The SIFER card reader is a Smart Card reader designed and manufactured by Inner Range. It is a multi-drop RS-485 based reader that employs 128 bit AES encryption from the card through to the door module, providing a far superior level of security than that of traditional Wiegand based card readers. SIFER readers utilise the Mifare DESfire EV1 card format.

As SIFER readers utilise a superset of the OSDP protocol, the readers may also be deployed on any system capable of using OSDP. SIFER readers are connected to the RS-485 reader port for full Reader-In and Reader-Out operation of various Inner Range products as below.

- Integriti Access Controller (IAC) - Up to 16 Readers
- Integriti Intelligent LAN Access Module (ILAM) - Up to 16 Readers
- Integriti Standard LAN Access Module (SLAM) - Up to 4 Readers

SIFER readers are IP 67 rated and available with site-specific encryption keys.

Three card ordering options are available:

1. **SIFER-P**: Pre-programmed ‘stock’ cards with card number printed. The most cost-effective option but card customisation is not allowed. With more than four billion card numbers available each SIFER-P card is guaranteed to be unique.

2. **SIFER-U**: User Programmable cards that allow an installer to customise the card number, site code and use their own encryption key. Printed with factory card number.

3. **SIFER-C**: Custom batch orders configured by the factory according to the specified card number range, site code, encryption key and printing options. Cards cannot be re-programmed at a later stage by the installer or the factory.

**Features**

- Secure 128bit AES Encryption
- Encrypted from Card Through to Access Module
- Mifare DESfire EV1 Card Format
- Water & Dust Resistant to IP67
- Vandal Resistant (fully potted)
- Flexible LED Assignment
- Audible Buzzer (can use as DOTL)
- Multi-drop RS-485 Reader LAN
- Individual Reader Heartbeat Monitoring
- Integriti Auto Reader Discovery
- OSDP Compatible
- Read Card Serial Number (CSN) from 3rd party cards (Multi-Format Version Only)
- Support for Custom Site Codes and Site Specific Encryption
- User Programmable Cards Offer Great Flexibility For Installers
- Global Configuration from Integriti Systems (including firmware updates)
- Read-Write Functionality
- Small Footprint (Dimensions: 39 (W) x 93 (H) x 15 (D) mm)

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**Multi-Format Version**

The SIFER Multi Format Card reader offers an identical set of features to the Standard SIFER Reader with additional support for reading the CSN of third party 13.56Mhz credentials.

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**SIFER Connectivity Guide**

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<th>SIFER Host Module</th>
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The Prisma Keypad is also available with a SIFER Reader built in.
### Specifications

**Physical**
- Reader Size: 93(L) x 39(W) x 15(D) (mm)
- Mounting Plate: 91.5(L) x 38(W) (mm)
- Mounting Method: 2 x fixing screws for mounting plate
- Mounting Holes: 65.5mm hole spacing
- Mounting Surface: Optimised for flat non-metallic surfaces
- Cavity Cable Entry Hole: Up to 20mm
- Installation Environment: -35ºC to 65ºC @15% - 90% relative humidity (non-condensing)
- Ingress Protection: IP67

**Reader Protocols**
- Device Communications: Open Supervised Device Protocol (OSDP)
- Operating Frequency: 13.56Mhz
- Credentials: Mifare DESFire EV1 with AES encryption
- Credentials: Read Card Serial Number (CSN) from 3rd party cards (MF Model Only)

**Connections**
- Pigtail Cable Length: 500mm
- Pigtail Extension Cable Type: 2-pair 7/0.20 twisted pair data cable as minimum.
  - 2-pair 14/0.20 multi-strand shielded twisted pair data cable is preferred (e.g. Belden 8723). See installation manual for more info.
- Connection Methods: RS-485 multi-drop star or daisy chain configurations
- Total Overall Cable Length: 1000 meters total on one RS-485 reader port guaranteed
- Max Readers: Up to 16 with IAC & ILAM, Up to 4 with SLAM
- Compatible Integriti Host Modules: Standard LAN Access Module (SLAM), Intelligent LAN Access Module (ILAM), Integriti Access Controller (IAC)

**Reader Security**
- Physical Tamper: Optical beam to mounting surface
- Card to Reader: 128bit AES encryption
- Reader to Access Module: 128bit AES encryption
- Vandal Resistance: Fully encapsulated vandal resistant electronics

**Reader Configuration**
- LAN Addressing: Fully automatic when used with Integriti systems
- Manual addressing with 3rd party OSDP compatible systems
- Firmware Updates: Over-the-wire firmware updates when used with Inner Range systems
- Reader Purpose Options: Control a Door, Control a Lift, Log on, Area status toggle

**LED & Beeper Indicators**
- LED Configuration: Brightness, Colours & Feedback modes - configurable via Integriti Software
- LED 1 & 2 Colour Options: RGB, Indication 23 colour selectable
- Feedback Modes for LED's: Area Status, Area Alarm/Isolated, Entry/Exit Delay, Door open/locked status, Valid/Unvalid card badge, No LED
- Beeper Volume: Variable - configurable via Integriti software
- Beeper Feedback Options: Valid/Unvalid card badge, Door Open tool long (DOTL), Area Alarm, Entry/Exit Delay

**Power Requirements**
- Input: 11-14V DC <500mV ripple
- Current Consumption: 75-100mA typical, 150mA MAX with all LED's driven at full brightness

**Compliance**
- RoHS

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**Ordering Options**

- **994720**
  - SIFER Smart Card Reader
- **994720MF**
  - SIFER Smart Card Reader - Multi Format Version
- **996005SI**
  - Prisma Keypad with SIFER Smart Card Reader built in (see Prisma Data Sheet on page 53)

**Credentials**

- **ISO Cards**
  - **994610**
    - SIFER-P DESFire EV1 4K ISO (Pre-programmed - Printed)
  - **994612**
    - SIFER-U DESFire EV1 4K ISO (User Programmable - Printed)
  - **994614**
    - SIFER-C DESFire EV1 4K ISO (Custom Programmable - Printed)

- **FOB’s**
  - **994616**
    - SIFER-P DESFire EV1 4K FOB (Pre programmed - Printed)
  - **994618**
    - SIFER-U DESFire EV1 4K FOB (User Programmable - Printed)
  - **994620**
    - SIFER-C DESFire EV1 4K FOB (Custom Programmable - Printed)

**Management Tools**
- **994750AU**
  - SIFER Card Programming Station
- **994751AU**
  - SIFER Card Enrollment Station

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**SIFER-C cards are programmed with a custom encryption key and will require at least one SIFER Reader Configuration card with the initial batch. The SIFER Reader Configuration Card is available under Part Number 994614CNF.**

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June 2016 The specifications and descriptions of products and services contained in this catalogue were correct at the time of publishing. Inner Range reserves the right to change specifications or withdraw products without notice.