

Operation Manual

0039A02C-253/IDE-SD-MIF-AGFA

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The IDE_SD_MIF_AGFA is a RFID Read-/Write-Device (short: reader) which is compatible to all Mifare cards. The reader also supports ISO14443A/B and ISO15693 and all cards compliant to these standards. It provides a serial interface RS232 to output or exchange data with a host computer and a 13,56MHz inductive interface to supply power to and exchange data with the Mifare/ISO compliant card (or other available form-factors such as tags, key-fobs).

Mounting and Connection

The reader generates a magnetic field with the frequency of 13.56MHz which is influenced by any electrically conductive material in close proximity to the device. When mounting the unit, a distance to any such material of minimum 10 cm is required to ensure that there will be no significant degradation of the performance in terms of read range and reliability. Mounting the unit directly to metal would result in a severe reduction of read range down to zero functionality. Care should be taken when testing the device after mounting at a problematic environment: Read ranges and performance vary from card to card and very much from card to tag or key-fob.

When mounting multiple readers, the distance between readers should be minimum 0.5 m in order to avoid degradation of performance due to interference.

To connect the device to a Host computer, please make sure the host system provides an 6-pin plug connector intended for connection of the reader

Operation

Whenever the device is connected to a proper power supply, it will switch on the internal antenna and periodically scan for a card. Once a card has been detected, the card number is read, the data converted and sent to the host system through the serial interface. To enable the device to read cards, tags and key-fobs successfully, they should be placed centred above the reader.

Technical Data

DC Electrical Characteristics

Symbol	Parameter	Condition	Min	Typ	Max	Units
Vdd	Supply Voltage		4.75	5	5.5	VDC
Idd	Supply current				400	mA
Idd1	Peak Supply current	Inrush			450	mA
Vih	Input high voltage		3.3		Vdd+0.3	V
Vil	Input low voltage		-0.3		0.8	V
Ii	Input leakage current				300	uA

Additional requirements for the supply voltage: Vripple = 50mVpp max.

RF Characteristics

- Operating frequency: 13.56 MHz
- Data transmission modulation reader to card: ASK
- Data transmission modulation card to reader: ASK/load modulation

Pinout 6-Pin plug connector and Signal Descriptions

Pin	Name	Type	Description
1	TX1	Output	RS232-data from reader
2	RX1	Input	RS232-data to reader
3	GND	Power	Ground
4	PWR	Power	5V Power Supply
5	-	-	Not connected
6	-	-	Not connected

Serial Interface

The TXD/RXD signals are compatible with RS-232 level signals. The interface operates at 2400 baud, no parity, 8 data bits, 1 stop bit. Upon detection of a valid card swipe, the reader outputs the card number in ASCII format.

Temperature

- Operating temperature range: 0...45°C
- Storage temperature range: -20...+60°C
- Thermal shock: 30°C/min maximum dT/dt

Humidity

- Operating: 20% to 80% relative humidity; non condensing
- Non-operating: 10% to 90% relative humidity; non condensing

General regulatory requirements

FCC:

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

The final product should contain labelling according to FCC requirements.

For example:

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 device contains FCC ID OKY1003925351A02C.

This label will be placed on the final product, clearly visible to all persons exposed to the equipment □ □