Contactless readers

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Contactless readers

Convenience, interoperability, compliance to market standards

> A complete range of products for the growing contactless markets

Thanks to its reliability and friendliness, the contactless technology is adopted by a growing number of markets. Gemalto, a leader in Digital Security, has been developing expertise in contactless cards and readers for more than 10 years.

Its contactless interface range includes:

- OEM couplers and antennas
- Packaged readers
- Prox Chipsets
- Prox Development Kits.

> Convenience

The application software is dramatically simplified by using its high level command set, API library and PC/SC driver.

Automatic operating modes such as the PayPass level 1 algorithm or the Mifare® Application Directory (MAD) are embedded and provide the highest possible level of performance.

> Cards – readers interoperability

Gemalto has been participating to the e-passports interoperability test sessions: Its Prox technology has demonstrated its total card-reader interoperability.

This is the result of the unique addition of skills coming from several Gemalto laboratories.

Prox-PU

With the Gemalto Prox series, the contactless technology has reached the same level of accessibility as the contact one, and brings a great level of convenience

> Market standards

Gemalto is actively participating to all the international standards working groups.

Therefore its contactless readers comply with all the major contactless market specifications such as:

- **Proximity payment:** PayPass V1.0 level 1
- **Identity:** ICAO - EAC MRTD
- **Access Control:** FIPS 201 / PIV and Mifare®
- **Mass Transit:** Mifare®, Calypso / Innovatron and ITSO.

The Gemalto Prox technology is fully compliant with the **ISO 14443 type A and B** contactless standard.

Consequently it also accesses any **NFC** device operating as a smart card as described in the ISO 21481 standard.

Prox readers read / write the **Mifare®** family cards such as the Ultralight, Standard 1 K / 4 K, SmartMX and DESFire cards.

> Personalization and services

Gemalto adapts its readers to specific demands in term of casing customization (color, logo, etc.) or antenna design.

Additionally, the Gemalto customers benefit from its internationally recognized technical assistance and local presence.

Consulting services and training sessions can also be offered on request.

Specifications

> Contactless card interface

- Operating frequency: 13.56 MHz
- Baud rate: 106 Kbps to 848 Kbps
- On-board antenna
- Read / write the following cards:
  - ISO 14443 type A and B
  - Mifare® range
  - SR176, SRIX512 and SRIX4K chip based cards

> Main functions

- High level command set
- Mifare® Application Directory (MAD)
- Card insertion / removal detection
- E-purse command set
- Several operating modes
- Self test

Prox - P2 / - P5

> Environment

- Humidity: 0 % to 95 %
- EMC: C89/336/CEE, FCC Part 15
- Security: UL 1950, cUL CSA 950
- MTBF: 400,000 H at +20 °C
- RoHS compliant

> SAM (ID000) interface

- ISO 7816, T=0, T=1 protocols
- Power supply: +5 VDC +/- 10%
- Baud rate: 9.6 Kbps to 115 Kbps

> Associated tools

- Prox Development Kit
- PC/SC v2.0 Plug and Play driver for Windows® 2000 / XP / Vista
- C language source code API

	Prox - P2 Prox - P5	Prox - PU
Compliance to standards	ISO14443 type A and B, Mifare®, FIPS 201 / PIV	ISO14443 type A and B, Mifare®, FIPS 201 / PIV, PayPassV1.0, ICAO
Interface with the host	RS232 (-P2), RS485 (-P5) @ 115 Kbps GBP protocol	USB 2.0 Full Speed and RS232 @ 614 Kbps GBP protocol
Dimensions	88 mm x 46 mm x 19 mm	135 mm x 120 mm x 31 mm
On-board features	1 antenna, 2 LEDS, 1 buzzer	1 antenna, 4 LEDs, 1 buzzer, 2 SAMs
Index of Protection	IP65 (water proof)	IP23 (dust proof)
Operating temperature	-20 °C to +70 °C (-4 °F to +158 °F)	0 °C to +50 °C (+32 °F to +122 °F)
Power supply	7 V to 14 V	USB power supply or 5 V in RS232 mode
Firmware function	Read/write functions, Mifare® Application Directory (MAD), e-purse, high level command set	Same as Prox-P2 + Firmware download

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