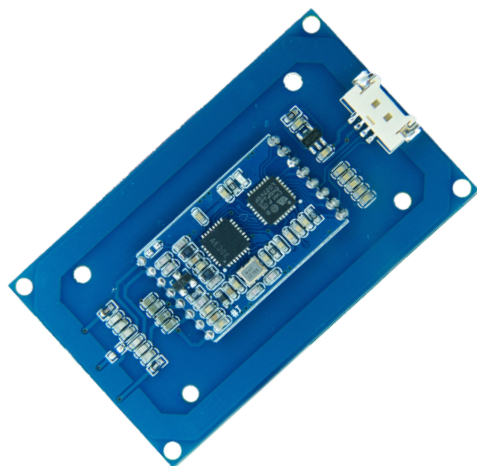


HF | NFC EMBEDDED READER R837



PRODUCT DESCRIPTION

The iDTRONIC HF | NFC Embedded Reader R837 series is a high performance and low-cost reader series for the integration into vending machines, healthcare, medicine or EV chargers. 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 R837 achieves reading ranges of up to 8 cm (depending on type of transponder).

Its serial based interfaces TTL and RS485 allow an easy and fast integration into existing electronics or a fast paced new development of high end identification applications. In addition, the USB and USB HID 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
- EV Chargers
- Healthcare
- Payment

► FEATURES

- Reading Range up to 8 cm
- SDK and Windows based application are supplied
- Integrated Antenna
- TTL, RS485, USB, USB HID or PC/SC Connection

► RFID OPTIONS

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

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 tolerant) or PC/SC
Connector	Molex PicoBlade 53261 (PCB) 51021 (cable)
Outputs	1 Buzzer, 2 LEDs, 3 Special, max 25 mA on each single output, max 80 mA in total.

GENERAL SPECIFICATIONS

Dimensions	58 × 34.5 × 4.5 mm
Weight	8 g
RT FX Speed	up to 848 kBd
Reader IC	NXP CLRC663
MCU	GD32F350CBT6

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
MTBF	200'000 h

SDK INFORMATION

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

SUPPORTED STANDARDS | TAGS

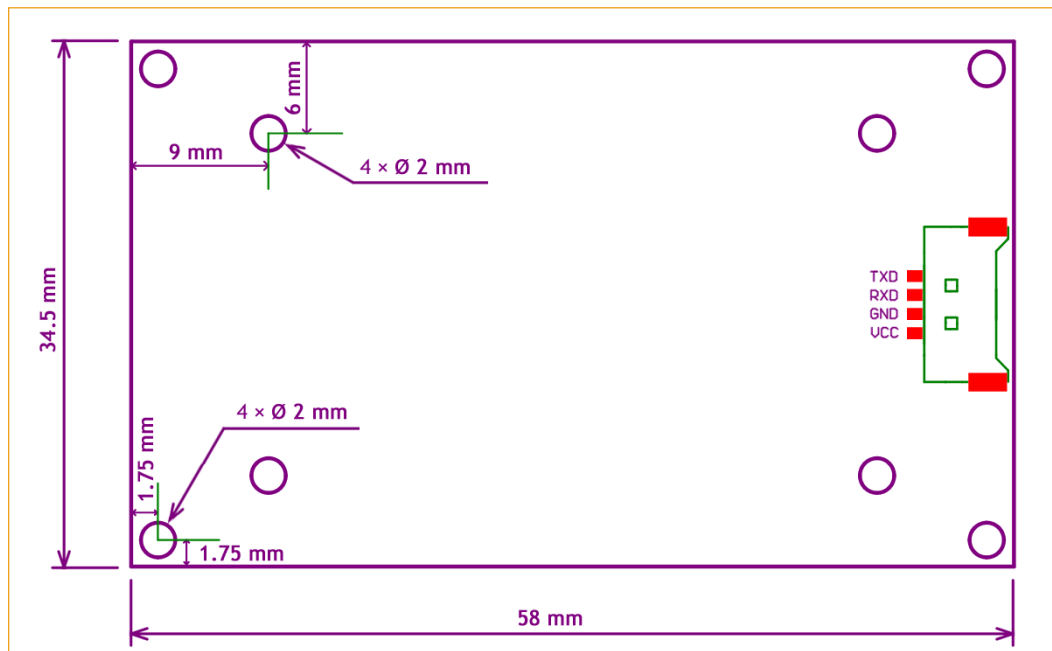
ISO 14443A and compatible	Read/Write: MIFARE® Classic Mini / 1K / 4K, MIFARE Ultralight®, MIFARE Ultralight® C, MIFARE Ultralight® Nano, MIFARE® DESFire® EV1/EV2/EV3, MIFARE® DESFire® Light, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x, NTAG 424
	Read UID only: Read UID only of all other ISO14443A RFID tags
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 18000-3M3 and compatible	I-Code ILFM

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 DISTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS.

PIN LAYOUT



PIN	SIGNAL	IO TYPE	DESCRIPTION
1	Data	Output	UART TxD (yellow) up to 3.3 V, USB -
2	Data	Input	UART RxD (green) up to 3.3 V, USB +
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 R837 - DESFire TTL	OEM-DES-R837-TTL
HF NFC Embedded Reader R837 - DESFire PC/SC	OEM-DES-R837-PCSC