

The SIFER Keypad is a combined IP67 rated Keypad and Smart Card reader that allows dual credential Card & PIN high security access control. (PIN only or Card only is also supported)

The SIFER Keypad is a multi-drop RS-485 device that employs 128 bit AES encryption from the card/keypad through to the door module, providing a far superior level of security than that of traditional Wiegand based keypads & card readers.

SIFER Keypads utilise the Mifare DESFire© EV1/EV2/EV3 card format. As SIFER Keypads utilise a superset of the OSDP protocol, the keypads may also be deployed on any system capable of using OSDP. SIFER Keypads are connected to the RS-485 reader port for full Reader-In and Reader-Out operation of various Inner Range products as below.

- Integrity Access Controller (IAC) - Up to 16 on-board
- Intelligent LAN Access Module (ILAM) - Up to 16 Keypads/Readers
- Standard LAN Access Module (SLAM) - Up to 4 Keypads/Readers
- Inception Controller - Up to 8 on-board

SIFER Keypads are IP67 rated and available with site-specific encryption keys. Three card ordering options are available for use with the SIFER Keypad.

1. SIFER-P: Pre-programmed 'stock' cards with card number printed. The most cost-effective option but card customisation is not supported. 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. Before leaving the Inner Range factory each SIFER-U card is pre-programmed, with a standard encryption key, site code and unique 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.

4. ECOLITE: ECOLITE is a budget range of credentials that is compatible with Inner Range SIFER Readers, Integrity & Inception systems. These credentials are based on the MIFARE Ultralight EV1 technology which is a lower priced - lower security option compared to the standard DESFire EV1/EV2/EV3 technology used in our SIFER-P, SIFER-U & SIFER-C range of credentials.

## Multi-Format Version

A SIFER Multi-Format Keypad/Card reader is also available and offers an identical set of features to the Standard SIFER Keypad with additional support for reading the CSN of third party 13.56 Mhz credentials.



SIFER Connectivity Guide	Host Module			
	IAC	SLAM	ILAM	Inception Controller
SIFER Reader Qty	16	4	16	8

## Features

- Secure 128bit AES Encryption
- Encrypted from Keypad/Credential through to Host Module
- Supports Card&PIN, Card only or PIN only modes
- Auto dimming backlit Silicon rubber keypad
- Mifare DESFire© EV1/EV2/EV3 Card Format
- Water & Dust Resistant to IP67
- Vandal Resistant (fully potted)
- Flexible LED colour & function Assignment
- Audible Buzzer (can use as DOTL)
- Multi-drop RS-485 Reader LAN
- Individual Reader Heartbeat Monitoring
- Auto Reader Discovery on Inner Range systems
- 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 Inner Range Systems (including firmware updates)
- Small Footprint (Dimensions: 63 mm (W) × 106 mm (L) × 19 mm (D) / 2.5" (W) × 4.17" (L) × 0.75" (D))

A plug-on SIFER Reader board is available for EliteX & PrismaX Keypads. When fitted, SIFER access cards can be presented at the Keypads for card & PIN login or for access control on a local door.



### Specifications

#### Physical

Dimensions:	63 mm (W) × 106 mm (L) × 19 mm (D) 2.5" (W) × 4.17" (L) × 0.75" (D)
Keypad Button Size:	12.3 X 9 (MM) Auto-dimming back lit
Shipping Weight:	162grams
Mounting Plate:	102.7(L) x 60.2(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: -	-25°C to +65°C @15% - 90% relative humidity (non-condensing)
Ingress Protection:	IP67

#### Reader Protocols

Device Communications:	Open Supervised Device Protocol (OSDP)
Operating Frequency:	13.56 Mhz
Credentials:	Mifare DESFire© EV1/EV2/EV3 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 (24AWG) twisted pair data cable as minimum. 2-pair 14/0.20 (21AWG) 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
Distance to Host Module:	Up to 1000 meters. See installation manual for more information
Max Readers:	Up to 16 with IAC & ILAM, Up to 8 with Inception Controller, Up to 4 with SLAM
Compatible Host Modules:	Standard LAN Access Module (SLAM), Intelligent LAN Access Module (ILAM), Inception Controller, 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 Inner Range 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

#### Keypad, LED & Beeper Indicators

Keypad:	Backlit auto-dimming silicon rubber keypad with a highly tactile operation feel
LED Configuration:	Brightness, Colours & Feedback modes - configurable via Integriti Software or Inception Controller
LED 1 & 2 Colour Options:	RGB Indicator 23 colour selectable
Feedback Modes for LED's:	Area Status, Area Alarm/Isolated, Entry/Exit Delay, Door open/locked status, Valid/Invalid card badge, No LED's
Beeper Volume:	Variable - configurable via Integriti software or Inception Controller
Beeper Feedback Options:	Valid/Invalid card badge, Door Open too long (DOTL), Area Alarm, Entry/Exit Delay

#### Power Requirements

Power supply	11V-14V DC < 500mV ripple
Current consumption	65 - 115mA typical, 165mA Max with all LED's driven at full brightness

#### Compliance

##### Electrical



##### Environmental



\*\*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

### Ordering Options



**994725**  
SIFER Keypad/Smart Card Reader

**994725MF**  
SIFER Keypad/Smart Card Reader - Multi Format Version



### Credentials

#### ISO Cards

**994610**  
SIFER-P DESFire© EV3 4K ISO (Pre-programmed - Printed)

**994612**  
SIFER-U DESFire© EV3 4K ISO (User Programmable - Printed)

**994614\*\***  
SIFER-C DESFire© EV3 4K ISO (Custom Programmed - Printed)

**994580**  
ECOLITE MIFARE Ultralight EV1 (Pre-programmed)



#### FOB's

**994616**  
SIFER-P DESFire© EV3 4K FOB (Pre-programmed - Printed)

**994618**  
SIFER-U DESFire© EV3 4K FOB (User Programmable - Printed)

**994620\*\***  
SIFER-C DESFire© EV3 4K FOB (Custom Programmed - Printed)



### Management Tools

**994750** SIFER -U Card Programming Station

**994751** SIFER Card Enrolment Station

