iDTRONIC
PROFESSIONAL RFID

EMBEDDED HF RFID
READER R840 SERIES

APPLICATIONS

· **Access Control**
· **Remote Control**
· **Payment Systems**
· **Automation System**
· **Network Control System**

FEATURES

· **DESFire, ISO 18000-3, HF, MIFARE**
· **External Power Supply or via USB**
· **WiFi, Ethernet, PC/SC, USB VCP | HID**
· **Low Power Consumption**
· **Relay for Remote Control**
· **Integrated Antenna**

RFID OPTIONS

· **ISO 14443 A/B**
· **ISO 15693**
· **NXP MIFARE®**
· **NXP DESFire®**
· **ISO 18000-3**

PRODUCT DESCRIPTION

The HF Reader Series R840 is an embeddable read and write RFID network module with integrated antenna and relay. It offers plug and play support and can be used within existing networks and systems.

The R840 reader series is available as DESFire, ISO 18000-3, HF and MIFARE Version. The HF and MIFARE versions are also available with Ethernet or WiFi interface for demanding industrial or IoT applications. The DESFire Version comes with a USB VCP or PC/SC interface which is especially designed for the reading of smart cards.

The 13.56 MHz HF Reader Series R840 supports ISO 14443A/B as well as ISO 15693 standards, including NXP MIFARE Ultralight®, MIFARE® Classic 1K, MIFARE® Classic 4K, I-Code SLI, TI Tag-it HF-I and ISO 18000-3.

The Embedded Reader R840 series is low on power consumption and offers a space-saving design. A controllable buzzer and tricolor LED for acoustic and visual signaling are on board. The Ethernet Versions have a relay for remote control.

In combination with the useful SDK and testing software, the Embedded HF reader R840 is the ideal choice for various RFID applications in a network environment.

SMART CARD READING

The PC/SC interface is a standardized programming interface to support smart card terminals for smart cards. This flexible interface is used for communication between PC and smartcard.

Smartcard interfaces are available in chip card terminals, ID card readers, payment terminals or computer keyboards.

Smartcards with MIFARE DESFire function can be identified via the PC/SC interface.

DESKTOP READERS
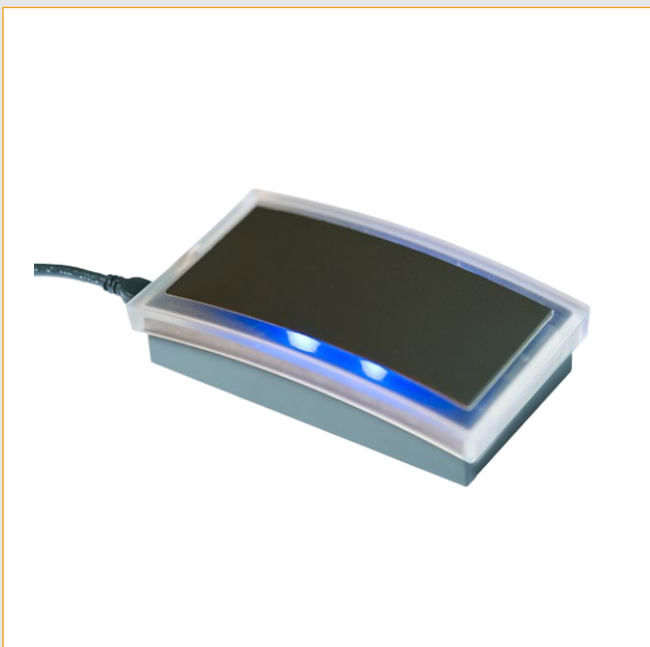
The HF and MIFARE Version of the R840 Embedded Module is built-in in our Desktop Reader EVO HF 2.0. It can also be used for other desktop reader housing.

The built-in R840 module allows the Desktop Reader to read all transponders and cards with MIFARE chip.

It can be used for access control, employee identification, PC Log Ons or Authentication.

TECHNICAL DATA

ELECTRICAL SPECIFICATIONS

Power Supply	5 Vdc via USB or 12 Vdc (±5 % regulated)
Power Consumption	< 180 mA (RFID active, relay ON)
Operating Frequency	13.56 MHz
Reading Distance	up to 8 cm*
Antenna	Integrated, 87 × 54 mm
Baudrate	9.600 ... 115.200 bit/s
Antenna Connector	U.FL
Interfaces	Ethernet, PC/SC, USB VCP, USB HID, WiFi
Signals	Buzzer, LED changes from blue to green to show steady contact with RFID data tag
Connector	USB Mini B Socket, TCP/IP

MECHANICAL SPECIFICATIONS

Material	Antenna and Mainboard: FR4 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 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

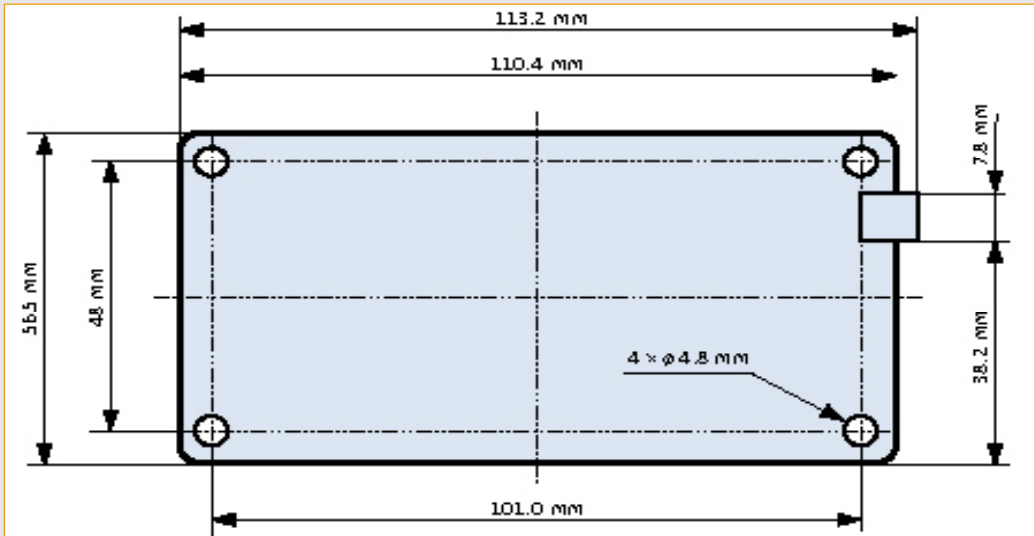|	
EMC	EN 301489-1:2012-04 (v1.9.21) EN 301489-3:2013-12 (V1.6.1)
Radio Regulation	EN 300330-1:2015-08 (V1.8.1) EN 300330-2:2015-08 (V1.6.1)
Safety	EN 60950-1:2014-08 EN 62369-1:2010-03 EN 50364:2010-11
RED	2014/53/EU
RoHS 2	2011/65/EU
REACH	1907/2006
Certificates	FCC, CE, IC**

READING DISCTANCE DEPENDS ON TAG, ANTENNA AND ENVIRONMENTAL CONDITIONS.
**ONLY AVAILABLE FOR SOME VERSIONS.*

AVAILABLE VERSIONS

	DESFIRE	ISO 18000-3	HF	MIFARE
GENERAL SPECIFICATIONS				
Dimensions	113.2 × 56.5 × 15 mm	113.2 × 56.5 × 15 mm	110 × 56 × 18 mm	110 × 56 × 18 mm
Weight	40 g	40 g	50 g	50 g
Power Supply	5 Vdc via USB	5 Vdc via USB	12 Vdc (±5 % regulated) 5 Vdc via USB	12 Vdc (±5 % regulated) 5 Vdc via USB
Power Consumption	< 150 mA, standby current < 1 mA (low power mode)	< 150 mA, standby current < 1 mA (low power mode)	< 180 mA (RFID active, relay ON)**	< 180 mA (RFID active, relay ON)**
Operating Frequency	13.56 MHz	13.56 MHz	13.56 MHz	13.56 MHz
Reading Distance	up to 8 cm*	up to 8 cm*	up to 7 cm*	up to 7 cm*
Antenna	Integrated, 87 × 54 mm	Integrated, 87 × 54 mm	Integrated, 87 × 54 mm	Integrated, 87 × 54 mm
Baudrate	9.600 ... 115.200 bit/s	9.600 ... 115.200 bit/s	9.600 ... 115.200 bit/s	9.600 ... 115.200 bit/s
Reader IC	NXP CLRC632	NXP CLRC663	NXP CLRC632	NXP CV520
RT FX Speed	Max. 424 kbps	up to 848 kBd	Max. 424 kbps	Max. 424 kbps
Interface	PC/SC, USB VCP	USB VCP, USB HID	Ethernet**, WiFi**, USB VCP, USB HID	Ethernet**, WiFi**, USB VCP, USB HID
Connector	USB Mini B Socket	USB Mini B Socket	TCP/IP	TCP/IP
SUPPORTED STANDARDS | TAGS				
ISO 14443A and compatible	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: 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 Mini / 1K /4K, MIFARE Ultralight®, MIFARE Ultralight® C, NTAG21x Read UID only: MIFARE® DESFire, MIFARE® Pro X, MIFARE® Plus S / X, 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	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 Reader USB VCP	OEM-DES-R840-USB
OEM DESFire Reader PC/SC	OEM-DES-R840-PCSC
ISO 18000-3	
OEM ISO 18000-3 Reader USB VCP	OEM-DES-R840-USB-18/3
OEM ISO 18000-3 Reader USB HID	OEM-DES-R840-USB-HID-18/3
HF	
OEM HF Reader USB VCP/HID	OEM-HF-R840-SET-V2
OEM HF Reader Ethernet (Read Only)	OEM-HF-R840-ET
OEM HF Reader WiFi (Read Only)	OEM-HF-R840-WIFI
MIFARE	
OEM MIFARE Reader USB VCP	OEM-MF-R840-USB
OEM MIFARE Reader USB HID	OEM-MF-R840-USB-HID
OEM MIFARE Reader Ethernet (Read Only)	OEM-MF-R840-ET
OEM MIFARE Reader WiFi (Read Only)	OEM-MF-R840-WIFI

For further information & prices, please contact info@idtronic-rfid.com