



## LEGIC advant<sup>®</sup> SM-4200

### Next reader chip generation for secure contactless solutions

The leading-edge 13.56 MHz reader chip with powerful interoperability and all-in encryption package

The new LEGIC advant SM-4200 reader chip becomes your preferred choice for battery powered and standard applications. The extensive interoperability combined with a ready-to-use encryption package opens unrivalled possibilities for contactless applications. The reader chip meets all major RF standards including ISO 14443A+B, ISO 15693 and others for single or multi-technology designs.

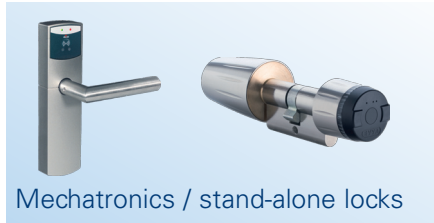


LEGIC advant reader chip SM-4200 size 8x8 mm (1:1 illustration)

#### Application examples



Access control / Time & Attendance



Mechatronics / stand-alone locks



Payment / Vending



Mobile reader / Logical access

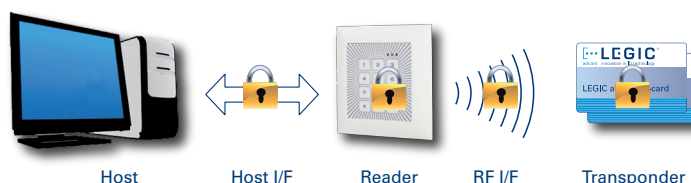
#### Highlights

- Operates with ISO 14443 A+B, ISO 15693, LEGIC RF standard, Sony Felica, Inside Contactless
- Ultra low power consumption
- Small size & easy design-in
- All-in encryption package
- Full end-to-end security
- Firmware upgradable
- Best price-performance ratio

#### Target markets

- High volume markets (e.g. electronic cylinders, door locks, mobile applications, logical access, government ID projects, fitting locks)
- Multi technology readers
- Where small reader size and battery life is crucial

Full end-to-end security



Host

Host I/F

Reader

RF I/F

Transponder

## Your benefit

- One reader for all major RF standards and wide selection of credentials
- Extended battery lifetime
- Advanced ready-to-use, open encryption algorithms
- Straight forward and easy reader development
- Easy integration into existing installations
- Prepared for future requirements

## Technical features

Contactless RF standards	<ul style="list-style-type: none"> <li>■ ISO 14443 A+B, up to 424 kbit/s</li> <li>■ ISO 15693</li> <li>■ ISO 18092 (NFC) *</li> <li>■ LEGIC RF</li> <li>■ Sony Felica</li> <li>■ Inside Contactless</li> </ul>
Supported LEGIC transponders	<ul style="list-style-type: none"> <li>■ LEGIC advant ATC</li> <li>■ LEGIC card-in-card solution AFS</li> <li>■ LEGIC prime MIM</li> </ul>
Supported third party transponders (selection)	<ul style="list-style-type: none"> <li>■ All ISO 14443 A+B, part 4 compliant transponders, e.g.                             <ul style="list-style-type: none"> <li>- NXP Mifare Desfire, Mifare Plus, SmartMX</li> <li>- Infineon SLE66</li> </ul> </li> <li>■ Selected ISO 15693 compliant transponders, e.g.                             <ul style="list-style-type: none"> <li>- Texas Instruments Tag-It</li> <li>- EM Microelectronics EM4035</li> <li>- Infineon my-d</li> </ul> </li> <li>■ Additional transponders                             <ul style="list-style-type: none"> <li>- NFC Forum Tag 2 / 3 / 4 types</li> <li>- NXP Ultralight</li> <li>- NXP Mifare Classic (UID)</li> <li>- Sony Felica (plain text)</li> <li>- Inside Contactless (UID), HID iClass (UID)</li> </ul> </li> </ul>
Security elements (selection)	<ul style="list-style-type: none"> <li>■ LEGIC MasterToken System Control</li> <li>■ Data encryption selectable (AES128/256, 3DES, DES, LEGIC), using key diversification</li> <li>■ Mutual authentication according ISO9798-2, using key diversification</li> <li>■ Host interface authentication and encryption</li> </ul>
Operating System LEGIC OS-4000	<ul style="list-style-type: none"> <li>■ Secure transponder read &amp; write</li> <li>■ Common API for LEGIC transponders</li> <li>■ Access on third party transponders with transparent channel</li> <li>■ Secure field upgradeability (OS update)</li> </ul>
Interfaces	<ul style="list-style-type: none"> <li>■ SPI or UART (RS232 with logic levels)</li> <li>■ Antenna interface 50 Ohm</li> <li>■ 4 GPIO (1 configurable for buzzer control)</li> </ul>
Power supply	<ul style="list-style-type: none"> <li>■ Standard reader application                             <ul style="list-style-type: none"> <li>- RF amplifier: 5 V / 200 mW</li> <li>- Host interface: 3.3 V</li> </ul> </li> <li>■ Battery powered reader application                             <ul style="list-style-type: none"> <li>- RF amplifier: 3.3 V / 70 mW</li> <li>- Host interface: 2.4 V to 3.2 V</li> <li>- WATCH mode: 20 µA</li> <li>- STOP mode: 5 µA</li> </ul> </li> </ul>
Operating temperature	<ul style="list-style-type: none"> <li>■ -25°C to +85°C</li> </ul>
Chip package	<ul style="list-style-type: none"> <li>■ QFN56, 8x8x0.9 mm</li> </ul>
Compliance	<ul style="list-style-type: none"> <li>■ CE, RoHS, GREEN, REACH</li> </ul>

\* Passive mode, initiator, selected tag types

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