

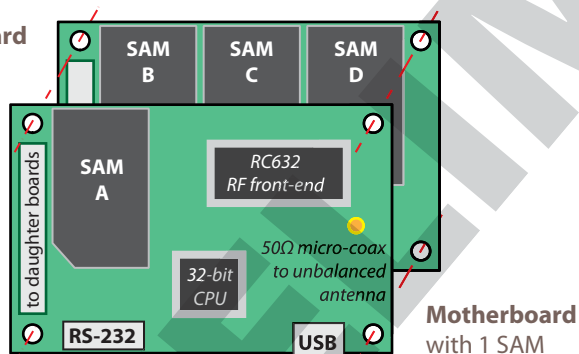
CRAZYWRITER HSP

MULTI-INTERFACE OEM CONTACTLESS COUPLER

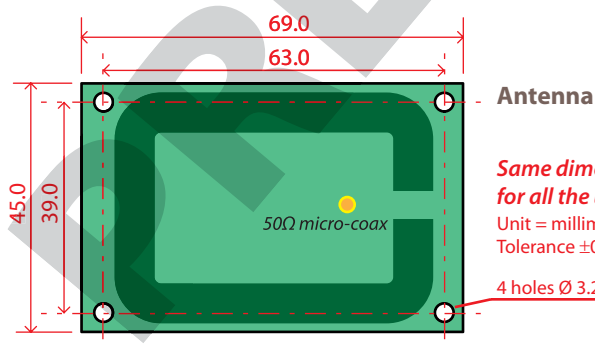
CrazyWriter HSP is an OEM reader/writer module, compliant with RFID tags, contactless smartcards and NFC objects in the 13.56MHz band (ISO 14443 and 15693, Calypso).

Featuring up to **4 SAM slots** and 1 optional **contact smartcard** interface, CrazyWriter HSP is the perfect coupler for card issuing or processing in **secure architectures**.

3-SAM board
(option)



Motherboard
with 1 SAM



Antenna

Same dimensions
for all the boards
Unit = millimeters
Tolerance $\pm 0.1\text{mm}$

4 holes $\varnothing 3.2\text{mm}$

A READY-TO-USE INDUSTRIAL SOLUTION

Being both modular and scalable, CrazyWriter HSP is designed for industrial applications, where ease of integration, ruggedness and reliability are the key to success.

But CrazyWriter HSP makes no compromise on speed and performances: up to 10cm RFID communication, card baudrate up to 848kbps, USB 2.0 at 12MBps and fast serial RS232 interface...

PC/SC SMARTCARD READERS

SpringCard CrazyWriter HSP is PC/SC compliant, and brings immediate contactless card support to existing smartcard applications (the whole device is seen as 5 PC/SC reader instances : 1 contactless/RFID, 1 contact, and 4 SIM/SAM).

A FEW TYPICAL APPLICATIONS

- **Transports** : card issuing and reloading, validation and debit - either at the gates, in kiosks or ticket-vending machines, or in-vehicle (bus, tram, train)
- **Card personalization**, card printers
- **e-money**, POS, ATM, NFC transactions
- **e-gov** : passport or ID-card issuing or checking

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.

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A PRO ACTIVE BRAND
Pro Active

CRAZYWRITER HSP

MULTI-INTERFACE OEM CONTACTLESS COUPLER

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	with 69x45 antenna (default) : up to 8cm with Ø 80 antenna : up to 10cm distance vary with antenna, card and environment
Card baud rate	106, 212, 424 or 848 kbps (ISO 14443) 26 kbps (ISO 15693)
Supported cards (partial list) : <ul style="list-style-type: none"> NXP (Philips) ICODE1, ICODE-SLI, etc, Texas Instrument TagIT NXP (Philips) MIFARE Classic & 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)¹ And virtually any ISO/IEC 14443 A or B compliant smartcard or NFC object running in card emulation mode, or ISO/IEC 15693 compliant RFID label	

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

SIM / SAM interfaces	
Card format	ID-000 (µSIM) push-push connectors with card detect
Number of slots	4: 1 on main board + 3 on daughter board (option)
Standards	ISO/IEC 7816, T=0 & T=1, Calypso HSP
Smartcard class	A, B or C (5V, 3.3V, 1.8V cards)
Clock frequency	4, 8 or 12 MHz
Card baud rate	9 600 to 250 000 bps

ISO 7816 smart card interface	
Card format	ID-1 1 slot with card detect on daughter board (option)
Standards	ISO/IEC 7816, T=0 & T=1
Smartcard class	A, B or C (5V, 3.3V, 1.8V cards)
Clock frequency	4, 8 or 12 MHz
Card baud rate	9 600 to 250 000 bps

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 - PC/SC	
Standard	USB 2.0 (12Mbps) - also supports 1.1
Power supply	Bus powered (≈300mA under 5V)
Profile	USB CCID (multi-slot smartcard reader)
Driver	PC/SC driver for MS Windows Supported by PCSC-Lite open source CCID driver (Linux, MacOS X and other UNIX systems)

RS-232 Serial interface	
Connector	JST: BM08B-SRSS-TB(LF)(SN)
External power supply	5V ±10% - 500mA
Profile	SpringProx Legacy - use SpringProx API

Hardware specifications	
N.B. : This is an OEM product, sold as electronic parts, without housing	
Dimensions (LxWxH)	Each board = 69 x 45 x 1,6 mm
Max. distance antenna to mother board	2-wire twisted cable = 5 cm 50 Ω coaxial cable = 2 m

Environment and safety	
Temperature	Operation: -20 / +70°C Storage: -40 / +85°C
Durability	500 000 smart card insertions 5 000 SIM/SAM insertions
MTBF	500 000 hours
CE mark	EN50082 / EN55022 class B
Other standards	RoHS, FCC pending

ORDER CODES

PART #	Description
SC0168	CrazyWriter HSP mother board + 69x45 mm antenna 50cm micro-coax cable included, USB cable not provided
SC0169	3 SAM expansion board to be plugged on mother board
SC0170	Smartcard expansion board 50cm 14-pin ribbon cable included
CWRS	Serial expansion board (with DB9 and power jack 9-24V DC) 25cm 8-pin connexion cable included

Various accessories and customization options are available to address any specific requirement. Contact SpringCard for details, advices, or custom solutions design.

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