS D421 • MDS D422 • MDS D424 • MDS D428 • MDS D460

Technical Data RF210R (short form)

Inductive interface (magnetic field) to transponder (tag). Carrier frequency for energy / data	13,56 MHz
Antenna	Integrated loop
RF output power (RF power into antenna)	180mW (22.8dBm) into 50Ω
Interface to communications module	RS422
Baud rate	19200, 57600, 115200 Baud
Functions	Initialize tag, read tag, write on tag, get status data, antenna on/off, read tag serial number
DC-Voltage (nominal)	24 V DC
Display elements	One pair of 2-color-LEDs (operating voltage, presence, error)
Connector	M12 (8-pin.)
ROHS conformity	ROHS according to EU 2002/95/EG
Housing • Dimensions • Color • Material • Coating	Metal Sleeve • Length: 83mm (3.3in); Diameter: 18mm (0.71in) • silver • CuZn40 Pb2 F43 • Ni4p**SN15 305
Fixing	2 Hex nuts, 18mm
Degree of protection to EN 60529	IP67
Temperature Range (operating)	-25°C … +70°C
Weight without hex nuts / with hex nuts	50g (0.11 lbs) / 65g (0.14 lbs)
Current consumption	40mA
DC Power consumption	1.0 Watts

Pin assignment RF210R (RS422 interface)

M12 connector (male)	Pin No. M12 plug	Pin
	1	+24V
	2	-TX
	3	0V (GND)
	4	+TX
	5	+RX
	6	-RX
	7	Not used (free)
	8	PE / shield

LED indicator (display elements) RF210R

LED colour		Meaning
Green	Flashing	Operating voltage available, reader NOT initialized
	Permanently on	Operating voltage available. Reader initialized.
Yellow		Tag in field (tag presence)
Red (flashing)		Error according to error code table.
Red (permanently on)		Fatal error

RF210R housing and dimensions
RF210R total length: 83mm (3.27in); sleeve diameter: 18mm (0.71in).

RF210R dimensions