

H632

USB + SERIAL OEM CONTACTLESS READER/WRITE MODULE
WITH SUPPORT FOR EXTERNAL SMARTCARDS / SAM



H632 is a reader/writer module compliant with 13.56MHz RFID and NFC standards (ISO 14443, ISO 15693) also able to drive up to 5 contact smartcards. Its small footprint and single 5V power supply make H632 the ultimate interface to be integrated in validators, ATM or vending machines, cash registers, ...

KEY FEATURES

H632 is dedicated to integrators who need to process contactless smart cards (or NFC objects operating in card emulation mode) and / or contact smart cards (including SAMs), with the urge for fastest transaction speed.

RFID AND NFC MADE EASY

H632's RF stage is designed to **drive directly unbalanced antennas** (*direct connection for very short distances or through a 50Ω coaxial line*). No other external RF component is required.

H632 is **PC/SC compliant** on its USB link. Alternatively, it could be operated very easily on its serial link (or using serial over USB emulation) using the same protocol and free SDK as earlier SpringCard products.

SMARTCARDS AND SAMs

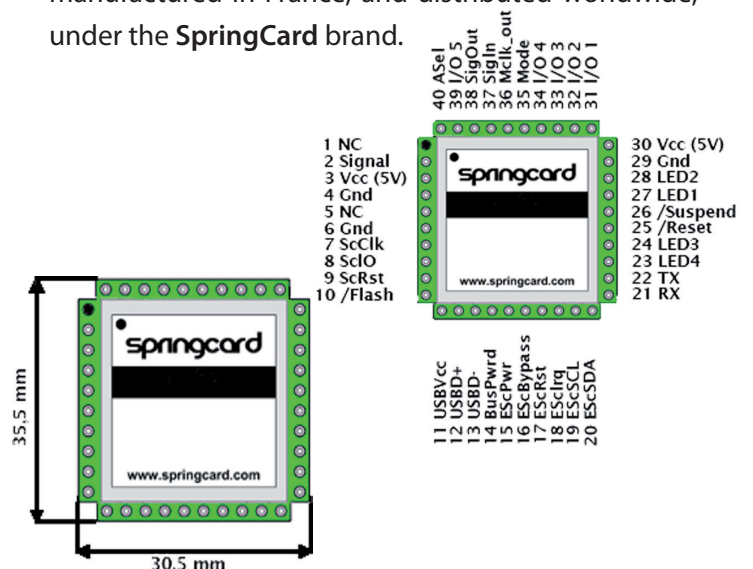
H632 integrated smartcard interface is able to drive directly one ISO 7816 card. It just requires a few external components to be able to drive up to 5 cards.

A FEW TYPICAL APPLICATIONS

- Ticketing, transports, road toll,
- Payment, POS, ATM,
- Identity, citizen card,
- Loyalty, entertainment, events,
- Access control
- and more

SPRINGCARD & PRO ACTIVE

Established in 2000, **Pro Active** is an innovative provider of smartcard-related solutions, and one of the leaders in the contactless-reader market. Its contact and contactless products are designed and manufactured in France, and distributed worldwide, under the **SpringCard** brand.



ORDER CODE

PART #	Description
-	H632 universal RFID+SC module

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A PRO ACTIVE BRAND

Pro Active

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TECHNICAL SPECIFICATIONS

Contactless smartcard interface

Standards	ISO/IEC 14 443 A and B, T=CL ISO/IEC 15 693
RFID carrier	13.56 MHz
Operating distance	typical 5 cm - up to 10cm vary with antenna, environment and card
Card baud rate	106, 212, 424 or 848 kbps (ISO 14443) 26 kbps (ISO 15693)

Supported cards (partial list) :

- NXP (Philips) ICODE1, ICODE-SLI, etc
- Texas Instrument TagIT
- NXP (Philips) MIFARE Classic, Plus, UltraLight, DESFIRE, SmartMX, ProX
- Infineon SLE66 family
- ST MicroElectronics SR, SRI, SRIX families
- HID iClass, Inside PicoTag
- ASK CTS256/CTS512
- Calypso (CD97, CD21, GTML, etc)

And virtually any ISO/IEC 14443 A or B compliant smartcard, ISO/IEC 15693 compliant RFID label, or NFC device (ISO/IEC 18092 / 21481) running in card emulation mode

Contact / SAM smartcard interfaces

Number of interfaces	1 integrated interface 5 through external AT83C26 component
Standards	ISO/IEC 7816, T=0 & T=1, HSP
Smartcard power	5V or 3V (class A and AB), max 80mA
Clock frequency	3,6864 or 7,3728 MHz
Card baud rate	Up to 115200 bps

NB: the H632 needs an external antenna to operate.

The antenna has to be designed carefully, depending on your own specifications (size constraints, expected operating distance) but with limited flexibility due to the requirements of the ISO standards and the EMC regulations.

SpringCard has a strong experience in antenna design. Don't hesitate to contact us for consultancy.

This device is a contactless coupler; it uses inductive coupling (magnetic field) to power the cards and to communicate with them. Precaution must be taken to keep the antenna far from any source of perturbation (e.g. other readers, computers, etc). Installing the antenna near a metal surface (aluminium or steel plate, etc) means shorter operating distance and increased power consumption. SpringCard has a long experience in antenna integration. Do not hesitate to contact us if you need any assistance.

USB interface

Standard	USB 2.0 full speed (12Mbps)
Power supply	Bus powered (≈300mA under 5V)
Default configuration is PC/SC	

PC / SC mode

Standard USB CCID profile	
Windows driver	2000/XP/Vista
Linux driver	Supported by PCSC-lite CCID driver
API and SDK	100% PS/SC compliant - Free SDK

Legacy mode

USB virtual serial comm. port	
API compliant with existing products (SpringProx-CF, CSB4, CSB5, K531,...)	
Drivers	Windows, Linux
API and SDK	SpringProx API - Free SDK

I/Os and host interface

I/Os	4 LEDs outputs (active low) 4 General purpose input/output
Serial interface	8 data bits, 1 stop, no flow control 9600, 38400 or 115200bps
Control lines	Reset Firmware upgrade (FLASH) Hard power-down (SUSPEND)
I/Os, serial interface and control lines are 0/5V, 0/3V tolerant (TTL or CMOS)	

Power

Vcc	5.0 V DC (± 0.2V)
Consumption	Active : 100 to 300mA (depending of antenna and connected cards) Hard power-down : 2mA

Environment and safety

Operating temperature	-20 → +70°C
Storage temperature	-40 → +85°C
MTBF	500 000 hours
CE mark	EN50082 / EN55022 class B
Other standards	RoHS, FCC part 15 pending

² Safety: EN60950: 2001 ; EN 50364 : 2001, EMC: EN 301 489-03 v1.4.1 ; EN 301 489-01 v1.6.1

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