

H663 SERIES

PC/SC RFID AND NFC READERS WITH 1 TO 5 OPTIONAL
T=0/T=1 INTERFACES FOR CONTACT SMARTCARDS OR SIM/SAM



CONTACTLESS & RFID

The **H663 series** supports any T=CL contactless smartcard (ISO 14443), including Calypso transport cards and all families of Mifare cards.

It 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 1 standards (ICODE-SLI, TagIt, my-d...).

INNOVATING NFC FEATURES

Its NFC peer-to-peer capability (NFCIP1 - ISO 18092) is the basis of innovative new applications using this exciting new technology.

CONTACT SMARTCARD AND SIM/SAM

The **H663 series** is able to drive one T=0 or T=1 smartcard or SIM/SAM without external component. Thanks to an optional expansion interface, its number of slots goes up to 5.

Combining a small footprint and the support of SAM in a single device, the **H663 series** is the ideal coupler family for any application where speed and security of the transactions are key concerns.

MADE FOR OEM

This is an OEM products family, sold as electronic parts, without housing. There is a ready-to-use product with its own antenna (H663-USB). To address specific requirements, select the core module (H663S or H663A) and add a custom antenna.

SpringCard also designs ready-to-use products based on the H663 core. For any information, please contact us.

A FEW TYPICAL APPLICATIONS

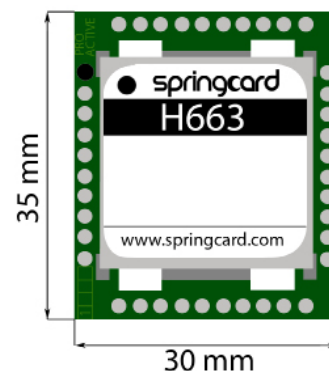
The **H663 series** has an improved operating range and a fastest communication speed.

- Transport terminals,
- Vending machines, point-of-sales PC,
- Card printers,
- Issuing devices,
- And more...

ABOUT SPRINGCARD

SpringCard products are designed and manufactured in France, and distributed worldwide.

With 12 years of expertise in smartcards, contactless, RFID and NFC, SpringCard is the ideal partner to make your project a success.



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A PRO ACTIVE BRAND

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TECHNICAL SPECIFICATIONS

| Contactless / NFC interface | |
|---|--|
| Standards | ISO/IEC 14443 A and B ISO/IEC 18092 Initiator (passive mode) T=CL and NFC-DEP protocols on board ISO/IEC 15693 |
| RFID carrier | 13.56 MHz |
| Operating distance | Typical 5 cm - up to 10cm Vary with antenna, environment and card |
| Card baud rate | 26, 106, 212, 424 or 848 kbps |
| NFC Forum Tag read/write | <ul style="list-style-type: none"> Type 1 : Innovision Jewel/Topaz Type 2 : NXP Mifare UltraLight, NTAG 203... Type 3 : Sony Felica Lite Type 4 : any T=CL smartcard |
| Supported contactless smartcards (partial list) | <ul style="list-style-type: none"> NXP Mifare Classic, Mifare Plus, Desfire, SmartMX... Calypto (including Innovatron radio protocol) Infineon SLE66, ST Micro Electronics ST19 Atmel AT88 and CryptoRF ST Micro Electronics SR, SRI, SRIX Any NFC object or mobile phone running in card emulation mode |
| Supported RFID tags and labels (partial list) | <ul style="list-style-type: none"> NXP ICODE-SLI, Texas Instrument TagIT ST Micro Electronics LRI and MLR |

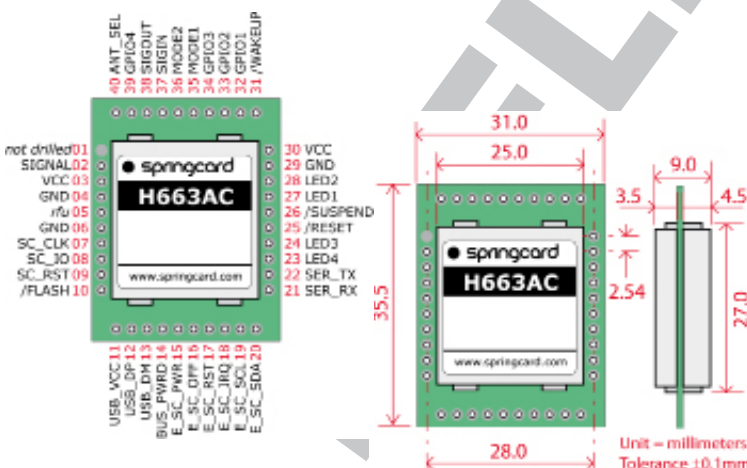
| ISO 7816 smartcard interfaces | |
|--|---|
| Out-of-the-box support for 1 ID-000 mini SIM/SAM slot Support for 1 ID-1 smartcard and 4 ID-000 mini SIM/SAM through Inside Secure AT83C26 smartcard multiplexer (see doc. PNA2236 for details) | |
| Standards | ISO/IEC 7816 (3 and 4) Supporting both T=0 and T=1 protocols |
| Smartcard class | 5V, 3V or 1.8V cards supported (classes A, AB, ABC) |
| Card clock | 4MHz |
| Card baud rate | Up to 115200 bps |

| USB PC /SC interface | |
|----------------------|--|
| Standard | USB 2.0 full speed (12Mbps) Standard USB CCID profile |
| Power supply | Powered by USB 5V DC +/- 10%, 150mA typ. , 500mA max |
| Windows driver | 2000/XP/Vista/Seven |
| Linux, *nix driver | Supported by PCSC-lite open source stack on Linux and other Unix systems |
| API and SDK | 100% PS/SC compliant - Free SDK |

| 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 |

PINOUT AND FOOTPRINT (H663AC)

Please refer to document PNA2236 « H663 AND H663USB HARDWARE GUIDE » for reference and details.



ORDER CODES

| PART # | Description |
|---------|--|
| H663AC | H663 module |
| H663A | H663 module without ISO 7816 |
| H663USB | Ready-to-use H663 mounted on 65x45 antenna |
| CMP3062 | 1.5m USB cable for H663USB |

PRECAUTIONS FOR INSTALLATION

Those devices use inductive coupling (magnetic field) to power the cards and communicate with them. Precaution must be taken to keep them far from any source of perturbation (e.g. other readers, computers...). Installing the device near a metal surface will decrease the operating distance and increase power consumption. Please contact us if you need any assistance to integrate those devices.
The modules need an external antenna to operate. The antenna must 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 long experience designing antenna. Please contact us if you need a custom design.

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