

Easy-to-use contactless technology

Cost-effective smart card interfaces for the growing contactless market



A complete range of products

GemProx is a range of ISO 14443 contactless products particularly suited for the Proximity Payments, Identity, Access Control and Mass Transit markets.

It consists in a complete technological offer including:

- GemProx-Px packaged readers
- GemProx-Cx OEM couplers
- GemProx Chip Sets
- GemProx Development Kits
- GemProx Services.



Easy to use

With GemProx, the contactless technology has now reached the same level of accessibility as the contact one. The application software is dramatically simplified by the use of a high level command set, API library and PC/SC driver.



GemProx - C2 / C5

Automatic operating modes such as the card insertion / removal and the PayPass card recognition algorithm are also implemented for the highest performances.



GemProx - P2 / P5

Market standards

GemProx is fully compliant with the **ISO 14443 A and B** standard. **T=CL** protocol is handled directly by the reader.

The GemProx readers also read and write the cards based on the **Mifare®** cards family such as the Mifare® Ultra Light, Classic 1 K / 4 K, Pro X and DESFire.

The Mifare® Application Directory (MAD) provides a simple and fast way to access the data related to different applications.

Personalization

Gemplus is ready to adapt its readers to specific demands in term of casing customization (color, logo, etc.) or dedicated couplers and antennas.

Specifications

Card interface

- Operating frequency: 13.56 MHz
- Full ISO 14443 -1 to -4 compliant
- Embedded T=CL protocol
- Baud rate: 106 Kbps to 848 Kbps
- Reading distance: up to 5 cm
- On-board antenna

Host interface

- Type of interface: RS 232, RS 485
- Protocol: GBP or TLP224
- Baud rate: 1.2 Kbps to 115 Kbps

Power supply

- Voltage: +12 VDC (+7 V to +14 V)
- Current: 150 mA at +12 VDC

Environment

- Operating temperature range: -20 °C to +70 °C (-4 °F to +158 °F)
- Storage temperature range: -40 °C to +85 °C (-40 °F to +185 °F)
- Humidity: 0 % to 95 % non condensing
- CE, FCC Part 15 Class B, UL 60950
- MTBF: 400,000 H at 20 °C

Other features

- 2 LED indicators
- Internal beeper
- Accessories for easy wall mounting
- Universal power module in option
- Serial/USB adaptor in option

Main functions

- Read/write the following Smart Cards:
 - ISO 14443 A, B, T=CL cards
 - Mifare® cards (including DESFire)
 - SR176, SR1X512 and SR1X4K chip based cards
 - Other cards on request.
- High level command set
- Automatic switch between A and B Smart Cards
- Firmware download in Flash memory
- Mifare® Application Directory (MAD)
- PayPass automatic card polling
- Card insertion/removal detection
- E-purse command set
- Compliant with PC/SC V2.0 specifications
- Self test

Gemplus expertise in interoperability

Gemplus is recognized as the world's leading supplier of Smart Cards readers (Frost & Sullivan 2004).

Gemplus is an active participant to international standardization groups and offers its unique experience in consulting services such as: Security schemes, interoperability issues, test specifications and tools, feasibility analysis, demonstrations.

Coupler and Packaged versions characteristics

Features	GemProx - C2 / C5	GemProx - P2 / P5
Housing	OEM open case coupler	Packaged reader
Size	82 mm (H) x 40 mm (W) x 22 mm (D)	88 mm (H) x 46 mm (W) x 19 mm (D)
Index of Protection	IP00	IP65: water proof device
Connection	Screwed terminal blocks	- P2: 3 m cable with SUB-D connector - P5: 3 m open wires cable

RS 232 and RS 485 versions characteristics

Features	GemProx - P2 / C2	GemProx - P5 / C5
Host interface	RS 232	RS 485
Max. cabling length	30 m with a AWG24 5-wires cable	1200 m with a AWG24 5-wires cable

