springcard®

K632

OEM CONTACTLESS READER/WRITER MODULE

K632 is a reader/writer module, compliant with RFID tags and contactless smartcards in the 13.56MHz band (ISO/IEC 14443, 15693 and 18000-3). Its small size and single 5V power supply make K632 the perfect RFID interface for industrials or embedded systems.

KEY FEATURES

K632 is dedicated to integrators who need to process either ISO 14443-A/B smart cards (such as MIFARE, DESFIRE, Calypso and others), ISO 15693 tags or RFID labels (ICODE, TAGIT, and others), or NFC objects.

RFID MADE EASY

K632's RF stage is designed to drive directly an asymetric antenna *(direct connection for very short distances or through or a 50Ω coaxial line)*, removing the need for any other external RF component.

Driving K632 from any microcontroller or host computer, requires only one standard UART *(2-wire asynchronous communication port)*. Thanks to the free SDK, with its comprehensive and well-documented API, developers design their contactless cards or RFID tags in no time.

K632 also features 2 output lines to drive LEDs and a user configurable I/O line. When needed, a few other pins give advanced control of the device *(on-the-field firmware upgrade, hard reset, hard power down)*.

A FEW TYPICAL APPLICATIONS

- Ticketing, transportation, road toll pricing
- RFID tracking, loyalty
- e-money/e-purse, corporate ID, citizen card
- physical 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 on the contactless-reader market.

SpringCard distributes **Pro Active's** contact and contactless products worldwide, under a single brand name.

NB: the K632 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.

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

We also offer ready-to-use OEM couplers, featuring K632 mounted on an antenna. Visit our website for detailed information.

ORDER CODE

PART #	Description
K632-4R4	ISO 14443-A/B & 15693 OEM module

HEADQUARTERS, EUROPE
SPRINGCARD

13 voie la Cardon
Parc Gutenberg
91120 Palaiseau
FRANCE

Phone : +33 (0) 164 53 20 10
Fax : +33 (0) 164 53 20 18

AMERICAS
SPRINGCARD

6161 El Cajon Blvd
Suite B, PMB 437
San Diego, CA 92115
USA

Phone : +1 (713) 261 6746

www.springcard.com

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TECHNICAL SPECIFICATIONS

Contactless smartcard interface	
Standards	ISO/IEC 14443 A and B, T=CL ISO 15693
RFID carrier	13.56 MHz
Operating distance	typical 5 cm - up to 8cm depending on card and antenna
Card baud rate	106, 212, 424 or 848 kbit/s (14443) 26 kbit/s (15693)

Supported cards (partial list) :
- NXP (Philips) ICODE1, ICODE-SLI, etc
- Texas Instrument TagIT
- NXP (Philips) MIFARE Classic & UltraLight
- NXP (Philips) DESFIRE, SmartMX, ProX
- Infineon SLE66 family
- ST MicroElectronics SR, SRI, SRIX families
- HID iClass, Inside PicoTag
- ASK CTS256/CTS512
- Calypso (CD97, CD21, GTML, etc)[1]

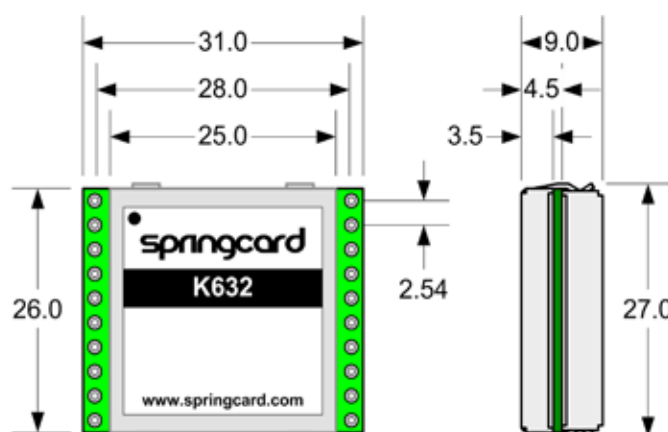And virtually any ISO/IEC 14443 A or B compliant smartcard, or ISO/IEC 15693 compliant RFID label

[1] Calypso card operation is subject to an extra license fee. Contact us for information.

I/Os and host interface	
I/Os	2 LEDs outputs (active low) 1 USER 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	8 data bits, 1 stop, no flow control 9600, 38400 or 115200bps
Control lines	RF On : 150mA typ. (depending of antenna) RF Off : 30mA Hard power-down : 6mA

Unit = millimeters
Tolerance ± 0.1 on all dimensions

Hardware	
Dimensions (LxWxH)	26 x 31 x 09 mm
Weight	≈ 14g

Environment and safety	
Operating temperature	-20→+70°C
Storage temperature	-40 →+85°C
MTBF	500 000 hours
CE mark	EN50082 / EN55022 class B[2]
FCC	Part 15
Other standards	RoHS

[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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