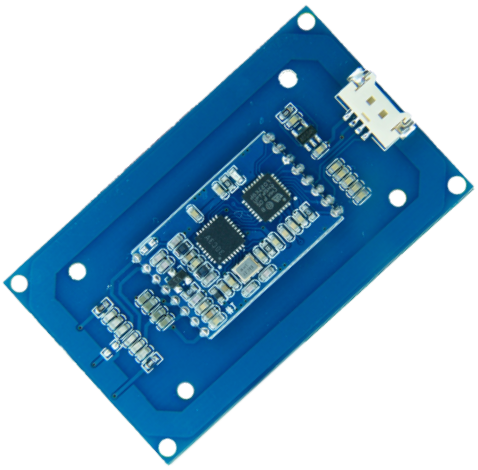
iDTRONIC
PROFESSIONAL RFID

HF | NFC EMBEDDED READER

R835



PRODUCT DESCRIPTION

The iDTRONIC HF | NFC Embedded Reader R835 series is a high performance and low-cost reader series for the integration into vending machines, healthcare, medicine or identification products. With its cutting edge microcontroller and latest HF transceiver technology, the reader series allows users to read and write almost any 13.56 MHz transponders. 5 different configurations are available which support the common RFID standards such as ISO14443A/B (T=CL), ISO15693, ISO18092 / ECMA-340 (NFC) and ISO 18000-3.

Thanks to its integrated antenna, the HF | NFC Embedded Reader R835 achieves reading ranges of up to 8 cm (depending on type of transponder).

Its TTL based interface allows an easy and fast integration into existing electronics or a fast paced new development of high end identification applications. Optionally, it is available with an PC/SC interface for payment solutions.

iDTRONIC's hardware comes with a useful SDK for the development of controller, Linux or Windows based applications. Beside the documentation, command protocols and source codes, the SDK includes a Windows based demo application with full functionality over all supported HF RFID standards.

▶ APPLICATIONS

- Identification Products
- Vending Machines
- Healthcare
- Payment

▶ FEATURES

- Reading Range up to 8 cm
- SDK and Windows based application are supplied
- Integrated Antenna
- TTL or PC/SC Connection

▶ RFID OPTIONS

- ISO 14443 A/B
- ISO 15693
- NXP MIFARE®
- ISO 18092 | ECMA-340 (NFC)
- ISO 18000-3

iDTRONIC GmbH
Ludwig-Reichling-Straße 4
67059 Ludwigshafen
GERMANY

RFIDCanada
Automating Identification

Subject to change without notice.
©2022 iDTRONIC GmbH

iDTRONIC
PROFESSIONAL RFID

APPLICATION EXAMPLES

HEALTHCARE





Inside the hospital room there are medical devices which are vital for the patient. These include ventilators, infusions or ECG devices. By integrating RFID readers, a wide variety of functionality may be implemented which help to increase patient safety and bring about a faster recovery.

These include, for example, automatic identification and authentication of consumables. On the other hand, it is possible to monitor which employee is operating the medical devices. Hierarchies may also be introduced for individual employees in order to avoid incorrect operation of the devices by medical personnel. The small embedded module may be easily and quickly integrated into a range of medical devices.

VENDING MACHINES



Vending machines of all types are more and more common these days. The easy sales processing and handling attracts the customers.

The R835 reader can easy integrated into the vending machine. The PSAM or PC/SC version is especially designed for payment processes. The customer can pay by mobile phone or by debit card. In the most parking areas are vending machines for park tickets. This increases the customer satisfaction and the effectivity of fast payment processing.

iDTRONIC GmbH
Ludwig-Reichling-Straße 4
67059 Ludwigshafen
GERMANY

RFIDCanada
Automating Identification

Subject to change without notice.
©2022 iDTRONIC GmbH

TECHNICAL DATA

ELECTRICAL SPECIFICATIONS	
Power Supply	3.3 ~ 5 Vdc
Power Consumption	< 150 mA, standby current < 1 mA (low power mode)
Operating Frequency	13.56 MHz
Reading Distance	up to 8 cm*
Antenna	integrated, 55 × 30 mm
Baudrate	9600 ... 115200 bit/s
Antenna Connector	U.FL
Interface	TTL, 3.3 V output levels,input is not 5 V or PC/SC
Connector	Molex PicoBlade 53261 (PCB) 51021 (cable)

MECHANICAL SPECIFICATIONS	
Material	FR-4, Blue
Mounting Option	Screwing

ENVIRONMENTAL CONDITIONS	
Operating Temperature	-20 °C ... +80 °C
Storage Temperature	-40 °C ... +85 °C
Humidity	up to 95 %, non condensing

SDK INFORMATION	
Supported OS	Windows 7, 8, 8.1, 10
Supported Languages	C++, Binary command protocol
Demo Software	Windows

APPLICABLE STANDARDS	
EMC	EN 301489-1:2012-04 (v1.9.21) EN 301489-3:2013-12 (V1.6.1)
Radio Regulation	EN 300330-1:2015-08 (V1.8.1) EN 300330-2:2015-08 (V1.6.1)
Safety	EN 60950-1:2014-08 EN 62369-1:2010-03 EN 50364:2010-11
RED	2014/53/EU
RoHS 2	2011/65/EU
REACH	1907/2006
Certificates	FCC, CE, IC**

**READING DISCTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS.*

iDTRONIC GmbH
Ludwig-Reichling-Straße 4
67059 Ludwigshafen
GERMANY

RFIDCanada
Automating Identification

Subject to change without notice.
©2022 iDTRONIC GmbH

iDTRONIC
PROFESSIONAL RFID

AVAILABLE VERSIONS

**READING DISCTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS.*

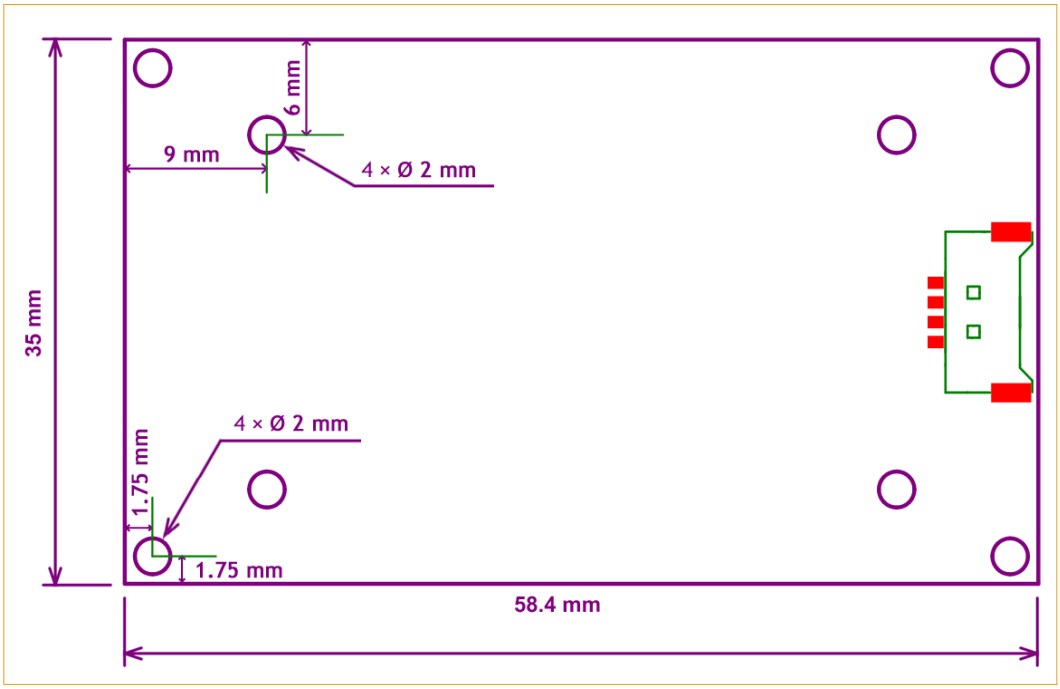
	DESFIRE	ISO 18000-3	PSAM	HF	MIFARE
GENERAL SPECIFICATIONS					
Dimensions	58.4 × 35 × 4.7 mm	58.4 × 35 × 4.7 mm	58.4 × 35 × 4.7 mm	58.4 × 35 × 4.7 mm	58.4 × 35 × 4.7 mm
Weight	8 g	8 g	8 g	8 g	8 g
Power Supply	3.3 ~ 5 Vdc	3.3 Vdc	3.3 V ~ 5 Vdc	3.3 V ~ 5 Vdc	3.3 ~ 5 Vdc
Power Consumption	< 100 mA, standby current < 1 mA (low power mode)	< 100 mA, standby current < 1 mA (low power mode)	< 100 mA, standby current < 1 mA (low power mode)	< 100 mA, standby current < 1 mA (low power mode)	< 100 mA, standby current < 1 mA (low power mode)
Operating Frequency	13.56 MHz	13.56 MHz	13.56 MHz	13.56 MHz	13.56 MHz
Reading Distance	up to 8 cm*	up to 8 cm*	up to 8 cm*	up to 8 cm*	up to 8 cm*
RT FX Speed	up to 848 kBd	up to 848 kBd	up to 848 kBd	up to 848 kBd	up to 848 kBd
Reader IC	NXP CLRC663	NXP CLRC663	NXP CLRC663	NXP CLRC663	NXP CV520
Interface	TTL, PC/SC	TTL	TTL	TTL	TTL
Antenna	integrated, nominal size: 55 × 30 mm	integrated, nominal size: 55 × 30 mm	integrated, nominal size: 55 × 30 mm	integrated, nominal size: 55 × 30 mm	integrated, nominal size: 55 × 30 mm
Baudrate	9600 ... 115200 bit/s	9600 ... 115200 bit/s	9600 ... 115200 bit/s	9600 ... 115200 bit/s	9600 ... 115200 bit/s
Connector	Molex PicoBlade 53261 (PCB) 51021 (cable)	Molex PicoBlade 53261 (PCB) 51021 (cable)	Molex PicoBlade 53261 (PCB) 51021 (cable)	Molex PicoBlade 53261 (PCB) 51021 (cable)	Molex PicoBlade 53261 (PCB) 51021 (cable)
SUPPORTED STANDARDS | TAGS					
ISO 14443A and compatible	Read/Write: MIFARE® Classic Mini /1K /4K, MIFARE Ultralight®, MIFARE Ultralight® C, MIFARE Ultralight® Nano, MIFARE® DESFire® EV1, MIFARE® DESFire® Light, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x, NTAG 424 Read UID only: Read UID only of all other ISO14443A RFID tags	Read/Write: MIFARE® Classic Mini / 1K /4K, MIFARE Ultralight®, MIFARE Ultralight® C, MIFARE® DESFire® EV1, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x Read UID only of all other ISO14443A RFID tags	Read/Write: MIFARE® Classic 1K /4K, MIFARE Ultralight®, MIFARE Ultralight® C, MIFARE® DESFire® EV1, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x Read UID only: Read UID only of all other ISO14443A RFID tags	Read/Write: MIFARE® Classic 1K /4K, MIFARE Ultralight®, MIFARE Ultralight® C, NTAG 21x Read UID only: Read UID only of all other ISO14443A RFID tags	Read/Write: MIFARE® Classic 1K /4K, MIFARE Ultralight®, MIFARE Ultralight® C, NTAG 21x Read UID only: Read UID only of all other ISO14443A RFID tags
ISO 14443 B and compatible	SRI4K, SRIX4K, AT88RF020, 66CL160S, SR176				–
ISO 15693 and compatible	EM4135, EM4043, EM4x33, EM4x35, I-Code SLI/SLIX/DNA, M24LR16/64, TI Tag-it HF-I, SRF55Vxx (my-d vicinity)				–
ISO 7816	–	–	PSAM T=1	–	–
ISO 18000-3M3 and compatible	–	I-Code ILT-M	–	–	–

iDTRONIC GmbH
Ludwig-Reichling-Straße 4
67059 Ludwigshafen
GERMANY

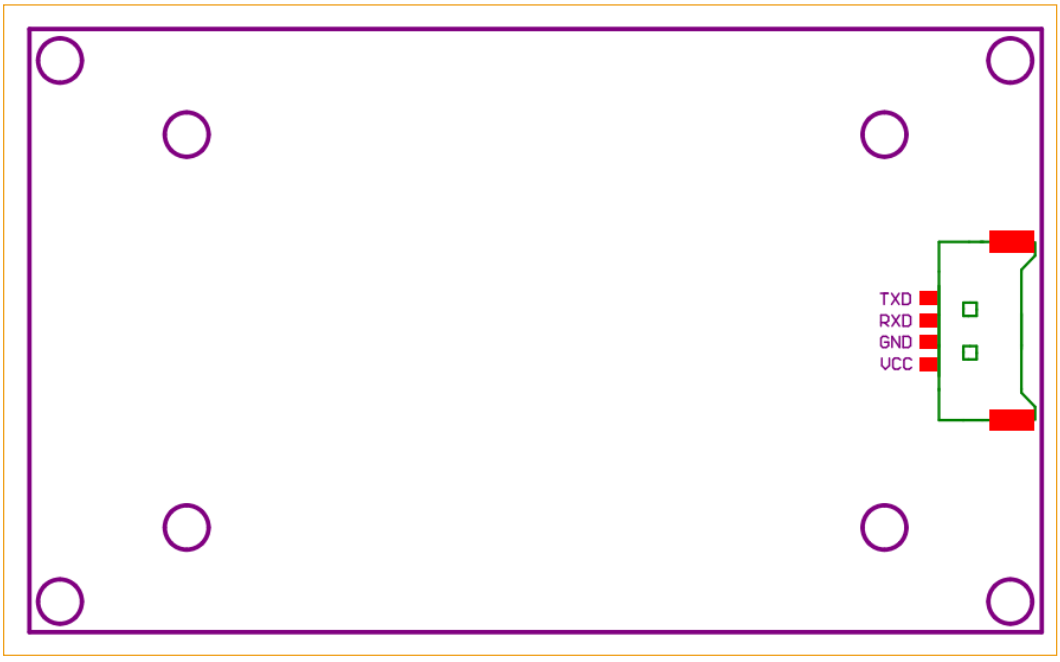
RFIDCanada
Automating Identification

Subject to change without notice.
©2022 iDTRONIC GmbH

MECHANICAL VIEW



PIN LAYOUT



iDTRONIC GmbH
Ludwig-Reichling-Straße 4
67059 Ludwigshafen
GERMANY

RFIDCanada
Automating Identification

Subject to change without notice.
©2022 iDTRONIC GmbH

CONNECTIONS

PIN	SIGNAL	IO TYPE	DESCRIPTION
1	TxD – up to 3.3 V	Output	UART TxD (yellow)
2	RxD – up to 3.3 V	Input	UART RxD (green)
3	GND	PWR	Power supply GND (black)
4	+5 V/+3.3 V	PWR	Power supply +5 or 3.3 VDC (red)

ORDER CODES

VERSIONS	ORDER CODES
DESFIRE	
HF | NFC Embedded Reader R835 - DESFire TTL	OEM-DES-R835-TTL
HF | NFC Embedded Reader R835 - DESFire PC/SC	OEM-DES-R835-PCSC
ISO 18000-3	
HF | NFC Embedded Reader R835 - ISO 18000-3 TTL	OEM-DES-R835-TTL-18/3
PSAM	
HF | NFC Embedded Reader R835 - PSAM TTL	OEM-PSAM-R835-TTL
HF	
HF | NFC Embedded Reader R835 - HF TTL	OEM-HF-R835-TTL
MIFARE	
HF | NFC Embedded Reader R835 - MIFARE TTL	OEM-MF-R835-TTL
ACCESSORIES	
HF | NFC Embedded Reader R835 - Connecting Cable M8	OEM-HF-M8-CC
HF | NFC Embedded Reader R835 - Converter TTL | USB 5 V	OEM-HF-M8-CONV-5V

iDTRONIC GmbH
Ludwig-Reichling-Straße 4
67059 Ludwigshafen
GERMANY

Phone: 1 905 513 8919
Email: sales@rfidcanada.com
Web: www.rfidcanada.com

Subject to change without notice.
©2022 iDTRONIC GmbH