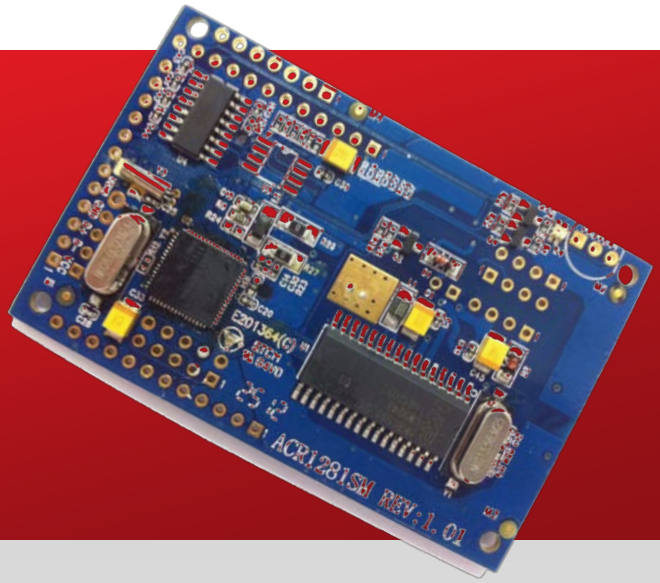
Advanced Card Systems Ltd.
Card & Reader Technologies

# ACM1281S1-Z8 Contactless Small Module




Technical Specifications V1.01



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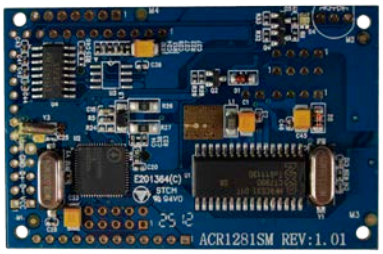
# 1.0. Introduction




The ACM1281 Small Module (ACM1281S1-Z8) is the new version of ACS's ACM120S-SM Contactless Small Module. It is a compact, easy-to-install and versatile contactless smart card reader and writer.

Aside from the contactless reader/writer functionalities, ACM1281S1-Z8 includes value-added features such as LED, buzzer and relay. This device is developed based on the 13.56 MHz contactless smart card (RFID) technology, supporting MIFARE® and ISO 14443 Type A cards. Its proximity operating distance is up to 5 cm, depending on the type of contactless tag in use.

ACM1281S1-Z8 small size allows it to be readily installed into any standard, single-gang electrical switchbox; thus eliminating the hassle of drilling holes on walls to house the contactless module. Your integration choice is not limited to customized casing, but also handy electrical switchbox, which is readily available everywhere.

Small yet powerful, ACM1281S1-Z8 is ideal for a broad range of applications, especially physical access control and time and attendance. With merely a wave of contactless card, the module immediately returns successful read/write signals via its self-contained LED/buzzer, and triggers the relay to open the door for you in a blink of an eye.

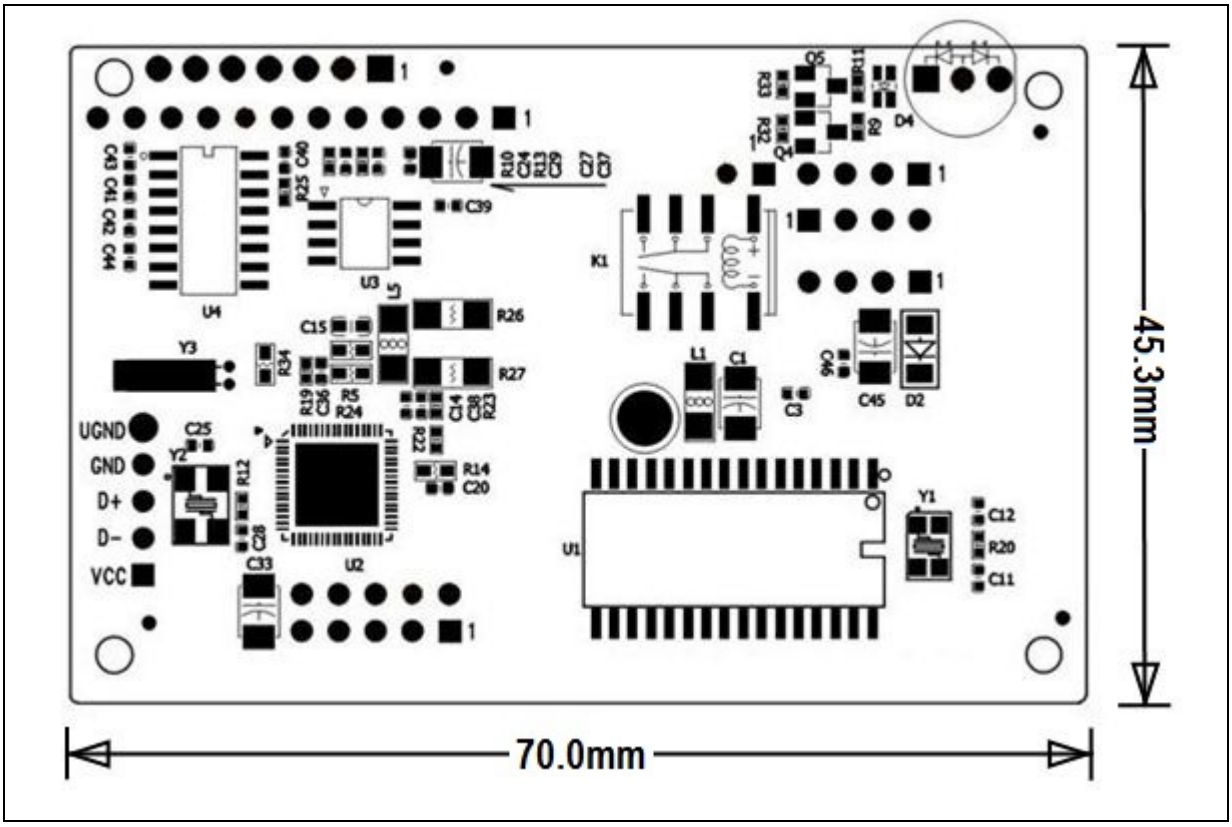
# 2.0. Features

- Serial Interface: Baud Rate = 9.6 Kbps (default), 19.2 Kbps, 38.4 Kbps, 57.6 Kbps, 115.2 Kbps
- Serial RS-232 interface
- External 5 V for power supply
- Smart Card Reader:
  - Contactless Reader
    - Built-in antenna for contactless tag access, with card reading distance of up to 50 mm (depending on tag type)
    - Supports ISO 14443 Type A cards and MIFARE Classic Series
    - Built-in anti-collision feature (only one tag is accessed at any time)
    - Selective card polling capability (especially useful when multiple cards are presented)
- Built-in Peripherals:
  - LED
  - Buzzer
  - Relay
- Easy-to-install for standard single-gang electrical switchbox
- Firmware Upgradability
- Compliant with the following standards:
  - ISO 14443
  - RoHS 2

# 3.0. Typical Applications

- e-Government
- Banking and Payment
- e-Healthcare
- Network Security
- Access Control
- Loyalty Program

# 4.0. Technical Specifications

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|---|---|
| **Serial Interface** | |
| Power Source | External 5 V |
| Type | RS-232 (Standard) |
| Operation Baud Rate | 9.6 Kbps (default), 19.2 Kbps, 38.4 Kbps, 57.6 Kbps, 115.2 Kbps |
| Supply Voltage | Regulated 5 V DC |
| Supply Current | Approx. 40 mA for standby mode; Approx. 200 mA for contactless operation mode |
| **Contactless Smart Card Interface** | |
| Standard | ISO 14443 Type A |
| Protocol | MIFARE Classic protocols |
| Smart Card Read/Write Speed | 106 Kbps |
| Operating Frequency | 13.56 MHz |
| Operating Distance | Up to 50 mm (depending on card type) |
| Antenna Size | 42 mm x 48 mm |
| **Built-in Peripherals** | |
| LED | Green |
| Buzzer | Monotone |
| Relay Contact Rating | 1 A |
| Relay Control | No pre-programmed duration; contact latching/releasing by software command |
| **Physical Specifications** | |
| Dimensions | 70.0 mm x 45.3 mm |
| Weight | 27.7 g |
| **Operating Conditions** | |
| Temperature | 0 °C – 50 °C |
| Humidity | Max. 90% (non-condensing) |
| MTBF | 500,000 hrs |
| **Certifications/Compliance** | |
| ISO 14443, RoHS 2 | |

## Device Driver Operating System Support

Windows® 98, Windows® ME, Windows® NT (Serial), Windows® 2000, Windows® XP, Windows Vista®, Windows® 7, Windows® Server 2003, Windows® Server 2003 R2, Windows® Server 2008, Windows® Server 2008 R2
Linux®