inner range
994725MF Sifer Keypad Reader

Inner Range 994725MF Sifer Keypad Reader Instructions

Contents

Inner Range 994725MF Sifer Keypad Reader

Specifications

- **Product:** Inner Range SIFER Pad
- **Model:** SIFER Keypad Reader
- **P/N:** 994725MF / 994725: Multi-format / Standard
- **Features:**
  - Backlit ergonomic keypad
  - Optical tamper device
  - Configurable RGB LEDs and Beeper
  - Multi-format version reads CSN or UID data from other 13.56MHz formats
  - Connects to host Module via multi-drop RS485
  - Firmware updates over system wiring in Inner Range systems. Latest firmware recommended
- **Recommended:** Non-metallic mounting surface

Product Usage Instructions

- Ensure a non-metallic mounting surface is used for installation.
- Connect the SIFER Pad to the host Module via multi-drop RS485.
- Follow the installation manual provided for proper setup.
- Regularly check for any physical damage or tampering on the keypad reader. Keep the device clean and free from dust.
- It is recommended to update the firmware using the system wiring in Inner Range systems. Ensure to follow the latest firmware updates for optimal performance.

FAQ

- **Q:** Can the SIFER Pad be used with metallic mounting surfaces?
- **A:** It is recommended to use a non-metallic mounting surface to avoid interference with device functionality.
- **Q:** How do I know if my system is compatible with the SIFER Keypad Reader?
- **A:** Refer to the compatibility table provided in the user manual to ensure your system meets the minimum firmware requirements for compatibility.
- **Q:** How do I perform a firmware update on the SIFER Pad?
- **A:** Firmware updates can be done over system wiring in Inner Range systems. Follow the instructions provided in the manual for updating firmware.

P/N: 994725MF / 994725: 994726:

Multi-format / Standard SIFER Keypad Mobile Access*

The Mobile Access version supports Inner Range Mobile Access credentials from compatible iOS and Android devices. For setup & configuration refer to:

- IRSiferMobileCredential_Integration_Manual.pdf (For Integriti)
- Inception Tech Guide – IR Mobile Access.pdf

Features

- Backlit ergonomic keypad.
- Optical tamper device.
- Configurable RGB LEDs and Beeper.
- Multi-format version reads CSN or UID data from other 13.56MHz formats. See Data Sheet.
- Connects to host Module via multi-drop RS485.
- Firmware updates over system wiring in Inner Range systems. The latest firmware is recommended.

Non-metallic mounting surface is recommended.

Parts List

- Reader body with integrated pigtail cable.
- Mounting plate & C’sunk screw.
- Installation manual. (This doc.)

UL Requirements (North America)

- Refer to the Inner Range host LAN
- Module Installation manual for details of UL regulatory requirements.

Compatibility

Product	Minimum Firmware Version		SIFER Readers per Module
	Std / MF	Mobile Access	
ISC / IAC	V16.01	V23.1	16 (IAC ONLY)
ILAM	V2.0	V4.1.0	16
SLAM	V2.0	V4.0.7	4
Integriti Software	V16.0	V23.1	n/a
Inception Controller	V1.3.5	V6.1.0	8

Specifications

- **Environment:** Operating Temp: -35°C to +65°C.
  - Ingress Protection: IP67
- **Physical dimensions. H:** 105mm W: 62mm D: 18mm
  - Mounting plate. 103 mm (H) x 60 mm (W)
  - Power supply input: 11-14V DC <500mV ripple.
  - Current consumption: 65 – 115mA typical*. 165mA max.
  - Depends on the version & LED config.

V+/0V must only be connected to a power-limited circuit.

- Maximum Cabling Distance using recommended cables.
- Power (V+/0V). @100mA* per Reader.
- To 1 Reader with 2-Pair 7/0.2 (24AWG) cable: 100m.
- To 1 Reader with 2-Pair 14/0.2 (21AWG) cable: 200m.
- To 2 Readers with 3-Pair (2 pairs for +V/0V): 100m.
- Data (Data A/Data B/0V).
- Access Module to furthest Reader: 1000m.
- Total data cabling on one “RDR RS485” Port: 1000m.
- For longer cable runs &/or multiple Readers on the same run.
- One of the following may be required:
- Heavier duty 2-pair cable.
- Additional pair or separate heavy-duty fig. 8 for +V/0V.
- A separate battery-backed local power supply.

See “READER POWER” below for more details.

Note: Integrity Module programming (IAC/ILAM/SLAM) For PIN Code operations (Card And PIN / Card Or PIN / PIN Only); Under ‘Readers’ ensure that ‘PIN Mode’ is “SIFER/ OSDP/Motorola”. The ‘PIN device’ option is left blank.

FCC STATEMENT

This device complies with Part 15 of the FCC Rules and Innovation, Science and Economic Development Canada’s license-exempt RSS(s). Operation is subject to the following two conditions:

1. This device may not cause interference; and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Class B product
This equipment has been tested and found to comply with the limits for a Class B digital device, according to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.
This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used under the instructions, may cause harmful interference to radio communications.
However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off & on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Warning: Any changes or modifications not expressively approved by Inner Range Pty Ltd could void the user’s authority to operate this equipment

Extending Cable
See “Preliminary Installation Notes 3 & 4”
The pigtail cable can be extended with a twisted-pair multistrand data cable. Pair 1 for Data A/B; Pair 2 for V+/0V. Shielded cable provides additional noise immunity. RS485/RS422 data cable, balanced data cable, and multistrand UTP cable are recommended. Specific recommendations are provided below.
Other types may be used. e.g. Cat. 5e, Cat. 6 or non twisted-pair cable. Refer to the Application Note; ‘SIFER Reader Cabling Alternatives’ or contact Technical Support for advice.
READER POWER: Remember to allow for voltage drop on V+/ 0V over longer distances and/or when Readers are wired in a daisy chain (multi-drop) configuration. The supply voltage drop on the cable is approx. 17mV per metre per Reader using 7/0.2 (24AWG) cable and assuming each Reader draws 100mA.

OVERALL SHIELD (2 Pair)

- Tycab. DPF4702 or DCK4702 Belden. 9842
- Electra. EAS7202P or EAS7302P Garland. MCP-2S
- General Cable. B2002CS Alpha. 6413
- Roadworx. RW600224 Olex. JD2PS485A

OVERALL SHIELD (3 Pair)

- Belden. 9843 Tycab. DPF6702
- General Cable. B2003CS Garland. MCP-3S
- Electra. EAS7203P Electra. EAS7303P

INDIVIDUALLY SHIELDED PAIRS (2 Pair)

- Tycab. DQQ47025 Garland. MCP-2IS
- Alpha. 2466C Belden. 8723

UTP

- Garland UTPL5EMTP (4 Pair stranded UTP patch cable)

Preliminary Installation Notes

1. MOUNTING SURFACE. SIFER Readers are optimized for mounting on a non-metallic surface. A metallic surface will decrease the read range. To improve read range on a metallic surface, install a suitable non-metallic material or mounting block, that provides ≥8mm of separation, behind the Reader.
2. IN/OUT READERS. If two SIFER Readers are installed back to back on either side of a Door, mount the Readers at different heights to minimize interference.
3. CABLING. SIFER Readers are wired in a star and/or daisy-chain configuration from the 'RDR RS485' Port (or Inception 'READER' Port), within the limits defined under Specifications on page 1. The pigtail cable can be extended using a twisted pair cable. 2-pair, 7/0.20 (24AWG) twisted pair data cable is recommended. See the "Wiring Diagram" opposite. See "Specifications" and "Extending Cable" on page 1 for cabling distances and recommended cables.
   If the cable has more than 2 Pairs, a spare pair may also be connected in parallel to V+ & OV to reduce voltage drop.
4. SHIELDED CABLE. If shielded cable is used:
   - Do NOT use the shield as the 0V (negative) connection or allow the shield to contact other wiring or metalwork.
   - Shield is terminated to a protective earth (if available) or 0V, at one end of the cable. i.e. At the host Module.
5. Make a note of the Serial number of each Reader & where it will be installed. See "Barcode Label" opposite.
6. LOCATION. If installed outdoors, avoid direct sunlight as this may cause the housing color to fade over time.

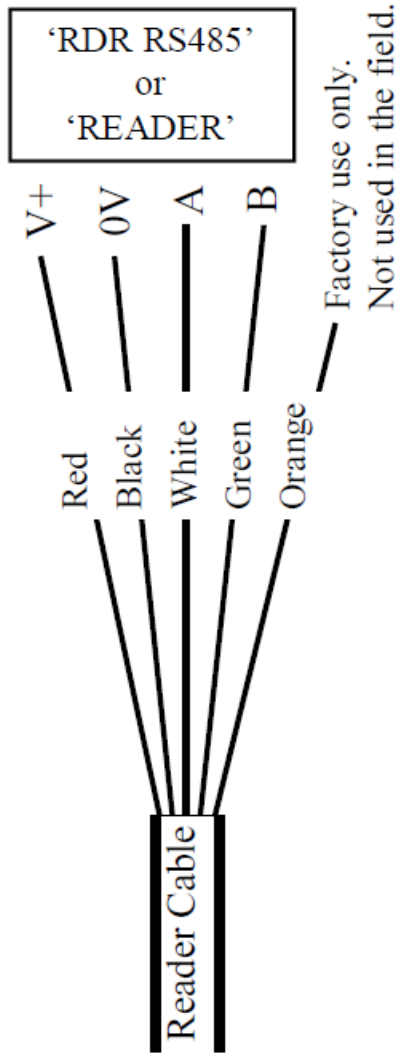
Installing the Reader

1. Mount the SIFER Keypad on a flat, solid surface at an appropriate height for easy keypad use. Determine the mounting location and ensure that cable access is available.
2. If the mounting plate is attached to the body of the Reader, remove it. Insert a small flat-blade screwdriver into one of the two rectangular slots at the bottom rear of the Reader and gently lift the mounting plate out of the Reader body.
3. Using the mounting plate, or the template opposite, mark out, then drill holes for the 2 mounting screws and the cable entry at the mounting location, then secure the mounting plate to the surface using appropriate hardware.

4. Join the extending cable (if required) to the Reader pigtail cable using appropriate terminals/joiners. Note the wire colours (as they may be different), then route the cable from the mounting location to the Access Module.
5. Fit off the cable to the Access Module “RDR RS485” terminal as shown above opposite.
6. Test the installation, including tamper detection* (if used), then fit the Reader body to the mounting plate as follows:
    - Position the tabs in the top of the Reader body into the slots at the top of the mounting plate.
    - Push the bottom of the Reader body onto the mounting plate until it clicks into place.
    - Secure the body to the mounting plate at the bottom of the assembly with the countersunk screw provided.

NOTE: If tamper detection is unreliable due to the mounting surface, adding a white/reflective sticker, or similar, on the surface behind the sensor will assist.

Wiring Diagram



MODULE TERMINAL ID ‘RDR RS485’ / ‘READER’	
Module Type	**PCB ID**
Integriti IAC	T7
Integriti ILAM	T1
Integriti SLAM	T1
Inception Cont.	READER

READER CONNECTIONS	
Color	**Purpose**
Red	+12V supply
Black	0V supply
White	Data A
Green	Data B
Orange	Factory only

To extend the length of the Reader pigtail cable, twisted pair cable is used as follows:

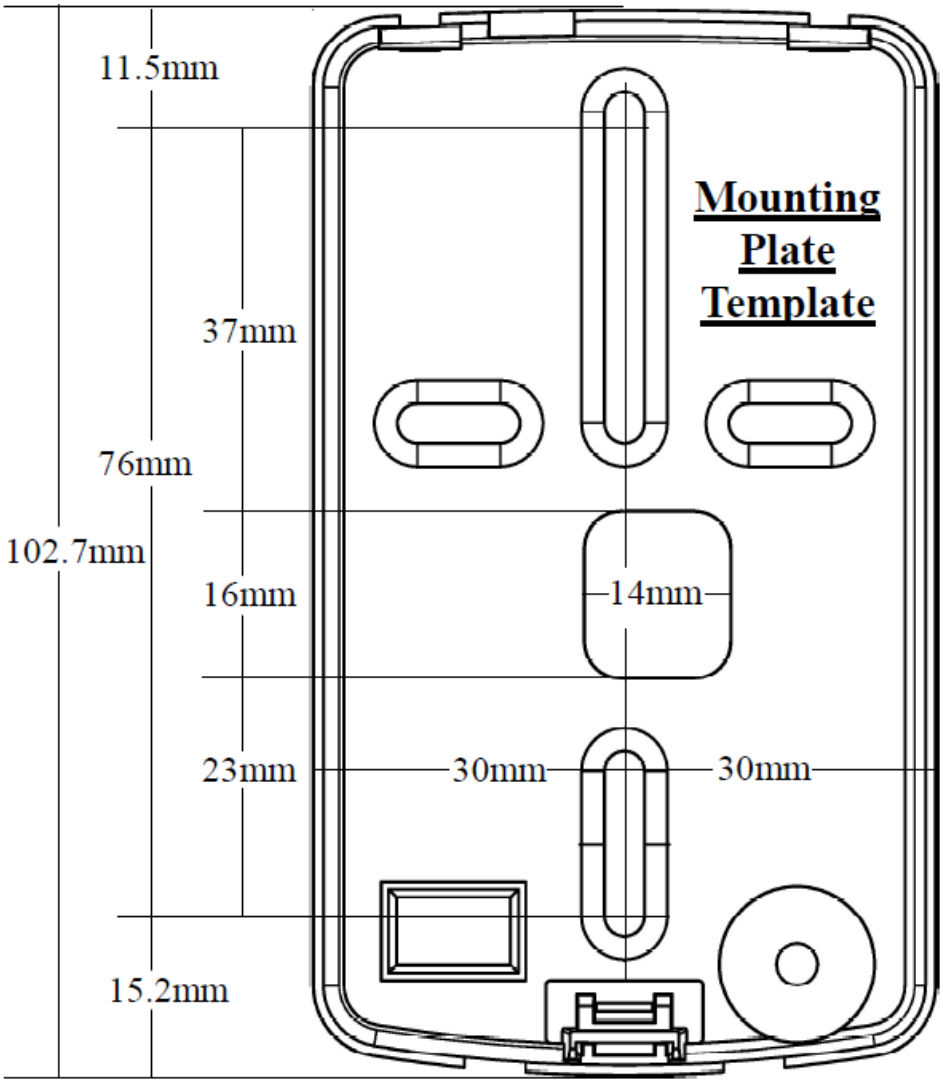
- Pair 1. Data A and Data B
- Pair 2. V+ and 0V.

See Preliminary Installation Notes 3 & 4.

Barcode Label is on the rear of the Reader & includes:

- Assembly Part No. (top line)
- 6-digit Assembly Date Code (2nd line)
- 6 digit Serial Number (bottom line)

Mounting Plate Template



CONTACT

- www.innerrange.com.au
- Doc. Part No: 634725

Documents / Resources

	Inner Range 994725MF Sifer Keypad Reader [pdf] Instructions 994725MF, 994725, 994726, 994725MF Sifer Keypad Reader, 994725MF, Sifer Keypad Reader, Keypad Reader, Reader

References

- User Manual