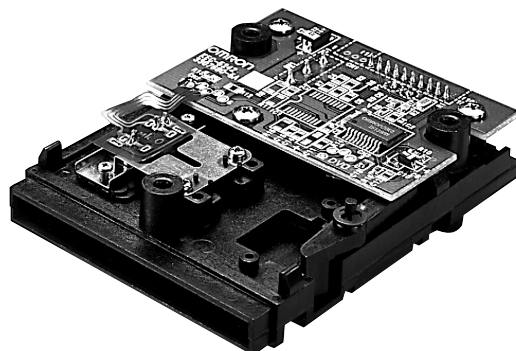


## Manual Insert Magnetic Card Reader

## 3S4YR-SBRN

Compact, Highly Reliable Insert Reader  
Reads 62% of Magnetic Track

- Effective strip length of 46.6 mm max.
- Microswitches incorporated for card detection
- Wide operating temperature range
- Low power CMOS technology
- Current save mode
- Housing compatible with SCR type for easy conversion to IC cards
- TTL-compatible interface (clock & data)



## Ordering Information

| Magnetic Tracks Supported (R, R/W) |   |   |        |        |            |           |       |       |       |                       |
|------------------------------------|---|---|--------|--------|------------|-----------|-------|-------|-------|-----------------------|
| 1                                  | 2 | 3 | Center | JIS II | IC Contact | Interface | Cable | Cover | Color | Part Number           |
| R                                  | — | — | —      | —      | No         | TTL       | No    | No    | Black | <b>3S4YR-SBR3N-50</b> |
| —                                  | R | — | —      | —      | No         | TTL       | No    | No    | Black | <b>3S4YR-SBR4N-50</b> |
| —                                  | — | R | —      | —      | No         | TTL       | No    | No    | Black | <b>3S4YR-SBR5N-50</b> |

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

## TYPICAL APPLICATIONS

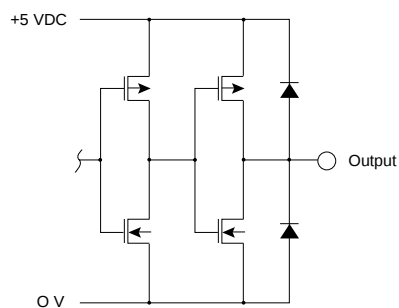
- Access Control
- Remote Terminals for Computers
- Electronic Locks
- ID Card Checkers
- Time and Attendance
- Telephones
- Vending
- Gaming Machines

## Specifications

|                        |               |                                                                                                      |
|------------------------|---------------|------------------------------------------------------------------------------------------------------|
| Part number            |               | 3S4YR-SBRN                                                                                           |
| Recommended card type  | Magnetic head | ISO 7810, 7811/1-5, 7812, 7813.<br>Please inquire if using high-coercivity cards.                    |
| Card feeding speed     |               | 10 to 100 cm/sec (4 to 39 in/sec)                                                                    |
| Service life           | Magnetic head | 300,000 passes (one round trip)                                                                      |
|                        | PCB           | 50,000 hours                                                                                         |
| Operating power supply |               | 5 VDC $\pm$ 10%                                                                                      |
| Current consumption    | Operation     | 5 mA max., 3 mA mean                                                                                 |
|                        | Standby       | 1.5 mA max., 1 mA mean                                                                               |
| Mounting location      |               | Indoors away from wind, rain and sunlight.                                                           |
| Ambient temperature    | Operation     | -10° to 55°C (14° to 131°F)                                                                          |
|                        | Storage       | -30° to 70°C (-22° to 158°F)                                                                         |
| Ambient humidity       | Operation     | 10% to 95% RH without condensation                                                                   |
|                        | Storage       | 10% to 95% RH without condensation                                                                   |
| Vibration              |               | 10 to 55 Hz, 2 mm double amplitude, for 30 minutes in X, Y, and Z directions.                        |
| Shock                  | Storage       | 300 m/sec <sup>2</sup> (30 G) three times in each of X, Y, and Z directions for a total of 18 times. |
| Dimensions             |               | 78L x 60W x 21.5H mm (3.07L x 2.36W x 0.85H in)                                                      |
| Weight                 |               | 50 g (1.8 oz)                                                                                        |

# Engineering Data

## ■ OUTPUT CIRCUIT DIAGRAM



### Output signal levels:

 $V_{OL} = 0.4 \text{ V at } 4 \text{ mA}$ 
 $V_{OH} = 3.5 \text{ V at } 1 \text{ mA}$ 

## ■ I/O INFORMATION

### 3S4YR-SBR4N-50

10-pin JAE single-pin header part number IL-10P-S3FP2-1.

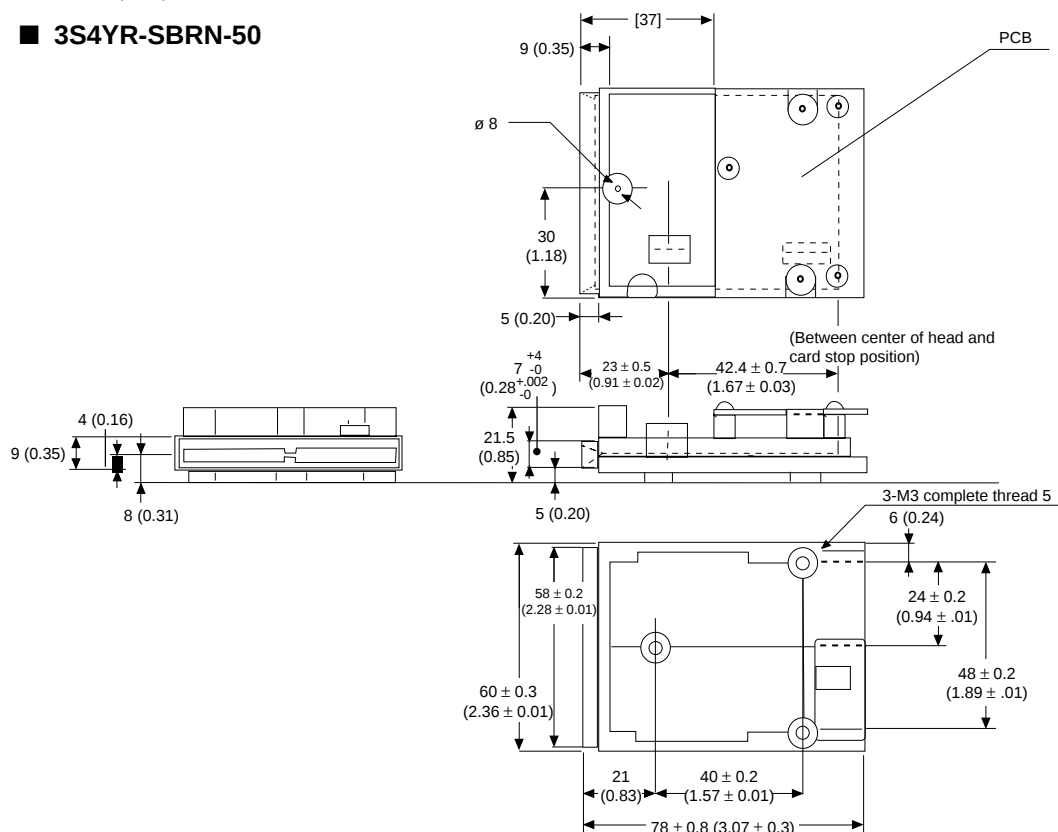
Connector JAE part number IL-10S-S3L-N.

| Pin # | Signal                  | Input/Output | Description              |
|-------|-------------------------|--------------|--------------------------|
| 1     | NC                      | —            | Not connected            |
| 2     | $\overline{\text{RDP}}$ | Output       | Read data                |
| 3     | $\overline{\text{RCP}}$ | Output       | Read clock               |
| 4     | $\overline{\text{CLS}}$ | Output       | Card load                |
| 5     | SW1-COM                 | Output       | Card detection for rear  |
| 6     | SW1-NO                  | Input        | Card detection for rear  |
| 7     | SW2-COM                 | Output       | Card detection for front |
| 8     | SW2-NO                  | Input        | Card detection for front |
| 9     | 5 VDC                   | —            | $V_{CC}$                 |
| 10    | 0 V                     | —            | Ground                   |

# Dimensions

Unit: mm (inch)

## ■ 3S4YR-SBRN-50



**NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.**

**OMRON**<sup>®</sup>  
**OMRON ELECTRONICS, INC.**  
 One East Commerce Drive  
 Schaumburg, IL 60173  
**1-800-55-OMRON**

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7/00

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**OMRON CANADA, INC.**  
 885 Milner Avenue  
 Scarborough, Ontario M1B 5V8  
**416-286-6465**

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