

## **Technical Data RF220R – Short Form**

Remarks: The RF220R manual does not yet exist, even not in German language. The RF220R manual, once completed, will contain detailed information about field-data, range for certain tags and information about how to implement the RF220R in a production site with communication modules. This detailed information may not be much relevant for RF220R FCC approval.

Below given are short system overview and technical data which are required in order to run the RF220R 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**

<b>Component</b>	<b>Description</b>
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.

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada. L'utilisation de ce dispositif est autorisée seulement aux deux conditions suivantes :

(1) il ne doit pas produire de brouillage, et

(2) l'utilisateur du dispositif doit être prêt à accepter tout brouillage

radioélectrique reçu, même si ce brouillage est susceptible de compromettre le fonctionnement du dispositif.

## **Overview of System Components compatible with RF220R**

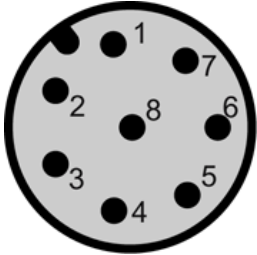
System components	
Communications modules	<ul style="list-style-type: none"> <li>• ASM 456</li> <li>• ASM 475 (S7 300/ ET 200M)</li> <li>• RF160C</li> <li>• RF170C</li> <li>• RF180C</li> <li>• RF182C</li> </ul>
Tags	<ul style="list-style-type: none"> <li>• MDS D124</li> <li>• MDS D160</li> <li>• MDS D324</li> <li>• MDS D421</li> <li>• MDS D422</li> <li>• MDS D424</li> <li>• MDS D428</li> <li>• MDS D460</li> </ul>

## **Technical Data RF220R (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	Metal Sleeve
<ul style="list-style-type: none"> <li>• Dimensions</li> <li>• Color</li> <li>• Material</li> <li>• Coating</li> </ul>	<ul style="list-style-type: none"> <li>• Length: 83mm (3.3in); Diameter: 30mm (1.18in)</li> <li>• silver</li> <li>• CuZn40 Pb2 F43</li> <li>• Ni4p**SN15 305</li> </ul>
Fixing	2 Hex nuts, 30mm
Degree of protection to EN 60529	IP67
Temperature Range (operating)	-25°C ... +70°C
Weight without hex nuts / with hex nuts	110g (0.22 lbs) / 140g (0.31 lbs)
Current consumption	40mA
DC Power consumption	1.0 Watts

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

### Pin assignment RF220R (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) RF220R

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

### RF220R housing and dimensions

RF220R total length: 83mm (3.3in); sleeve diameter: 30mm (1.18in)

RF220R dimensions

