springcard®

YOUR EXPERT IN CONTACTLESS SOLUTIONS

‘E’ Series : Network PC/SC Contactless Couplers

TwistyWriter-IP PC/SC / FunkyGate-IP PC/SC

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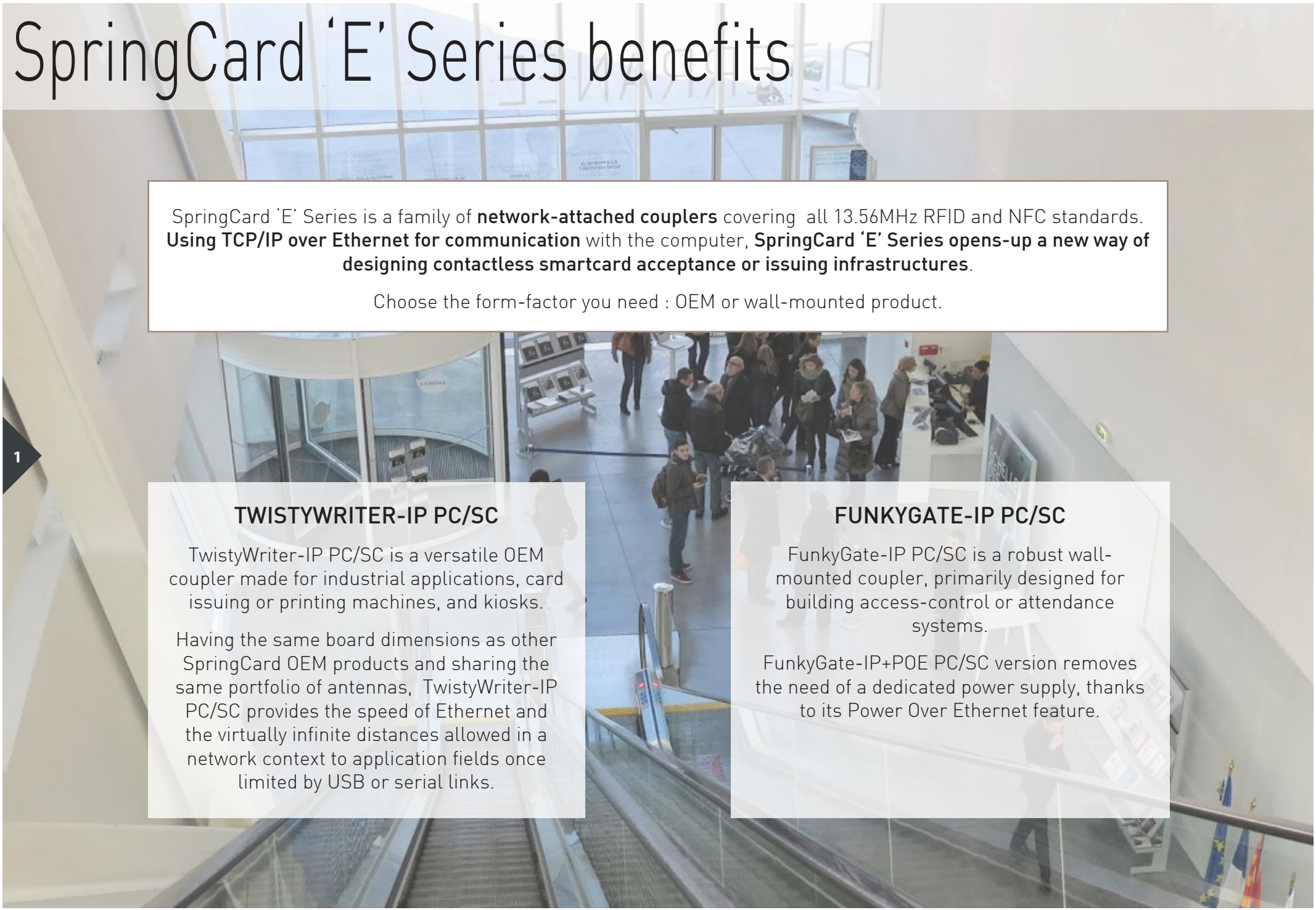
SpringCard 'E' Series benefits

SpringCard 'E' Series is a family of **network-attached couplers** covering all 13.56MHz RFID and NFC standards. **Using TCP/IP over Ethernet for communication** with the computer, **SpringCard 'E' Series opens-up a new way of designing contactless smartcard acceptance or issuing infrastructures**.

Choose the form-factor you need : OEM or wall-mounted product.



TWISTYWRITER-IP PC/SC

TwistyWriter-IP PC/SC is a versatile OEM coupler made for industrial applications, card issuing or printing machines, and kiosks.

Having the same board dimensions as other SpringCard OEM products and sharing the same portfolio of antennas, TwistyWriter-IP PC/SC provides the speed of Ethernet and the virtually infinite distances allowed in a network context to application fields once limited by USB or serial links.

FUNKYGATE-IP PC/SC

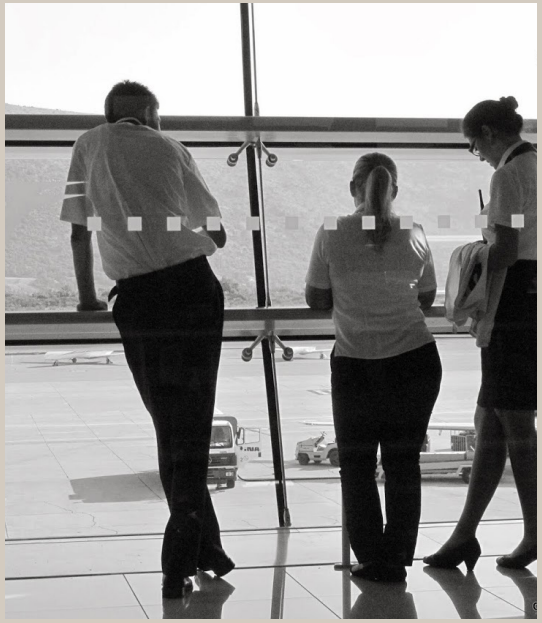
FunkyGate-IP PC/SC is a robust wall-mounted coupler, primarily designed for building access-control or attendance systems.

FunkyGate-IP+POE PC/SC version removes the need of a dedicated power supply, thanks to its Power Over Ethernet feature.

END-TO-END SECURITY, A NEW STEP IN ACCESS CONTROL SYSTEMS

In a classical access control system, the reader reads some data from a card, and then forward this data to the controller unit or computer. Securing the system is a complex process, because the reader -which is by definition out of the protected zone- must store both the key to read the card, and the key to communicate with the controller -if some. This generally speaking **makes a conventional reader the weakest point of the system**; a defrauder will not lose his time trying to forge a card if he could compromise a reader, or even install a fake reader to send counterfeit data to the controller.

Replacing a reader by a **transparent coupler removes all the complexity**, for there's no key to store in the reader, and no implicit trust of the readers on the controller side. The key to read the card stays at the controller's (maybe in a SAM or S.E.), and the communication channel between the card and the controller is **secured end-to-end**.



SIMPLICITY AND SPEED

PC/SC compliance enables **developing easily** the application which will interact with data of the NFC token (card, smartphone, etc.).

The transaction is made very quickly thanks to the **flexibility and the high potential of the TCP/IP over Ethernet network**.

Information exchanges flow through a **simple RJ45 standard plug** which is the link to the local network. Depending on environment, baudrate is 10 or 100Mbps, always enough how much it is, regarding the data volume.

Cabling is made very simply with POE version. Just pick up the power supply from network: that is Power Over Ethernet (POE). No need to use a 12V power cord anymore besides the Cat5 or Cat5e network cable.

A SECURED SYSTEM

Mixing TCP/IP and PC/SC is the pledge of a secured system, impossible to hack.

Communication between the coupleur and the access control system (embedded computer or complex application serveur) lies on efficient, high performed and secured exchanges.

TCP sockets and 128-bit AES cyphering algorithmes are the key points of a complete intigrity and confidentiality of data.

TOWARDS INTERNET OF THINGS

Internet of Things is at your fingertips! The NFC token you chose to interact with the couplers can be just as well a smartphone or any other token, including a compliant chip.

NFC TCP IP - PC/SC couplers are able to interact whith almost **any kind of chip operating in the 13.56MHz band**, including the popular NXP MIFARE® products, and also any kind of NFC tags.

TwistyWriter-IP PC/SC

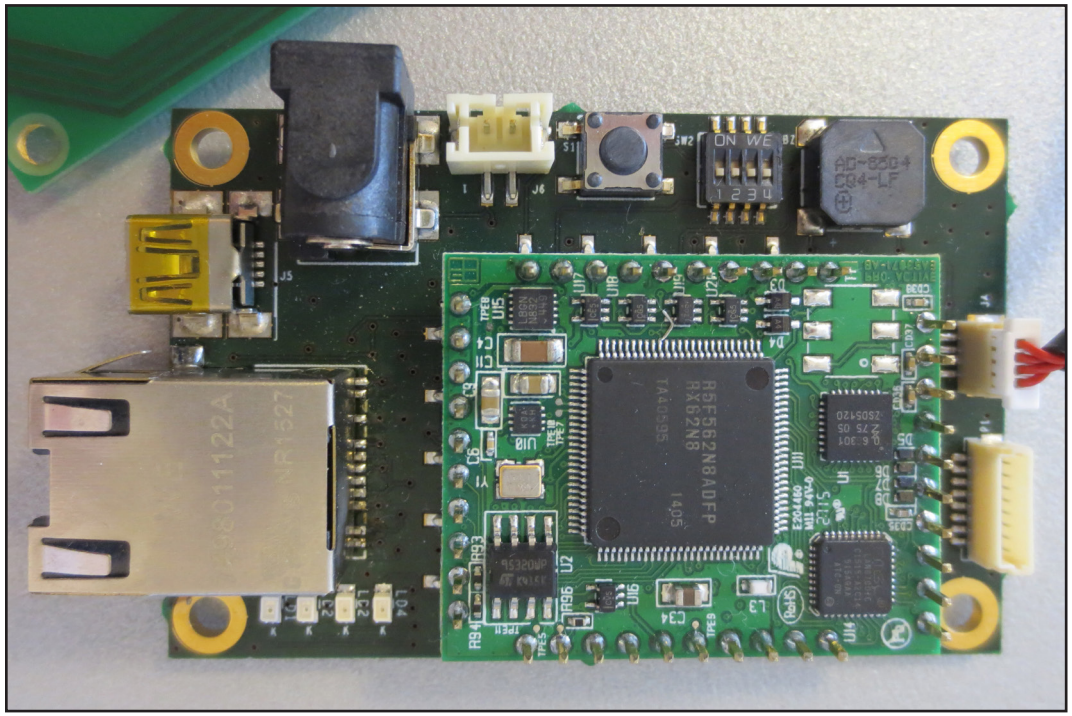
OEM Network RFID/NFC PC/SC Coupler

Contactless and RFID

- **TwistyWriter-IP PC/SC** supports any T=CL contactless smartcard (ISO 14443), including Calypso transport cards and all families of MIFARE cards.
- **TwistyWriter-IP PC/SC** is able to read/write any NFC Forum Tag as well as virtually any RFID chip in the ISO 15693 or ISO 18000-3 mode 3 standards.

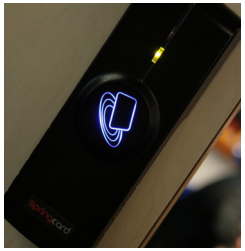
Made for OEMs

- As all other SpringCard OEM PC/SC Couplers, **TwistyWriter-IP PC/SC** is designed to be integrated in a larger equipment: kiosk, turnstile or parking gate, card printer, automated vending machine...
- SpringCard has a strong experience and commitment in providing industrial-grade solutions. **TwistyWriter-IP PC/SC** is a guaranteed long-life product line. It shares the same outside dimensions and antenna portfolio as K633 (serial) and H663 (USB) product lines.



Order codes

- **SC16091: TwistyWriter-IP PC/SC** OEM Network RFID/NFC PC/SC Coupler (antenna and cable are not included)
- **SC14358: 69x45 Balanced Antenna**

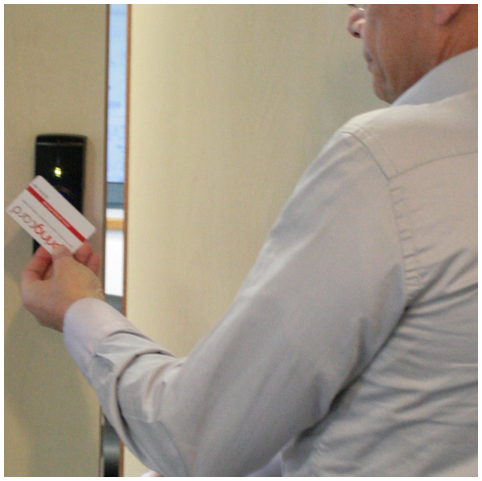


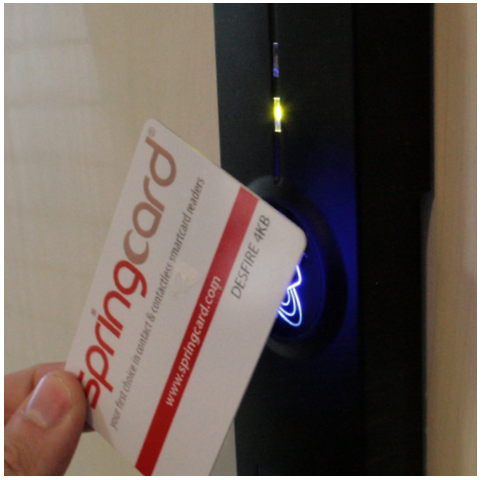
FunkyGate-IP PC/SC

Wall-mounted Network RFID/NFC PC/SC Coupler

Contactless and RFID

- **FunkyGate-IP PC/SC** supports any T=CL contactless smartcard (ISO 14443), including Calypso transport cards and all families of MIFARE cards.
- **FunkyGate-IP PC/SC** is able to read/write any NFC Forum Tag as well as virtually any RFID chip in the ISO 15693 or ISO 18000-3 mode 3 standards.





A robust device, targetting building access control

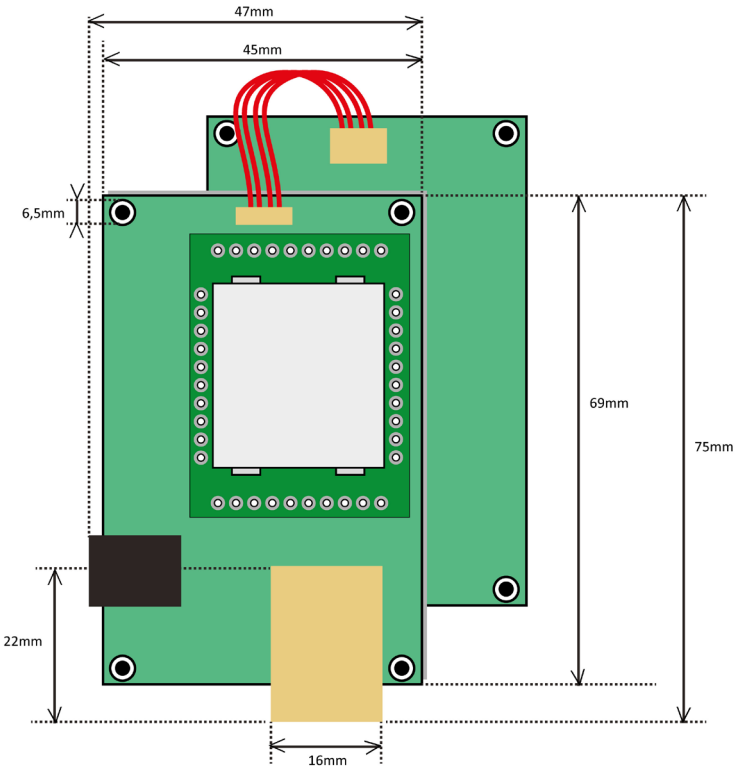
- **FunkyGate-IP PC/SC** shares the same housing as other SpringCard FunkyGate dataclock/wiegand/RS485 readers, a best seller in its category.
- Thanks to its standard 10/100Mbps RJ45 plug, **FunkyGate-IP PC/SC** is installed in no time wherever the network is already running.
- Furthermore, **FunkyGate-IP+POE PC/SC** frees the installation from the power cord! Thanks to IEEE 802.3af (Power Over Ethernet) technology, a single RJ45 cable provides both power supply and connectivity.

Order codes

- **SC16092: FunkyGate-IP PC/SC** Wall-mounted Network RFID/NFC PC/SC Coupler
- **SC16093: FunkyGate-IP+POE PC/SC** Wall-mounted Network RFID/NFC PC/SC Coupler

Dimensions

TwistyWriter-IP PC/SC
OEM Network RFID/NFC PC/SC Coupler

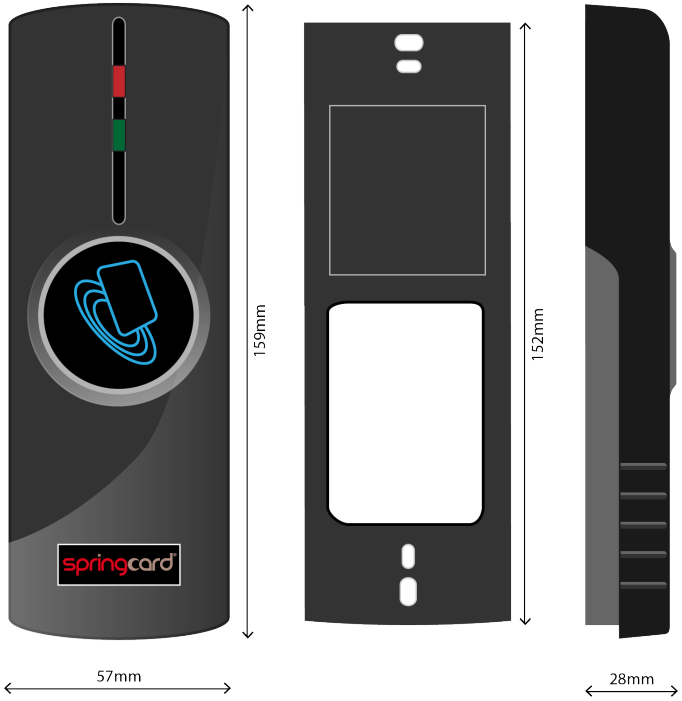


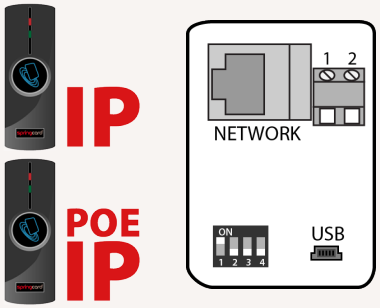
Top view

Side view

Please note that drawings are non-binding.
Accuracy: +/- 1mm.

FunkyGate-IP PC/SC
Wall-mounted Network RFID/NFC PC/SC Coupler





#	
1	VCC - 12V
2	GND - masse

Câble recommandé:

- Ethernet cat. 5 - 100m max. entre le lecteur et le switch/hub

Le connecteur USB n'est utilisé que pour la mise à jour du firmware.

Technical data

	TwistyWriter-IP PC/SC	FunkyGate-IP PC/SC	FunkyGate-IP+POE PC/SC
	OEM Network RFID/NFC PC/SC Coupler	**Wall-mounted network RFID/NFC PC/SC Coupler**	
RFID/NFC Standards	ISO 14443 A-B, ISO 15693, NFC peer-to-peer (ISO 18092 initiator, passive communication mode)		
Carrier frequency	13.56MHz (RFID HF)		
RF field level	Typ. 3A/m at 0.5cm	Typ. 2.5A/m at 0.5cm	
Operating distance	Typ. 0.4cm, up to 8cm(1)	Typ. 0.5-3cm, up to 5cm(1)	
Card/tag baudrate	26kbps (ISO 15693), 106, 212, 424 or 848kbps (ISO 14443), 106,212 or 424kbps (ISO 18092)		
Communication with host	Ethernet 10/100, TCP/IP v4		
Protocol	Based on CCID and PC/SC v2.01		
Drivers & SDK	PC/SC driver for Windows and Open-Source driver for PCSC-Lite (Linux, Mac OS X and other Unix systems) Free SDK for SpringCard PC/SC couplers		
In-field firmware upgrade	Through USB		
Visual	4 LEDs	Red / Green + Blue	
Sound	Single tone beeper		
Power	2-pin screw terminal		
Power requirement - LPCD	9-24V DC input		Powered by the network
Power requirement - RF OFF	250mA max		
Power requirement - RF ON	120mA typ.@ 12V		
Size (WxHxD)	75x47x15mm	156x59x28mm	
Environment			
Temperature	Operating: -20°C – +70°C / Storage: -40°C – +85°C		
Humidity	0 – 90% (non condensing)		
MTBF	500 000 hours		
Approvals	Radio : EN 300 330 - EMC : EN 301 489 - CE mark – FCC class B part 15 (pending/on request)		
Environmental	RoHS, WEEE		
Warranty	2 years		

(1) The actual max. operating distance depends heavily on the card/tag's characteristics, on the baudrate and on the environment.

For any questions or further information please contact us
info@springcard.com

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SpringCard offers a wide range of products to meet as many needs and use cases as possible.
With a 15-year experience in contactless smartcards, communication technologies and development on embedded or mobile systems, SpringCard R&D Team is also a valuable partner to design your own solution or product.

SpringCard in the world

Angers - Paris - Strasbourg
San Diego - San Francisco - Sydney - Tokyo

www.springcard.com

Products designed and manufactured in France

SPRINGCARD SAS au capital de 227 000 € (FRANCE) - RCS EVRY B 429 665 482 - NAF 722 C - VAT #: FR 27 429 665 482