

Technical Data RF220R-IO-Link – Short Form

Remarks: A released RF220R-IO-Link manual does not yet exist. The RF220R-IO-Link 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-IO-Link FCC approval.

Below given are short system overview and technical data which are required in order to run the RF220R-IO-Link 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 RF200R-IO-Link is designed for RFID applications for lower demands on performance (data volume, data transfer speed, diagnostics). SIMATIC RF200R-IO-Link is a low-price RFID system.

Overview of System Components compatible with RF220R-IO-Link

System components	Description, Examples
Communications modules	<p>IO-Link readers are designed to operate along with an IO-Link Master</p> <ul style="list-style-type: none">• IO-Link Master via Profibus, Profinet or S7-Systembus.• IO-Link Implementation available for Profibus, Profinet, Interbus, AS-i, EtherCAT, Powerlink.• IO-Link Master: ET 200eco PN• IL-Link Master: ET200S• IO-Link Master: 00S 4SI IO-Link• IO-Link Master for fieldbus
Tags (suitable for RF220R-IO-Link)	<ul style="list-style-type: none">• MDS D124• MDS D160• MDS D324• MDS D421• MDS D422• MDS D424• MDS D425• MDS D428• MDS D460

Modes of Operation (IO-Link Modes)

Standard-Input-Output (SIO)-Mode:

Tag presence only. No communication between reader and IO-Link master

IO-Link Mode 1 (Scan UID):

Tag presence, Tag-UID read (no external parametrization required)

IO-Link Mode 2:

Low-level parametrization required, Tag-read only.

IO-Link Mode 3:

Higher level parametrization required, Tag read / Tag write, communication module required.

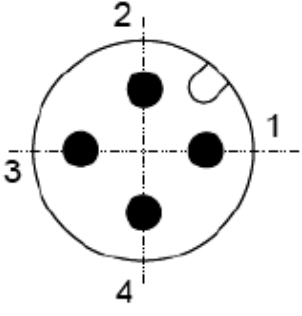
Technical Data RF220R-IO-Link (short form)

Feature	Description, Technical Data
Inductive interface (magnetic field) to transponder (tag). Carrier frequency for energy / data	13,56 MHz
Antenna	Integrated loop
Air interface	ISO 15693
RF output power (RF power into antenna)	180mW (22.8dBm) into 50Ω
Interface to communications module	IO-Link (V1.0)
Baud rate	4,8kBaud and 38,4kBaud
Functions	According to IO-Link-Mode: Initialize tag, read tag (tag ID), write on tag, get status data, antenna on/off
DC-Voltage (nominal)	24 V DC
Display elements	One pair of 2-color-LEDs (operating voltage, presence, error)
Connector	M12 (4-pin.)
ROHS conformity	ROHS according to EU 2002/95/EG
Housing	Metal Sleeve
<ul style="list-style-type: none">• Dimensions• Color• Material• Coating	<ul style="list-style-type: none">• Length: 83mm (3.3in); Diameter: 30mm (1.18in)• silver• CuZn40 Pb2 F43• Ni4p**SN15 305
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	<50mA

Customer benefits when using IO-Link readers

- Entry-Level pricing; no communication module required.
- IO-Link readers are compatible with competitor readers
- Extended diagnosis for all IO-Link sensors
- Easy cabeling
- Easy integration in own application. Easy read-only data access. Useful for entry-level users without specific RFID-knowledge

Pin assignment RF220R-IO-Link

M12-4 connector (male)	Pin No. M12 plug	Pin
	1	+24V
	2	Pin for Firmware download
	3	0V (GND)
	4	C/Q: IO-Link data and Digital out in SIO-Mode

LED indicator (display elements) RF220R-IO-Link

LED colour		Meaning
off		No DC-power
green	flashing	DC-power on, Antenna off
	on	SIO-Mode, no tag in field
	pulsed	IO-Link Mode, no tag in field
yellow	on	SIO-Mode, tag in field
	pulsed	IO-Link Mode, tag in field
red	pulsed	Reader power-up
	flashing	Error, invalid parameter, Watchdog
Red / green	flashing	Firmware update

RF220R-IO-Link housing and dimensions

RF220R-IO-Link total length: 83mm (3.27"); sleeve diameter: 30mm (1.18").

RF220R dimensions

