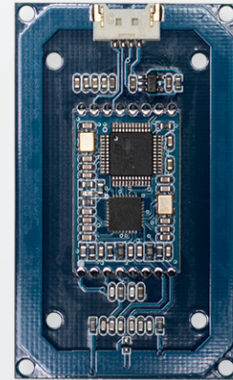


## Embedded Reader HF **R835**



### 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 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.

The iDTRONIC HF | NFC Embedded Reader R835 supports the common RFID standards such as ISO14443A/B (T=CL), ISO15693 and ISO18092 / ECMA-340 (NFC). 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 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
- ISO 18000-3
- ISO 18092 | ECMA-340 (NFC)
- NXP MIFARE



## 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), RS485, USB, USB HID or PC/SC
Connector	Molex PicoBlade 53261 (PCB) 51021 (cable)

### MECHANICAL SPECIFICATIONS

Dimensions	58 × 34.5 × 4.5 mm
Weight	8 g
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

### 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 62369-1:2010-03 EN 50364:2010-11
RED	2014/53/EU
RoHS 2	EC Guideline 2011/65/EU and amendment 2015/863 EN 50581:2012 (valid till 2024-07-07) EN 63000:2018
REACH	EU Guideline 1907/2006, updated by 2020/171/EU
Certificates	FCC, CE, IC**

## AVAILABLE VERSIONS

*\*READING DISTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS.*

	DESFIRE	ISO 18000-3	PSAM	HF	MIFARE
<b>GENERAL SPECIFICATIONS</b>					
Dimensions	58 x 34.5 x 4.5 mm	58 x 34.5 x 4.5 mm	58 x 34.5 x 4.5 mm	58 x 34.5 x 4.5 mm	58 x 34.5 x 4.5 mm
Weight	8 g	8 g	8 g	8 g	8 g
Power Supply	3.3 V ~ 5 Vdc				
Power Consumption	< 150 mA, standby current < 1 mA (low power mode)				
Operating Frequency	13.56 MHz				
Reading Distance	up to 8 cm*				
RT FX Speed	up to 848 kBd				
Reader IC	NXP CLR663				
Interface	TTL, RS485, USB, PC / SC	TTL	TTL	TTL	TTL
Antenna	integrated, nominal size: 55 x 30 mm				
Baudrate	9600 ... 115200 bits/s				
Connector	Molex PanelMate 53780 (PCB) 51021 (cable)				



## AVAILABLE VERSIONS

\*READING DISTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS.

	DESFIRE	ISO 18000-3	PSAM	HF	MIFARE
<b>SUPPORTED STANDARDS   TAGS</b>					
ISO 14443A and compatible	<b>Read/Write:</b> 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  <b>Read UID only:</b> Read UID only of all other ISO14443A RFID tags	<b>Read/Write:</b> 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  <b>Read UID only:</b> Read UID only of all other ISO14443A RFID tag	<b>Read/Write:</b> MIFARE® Classic 1K / 4K, MIFARE Ultralight®, MIFARE Ultralight® C, MIFARE® DESFire® EV1, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x  <b>Read UID only:</b> Read UID only of all other ISO14443A RFID tags	<b>Read/Write:</b> MIFARE® Classic 1K / 4K, MIFARE Ultralight®, MIFARE Ultralight® C, NTAG 21x  <b>Read UID only:</b> Read UID only of all other ISO14443A RFID tags	<b>Read/Write:</b> MIFARE® Classic 1K / 4K, MIFARE Ultralight®, MIFARE Ultralight® C, NTAG 21x  <b>Read UID only:</b> Read UID only of all other ISO14443A RFID tags
ISO 14443B 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 (optional)	-	-
ISO 18000-3M3 and compatible	-	I-Code ILT-M	-	-	-

## ORDER CODES

VERSIONS	ORDER CODES
<b>DESFire TTL</b>	
HF   NFC Embedded Reader R835 - DESFire TTL	OEM-DES-R835-TTL
<b>DESFire RS485</b>	
HF   NFC Embedded Reader R835 - DESFire RS485	OEM-DES-R835-RS485
<b>DESFire USB</b>	
HF   NFC Embedded Reader R835 - DESFire USB	OEM-DES-R835-USB
<b>DESFire USB HID</b>	
HF   NFC Embedded Reader R835 - DESFire USB HID	OEM-DES-R835-USB-HID
<b>DESFire PC/SC</b>	
HF   NFC Embedded Reader R835 - DESFire PC/SC	OEM-DES-R835-PCSC
<b>ACCESSORIES</b>	
Connecting Cable M8	OEM-HF-M8-CC
Converter TTL   USB 5 V	OEM-HF-M8-CONV-5V