



EMBEDDED HF RFID STICK READER R831 SERIES

APPLICATIONS

- Simple Sign On
- Access Control
- Stick Reader
- Health Care
- Libraries
- Printers

FEATURES

- Reading Range up to 4 cm
- USB VCP, USB HID, PC/SC
- SDK and Windows based application are supplied
- Integrated Antenna

RFID OPTIONS

- ISO 14443 A/B
- ISO 15693
- ISO 18000-3

PRODUCT DESCRIPTION

The iDTRONIC embedded HF Stick Reader R831 Series is available as 13.56 MHz Version for DESFire, ISO 18000-3, HF and MIFARE®.

The slight design of the stick reader can easy integrated into existing systems or devices. It is also especially well suited for access control applications or within libraries.

The embedded reader to supports standards ISO 14443 A/B, ISO 15693 and ISO 18000-3 tags.

It is a full Read/Write device with USB interface and a very compact form factor, which makes it useable for many different applications. Thanks to its integrated antenna it can read HF tags with up to 4 cm distance (depending on type of transponder).

Keyboard Emulation HID is available optional. A full SDK and Windows based application SW are supplied with this product.

ACCESS CONTROL AT PRODUCTION SITES



Different employees are assigned within process steps in production. Each process step must be monitored and controlled by an assigned employee.

The Embedded HF Stick Reader R831 is ideally suited for this area of application. The RFID OEM module can be easily embedded in existing devices and connected via USB 2.0 interface.

The use of MIFARE DESFire cards facilitates identification and tracking. The card can be written with data and information about the person. The Embedded HF Stick Reader R831 can read this data using a unique UID and successfully assign it to the member or employee.

The data can be transferred in two different ways. The transfer of all access data can be done using the Virtual COM Port mode via USB cable and HID Keyboard Emulation. The VCP mode offers complete read and write access for all supported transponders. In HID mode, user data from the supported transponders can be retrieved as keyboard emulation.

Access rights can be uniquely assigned using the Embedded HF Stick Reader R831. Misuse of the devices and systems is excluded.

TECHNICAL DATA

ELECTRICAL SPECIFICATIONS

Power Supply	5 Vdc via USB
Power Consumption	< 50 mA, standby current
Operating Frequency	13.56 MHz
Reading Distance	up to 4 cm*
Antenna	integrated, 30 × 13 mm
Baudrate	9600 ... 115200 bit/s
Antenna Connector	U.FL
Interfaces	USB VCP, USB HID**, PC/SC
Connector	USB Type A plug
HID Output Format	ISO 14443 A: hexadecimal, lowercase, byte-reverse, LSB ISO 15693: hexadecimal, lowercase, MSB The HID output format can be modified on request.
Signals	LED shows successful tag communication with colour change

MECHANICAL SPECIFICATIONS

Material	FR-4, Blue
Mounting Option	Easy Insertion into Stick Reader Housing

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 by Silabs USB VCP Driver	Windows 7/8/8.1/10 Windows Server 2003/7/8/8.1 Windows 2K WinCE (5.0, 6.0) Macintosh OSX Linux (4.x.x., 2.6.x) Android 4.2
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 DISTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS

** HUMAN INTERFACE DEVICE

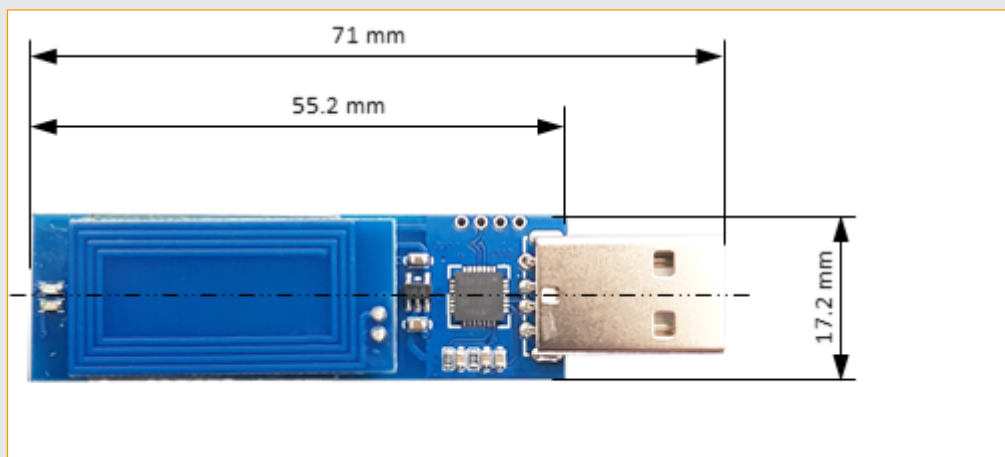
***ONLY AVAILABLE FOR SOME VERSIONS.

AVAILABLE VERSIONS

*READING DISTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS
**HUMAN INTERFACE DEVICE

	DESIRE	ISO 18000-3	HF	MIFARE
GENERAL SPECIFICATIONS				
Dimensions	71 × 17.2 × 9.4 mm	71 × 17.2 × 9.4 mm	71 × 17.2 × 9.4 mm	71 × 17.2 × 9.4 mm
Weight	20 g	20 g	20 g	20 g
Power Supply	5 Vdc via USB	5 Vdc via USB	5 Vdc via USB	5 Vdc via USB
Power Consumption	< 50 mA, standby current	< 50 mA, standby current	< 50 mA, standby current	< 50 mA, standby current
Operating Frequency	13.56 MHz	13.56 MHz	13.56 MHz	13.56 MHz
Reading Distance	up to 4 cm*	up to 4 cm*	up to 4 cm*	up to 4 cm*
RT FX Speed	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 CV520
Interface	USB VCP, PC/SC	USB VCP, USB HID**	USB VCP, USB HID**	USB VCP, USB HID**
Antenna	integrated, 30 × 13 mm	integrated, 30 × 13 mm	integrated, 30 × 13 mm	integrated, 30 × 13 mm
Baudrate	9600 ... 115200 bit/s	9600 ... 115200 bit/s	9600 ... 115200 bit/s	9600 ... 115200 bit/s
Connector	USB Type A Plug	USB Type A Plug	USB Type A Plug	USB Type A Plug
SUPPORTED STANDARDS TAGS				
ISO 14443A and compatible	<p>Read/Write: MIFARE® Classic Mini / 1K /4K, MIFARE Ultra-light®, MIFARE Ultralight® C, MIFARE® DESFire® EV1, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x</p> <p>Read UID only: Read UID only of all other ISO14443A RFID tags</p>	<p>Read/Write: MIFARE® Classic Mini / 1K /4K, MIFARE Ultra-light®, MIFARE Ultralight® C, MIFARE® DESFire® EV1, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X, NTAG 21x</p> <p>Read UID only of all other ISO14443A RFID tags</p>	<p>Read/Write: MIFARE® Classic Mini / 1K /4K, MIFARE Ultra-light®, MIFARE Ultralight® C, NTAG 21x</p> <p>Read UID only: Read UID only of all other ISO14443A RFID tags, e.g.: MIFARE® DESFire® EV1, MIFARE® Smart MX, MIFARE® Plus S / X, MIFARE® Pro X</p>	<p>Read/Write: MIFARE® Classic Mini / 1K /4K, MIFARE Ultra-light®, MIFARE Ultralight® C, NTAG 21x</p> <p>Read UID only: Read UID only of all other ISO14443A RFID tags</p>
ISO 14443 B and compatible	SRI4K, SRIX4K, AT88RF020, 66CL160S, SR176	SRI4K, SRIX4K, AT88RF020, 66CL160S, SR176	SRI4K, SRIX4K, AT88RF020, 66CL160S, SR176	—
ISO 15693 and compatible	EM4135, EM4043, EM4x33, EM4x35, I-Code SLI / SLIX, M24LR16/64, TI Tag-it HF-I, SRF55Vxx (my-d vicinity)	EM4135, EM4043, EM4x33, EM4x35, I-Code SLI / SLIX, M24LR16/64, TI Tag-it HF-I, SRF55Vxx (my-d vicinity)	EM4135, EM4043, EM4x33, EM4x35, I-Code SLI / SLIX, M24LR16/64, TI Tag-it HF-I, SRF55Vxx (my-d vicinity)	—
ISO 18000-3M3 and compatible	—	I-Code ILT-M	—	—

MECHANICAL VIEW



ORDER CODES

VERSION	ORDER CODE
DESFire	
OEM DESFire Stick Reader USB VCP	OEM-DES-R831-USB
OEM DESFire Stick Reader PC/SC	OEM-DES-R831-PCSC
ISO 18000-3	
OEM ISO 18000-3 Stick Reader USB VCP	OEM-DES-R831-USB-18/3
OEM ISO 18000-3 Stick Reader USB HID	OEM-DES-R831-USB-HID-18/3
HF	
OEM HF Stick Reader USB	OEM-HF-R831-USB
OEM HF Stick Reader USB HID	OEM-HF-R831-HID
MIFARE	
OEM MIFARE Stick Reader USB	On Request – MOQ 50 Units
OEM MIFARE Stick Reader USB HID	On Request – MOQ 50 Units

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