

Compact Insert Reader with Magnetic and IC Card Interface

- Ideally suited for applications using hybrid magnetic stripe and IC cards (such as EMV)
- Supports both ISO and CP8 chip contact locations
- Red and green LEDs for operation indicator
- Solenoid-controlled IC card locking mechanism
- Configurations available to read on card push or pull
- RS-232C-interface with embedded EMV support, available early 1997



Ordering Information

| Magnetic Tracks Supported (R, R/W) | | | | | IC Contact | Mag Read Direction | Solenoid | Interface | Color | Part Number |
|------------------------------------|---|---|--------|--------|------------------|--------------------|----------|-----------|-------|--------------------|
| 1 | 2 | 3 | Center | JIS II | | | | | | |
| — | — | — | — | — | J-type (ISO) | — | Yes | TTL | Black | 3S4YR-SGR0J |
| — | — | — | — | — | X-type (ISO+CP8) | — | Yes | TTL | Black | 3S4YR-SGR0X |
| R | R | R | — | — | J-type (ISO) | Push | Yes | TTL | Black | 3S4YR-SGR1J |
| R | R | R | — | — | X-type (ISO+CP8) | Push | Yes | TTL | Black | 3S4YR-SGR1X |
| R | R | R | — | — | — | Push/pull | No | TTL | Black | 3S4YR-SGR1N |
| R | — | — | — | — | J type (ISO) | Push | Yes | TTL | Black | 3S4YR-SGR3J |
| R | — | — | — | — | X type (ISO+CP8) | Push | Yes | TTL | Black | 3S4YR-SGR3X |
| R | — | — | — | — | — | Push/pull | No | TTL | Black | 3S4YR-SGR3N |
| — | R | — | — | — | J type (ISO) | Push | Yes | TTL | Black | 3S4YR-SGR4J |
| — | R | — | — | — | X type (ISO+CP8) | Push | Yes | TTL | Black | 3S4YR-SGR4X |
| — | R | — | — | — | — | Push/pull | No | TTL | Black | 3S4YR-SGR4N |
| — | — | R | — | — | J type (ISO) | Push | Yes | TTL | Black | 3S4YR-SGR5J |
| — | — | R | — | — | X type (ISO+CP8) | Push | Yes | TTL | Black | 3S4YR-SGR5X |
| — | — | R | — | — | — | Push/pull | No | TTL | Black | 3S4YR-SGR5N |
| R | R | — | — | — | J type (ISO) | Push | Yes | TTL | Black | 3S4YR-SGR6J |
| R | R | — | — | — | X type (ISO+CP8) | Push | Yes | TTL | Black | 3S4YR-SGR6X |
| R | R | — | — | — | — | Push/pull | No | TTL | Black | 3S4YR-SGR6N |
| — | R | R | — | — | J type (ISO) | Push | Yes | TTL | Black | 3S4YR-SGR7J |
| — | R | R | — | — | X type (ISO+CP8) | Push | Yes | TTL | Black | 3S4YR-SGR7X |
| — | R | R | — | — | — | Push/pull | No | TTL | Black | 3S4YR-SGR7N |

Note: Consult the *IC Card Basics* section of this catalog for IC contact descriptions.

■ TYPICAL APPLICATIONS

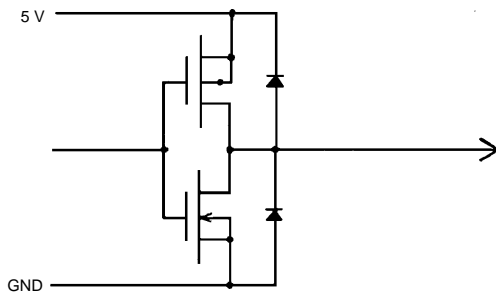
- Remote Terminals for Computers
- Credit Card Readers
- ID Card Checkers
- Electronic Locks
- Automatic Gate Machines
- POS Terminals
- ATMs
- Gas Pump Control
- Vending Machines
- Pre-paid Systems
- Kiosks

Specifications

| | | | |
|------------------------|---|--|---|
| Part number | 3S4YR-SGR□N | | 3S4YR-SGR□J, X |
| Recommended card type | ISO 7810 - 7813, 7816/1-2 | | |
| Service life | Mag head | 300,000 passes (preliminary) | |
| | IC contact | 500,000 passes (preliminary) | |
| Operating power supply | 5 VDC ± 5% | | |
| Current consumption | 2.5 A max. | | |
| Mounting location | Indoors — away from wind, rain, sunlight, and dust | | |
| Ambient temperature | 0° to 45°C (32° to 113°F) | | |
| Ambient humidity | Operation | 30% to 85% RH without condensation and frost formation | |
| Vibration | 10-150 Hz, single vibration width of 0.15 mm or on acceleration of 2 G (19.6 m/s ²), whichever is smaller | | |
| Shock | 20 G (196 m/s ²) in X, Y, and Z directions, respectively | | |
| Dimensions | 126L x 76W x 25H (4.96L x 2.99W x 0.98H in) | | 126L x 76W x 30H mm (4.96L x 2.99W x 1.18H in) |
| Weight | Approx. 100 g (3.5 oz) | | |

Engineering Data

■ I/O INFORMATION



Output signal levels

$V_{OL} = 0.4 \text{ V at } 5 \text{ mA}$
 $V_{OH} = 2.8 \text{ at } 0.1 \text{ mA}$

■ I/O INFORMATION

3S4YR-SGR

7626-5002SC (3M:26 pin), MIL-C-83503A conformed.

| Pin # | Signal | Input/Output | Description |
|-------|---------------------|--------------|--------------------------|
| 1 | $\overline{RDT1}$ | Output | Read data, track 1 |
| 2 | $\overline{RCL1}$ | Output | Read clock, track 1 |
| 3 | $\overline{RDT2}$ | Output | Read data, track 2 |
| 4 | $\overline{RCL2}$ | Output | Read clock, track 2 |
| 5 | $\overline{RDT3}$ | Output | Read data, track 3 |
| 6 | $\overline{RCL3}$ | Output | Read clock, track 3 |
| 7 | $\overline{P1}$ | Output | Card detection |
| 8 | $\overline{P2}$ | Output | Card insertion completed |
| 9 | \overline{SLN} | Input | Solenoid ON |
| 10 | $\overline{LED\ 1}$ | Input | LED1 (Red) ON |
| 11 | $\overline{LED\ 2}$ | Input | LED2 (Green) ON |
| 12 | \overline{CLS} | Output | Magnetic card loading |
| 13 | IGND | ◆ | IC contact C5 |

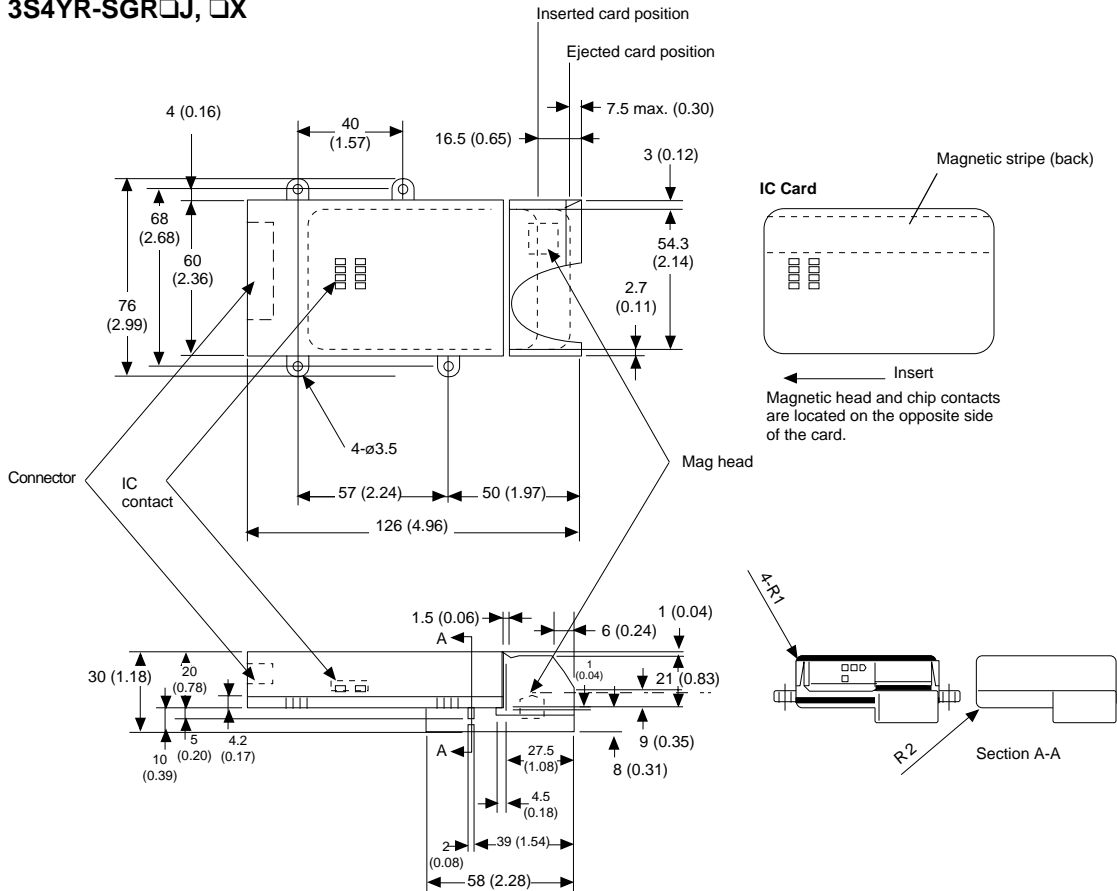
| Pin # | Signal | Input/Output | Description |
|-------|--------|--------------|--------------------|
| 14 | IVCC | ◆ | IC contact C1 |
| 15 | IVPP | ◆ | IC contact C6 |
| 16 | IRST | ◆ | IC contact C2 |
| 17 | IDATA | ◆ | IC contact C7 |
| 18 | ICLK | ◆ | IC contact C3 |
| 19 | IRFV2 | ◆ | IC contact C8 |
| 20 | IRFV1 | ◆ | IC contact C4 |
| 21 | 5VS | — | Power for solenoid |
| 22 | 5VS | — | Power for solenoid |
| 23 | 5V | — | Power for logic |
| 24 | 0V | — | Ground |
| 25 | 0V | — | Ground |
| 26 | 0V | — | Ground |

◆ = Direct IC Contact

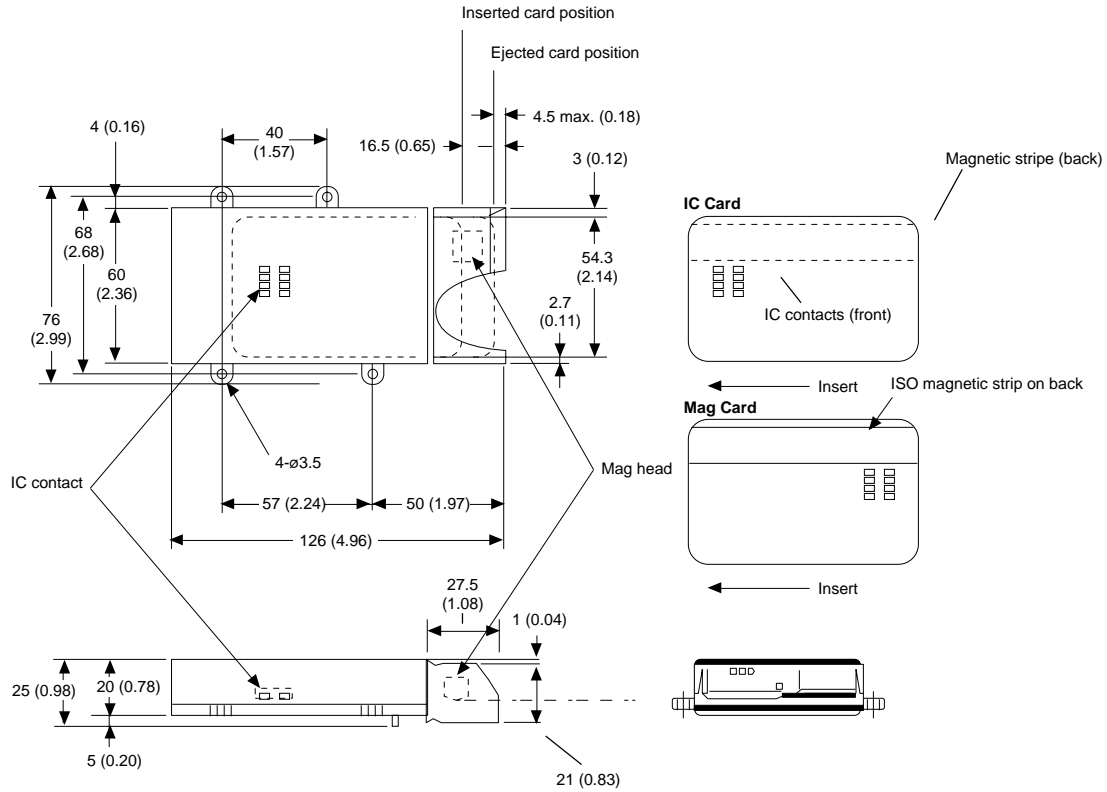
Dimensions

Unit: mm (inch)

■ 3S4YR-SGR□J, □X



■ 3S4YR-SGR□N, 4N



Note: Magnetic stripe and chip contacts are located on the same side of card.



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