# springcard®

# Prox'N' Drive

Power-effective RFID HF/ NFC coupler for automotive applications

# Prox'N'Drive
## Contactless RFID/NFC coupler for automotive

Being both compact and flexible, Prox'N'Drive is ideal for in-vehicle mounting. A single cable conveys both single 12V DC power and the RS-232 interface.

The front panel has 3 high-luminosity LEDs for user information and is customizable with any personal logo.

The innovative low power card detection system makes it possible to put both the reader and its host system in a deep standby mode until a contactless card, RFID tag or any NFC object is put over the antenna.

### TYPICAL APPLICATIONS

- Car-sharing
- Battery-powered fleets
- Active display windows

### KEY FEATURES

- Reads cards and tags through windscreen and windows
- Single cable and connector for both power and serial interface (RS-232)
- Low Power Card Detection
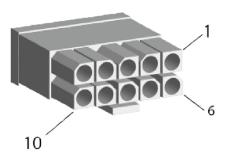- Self-adhesive device made for automotive environments

# Pin Out

| PIN Assignments | | Active state | Input/Output (I/O) | MIN (V) | MAX (V) | Low Level | High Level | Signal Designation |
|---|---|---|---|---|---|---|---|---|
| 1 | WAKE-UP | High* | O (note 2) | 4.7 | 5 | 0.1V | 4.9V | The product can be used in low powered mode: this signal indicates that the product as woken up from a detection of a badge |
| 2 | \RESET | Low | I (note 1) | 0 | 5 | <2.4V | >2.63V | Reset - used for programming mode (note 3) |
| 3 | FLASH | High | I (note 1-3) | 0 | 5 | <2.4V | >2.63V | Programming : operating mode (note 3) |
| 4 | GND | - | GND | N/A | N/A | N/A | N/A | Ground |
| 5 | N/A | - | - | N/A | N/A | N/A | N/A | |
| 6 | VIN | 5V-24V | GND | -15 | 24 | N/A | N/A | Min 3.3V-24V (Imax=250mA at 5V) |
| 7 | FP_TxD | - | O | -15 | 15 | RS232 | | RS232 transmit - also used for programming mode (note 3) |
| 8 | FP_RxD | - | I | N/A | 15 | RS232 | | RS232 receipt - also used for programming mode (note 3) |
| 9 | GND | - | GND | N/A | N/A | N/A | N/A | Ground |
| 10 | N/A | - | - | N/A | N/A | N/A | N/A | |

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* Tension at high state: 3.3V-5V Tension at low state: 0V

- If FLASH is not used connect it to GND

| Note 1 | Buffered input with buffer trigger gate : ref SN74L-VC1G17 (texas instruments) |
|---|---|
| Note 2 | Iout=1,1mA |
| Note 3 | programming mode setting |

Synoptic Molex

# Technical data

| | Prox'N'Drive |
|---|---|
| **RFID/NFC Standards** | ISO 14443 A-B, ISO 15693, NFC peer-to-peer (ISO 18092 initiator, passive communication mode), ISO 21481 |
| Carrier frequency | 13.56MHz (RFID HF, NFC) |
| RF field level | Typ.: 2A/m |
| Operating distance | Typ.: 8 cm (depends on card/tag) |
| Card/tag baudrate | 106 kbps |
| **Communication with host** | Serial interface RS-232 |
| Interface | Serial - 38400 or 115200bps SpringProx binary or ASCII protocol |
| SDK | Free SDK featuring 'SpringProx API' (full ANSI C source code + binary for Windows and Linux) |
| In-field firmware upgrade | No physical action on the device using SpringCard FUU application (provided that the RESET pin is controlled by the host) |
| **Visual** | 3 LEDs (RYG) |
| **Power** | 3.3V to 24V DC |

| Consumption | 3.3V | 5V | 12V | 24V |
|---|---|---|---|---|
| Standby | <1800µA | <1000µA | <600µA | <400µA |
| Typical | 105mA | 75mA | 50mA | 35mA |
| Maximum | 210mA | 145mA | 70mA | 50mA |

| | |
|---|---|
| **Size (LxWxH) - weight** | 88 x 55 x 7 mm - ca 75 g |
| **Cable / connector** | 1m / Molex 43025-1000 |
| Temperature | Operating: -20°C – +70°C / Storage: -40°C – +85°C |
| Humidity | 0 – 90% (non condensing) |
| MTBF | 500 000 hours |
| **Approvals** | EN50082, EN55022 class B |
| **Environmental approvals** | RoHS, WEEE |
| **Warranty** | 2 years |

# springcard

SpringCard offers a wide range of products to answer the largest possible amount of needs and uses. With 18 years of experience in constactless smartcards, communication technologies and the development of mobile and embedded systems, R&D SpringCard's team is a valued partner to help you create your own solution or product.

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