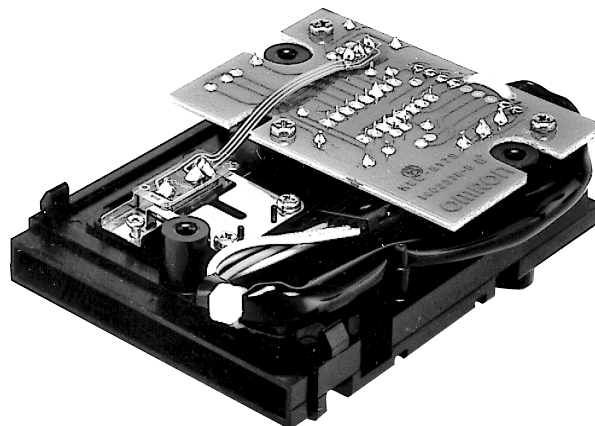


Compact, Highly Reliable Insert Reader  
Reads 62% of Magnetic Track

- Effective strip length of 46.6 mm max.
- Microswitches incorporated for card detection
- Slim package
- Wide operating temperature range
- Housing compatible with SCR type for easy conversion to IC card
- TTL-compatible interface (clock & data)



## Ordering Information

| Magnetic Tracks Supported (R, R/W) |   |   |        |        | IC contact | Interface | Cable | Cover | Color | Part Number          |
|------------------------------------|---|---|--------|--------|------------|-----------|-------|-------|-------|----------------------|
| 1                                  | 2 | 3 | Center | JIS II |            |           |       |       |       |                      |
| R                                  | — | — | —      | —      | No         | TTL       | No    | No    | Black | <b>3S4YR-SBR3-20</b> |
| —                                  | R | — | —      | —      | No         | TTL       | No    | No    | Black | <b>3S4YR-SBR4-20</b> |
| —                                  | — | R | —      | —      | No         | TTL       | No    | No    | Black | <b>3S4YR-SBR5-20</b> |
| R                                  | R | — | —      | —      | No         | TTL       | No    | No    | Black | <b>3S4YR-SBR6-20</b> |
| —                                  | R | R | —      | —      | No         | TTL       | No    | No    | Black | <b>3S4YR-SBR7-20</b> |

## ■ TYPICAL APPLICATIONS

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

## Specifications

|                            |               |                                   |
|----------------------------|---------------|-----------------------------------|
| Part number                |               | 3S4YR-SBR                         |
| Recommended card type      | Magnetic card | ISO 7810, 7811/1-5, 7812, 7813    |
| Recording method           |               | FM decoding (F2F)                 |
| Card feeding speed         |               | 10 to 100 cm/sec (4 to 39 in/sec) |
| Service life/magnetic head | Single track  | 300,000 passes min.               |
|                            | Double track  | 300,000 passes min.               |
| Operating power supply     |               | 5 VDC ± 10%                       |
| Current consumption        | Single track  | 25 mA max.                        |
|                            | Double track  | 50 mA max.                        |

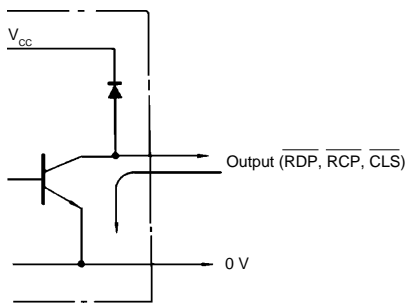
Specifications continued on next page

## Specifications, continued

|                     |           |   |
|---------------------|-----------|---|
| Mounting location   |           | Anywhere not directly subject to water drops or sunlight.                             |
| Ambient temperature | Operation | -10° to 55°C (14° to 131°F)   |
|                     | Storage   | -20° to 70°C (-4° to 158°F)   |
| Ambient humidity    | Operation | 10% to 95% RH without condensation  |
|                     | Storage   | 10% to 95% RH   |
| Vibration           |           | 10 to 55 Hz, 2 mm double amplitude, for 30 minutes in each of X, Y, and Z directions. |
| Shock               |           | 300 m/sec <sup>2</sup> (30 G) in each of X, Y, and Z directions                       |
| Dimensions          |           | 87L x 60W x 21.5H mm (3.43L x 2.36W x 0.85H in)                                       |
| Weight              |           | Approx. 50 g (1.8 oz)   |

## Engineering Data

### OUTPUT CIRCUIT DIAGRAM



#### Output signal levels

$$V_{OL} = 0.4 \text{ V at } 16 \text{ mA}$$

$$V_{CC} = 5.5 \text{ at } 2 \text{ mA}$$

### I/O INFORMATION

#### 3S4YR-SBR 3,4,5-20 Connector

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 <sub>cc</sub>          |
| 10    | 0 V                     | —            | Ground                   |

#### 3S4YR-SBR 6,7-20 Connector

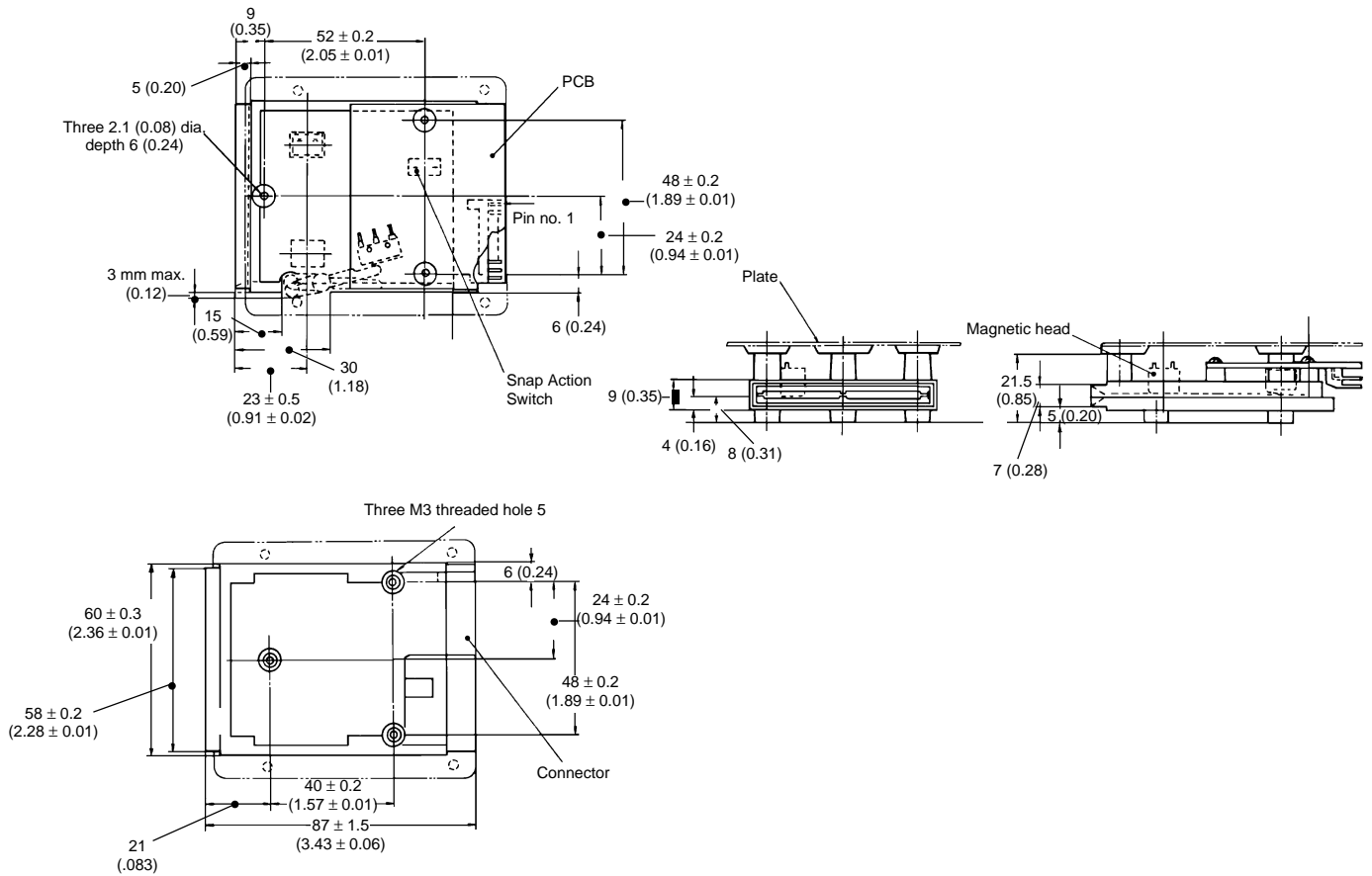
12-pin JAE angle pin header part number IL-12P-S3FP2-1.  
Connector JAE part number IL-12S-S3L-N.

| Pin # | Signal                   | Input/Output | Description              |
|-------|--------------------------|--------------|--------------------------|
| 1     | $\overline{\text{RDP1}}$ | Output       | Read data, track 1 or 3  |
| 2     | $\overline{\text{RCP1}}$ | Output       | Read clock, track 1 or 3 |
| 3     | $\overline{\text{CLS1}}$ | Output       | Card load, track 1 or 3  |
| 4     | $\overline{\text{RDP2}}$ | Output       | Read data, track 2       |
| 5     | $\overline{\text{RCP2}}$ | Output       | Read clock, track 2      |
| 6     | $\overline{\text{CLS2}}$ | Output       | Card load, track 2       |
| 7     | SW1-COM                  | Output       | Card detection for rear  |
| 8     | SW1-NO                   | Input        | Card detection for rear  |
| 9     | SW2-COM                  | Output       | Card detection for front |
| 10    | SW2-NO                   | Input        | Card detection for front |
| 11    | 5 VDC                    | —            | V <sub>cc</sub>          |
| 12    | 0 V                      | —            | Ground                   |

# Dimensions

Unit: mm (inch)

## ■ 3S4YR-SBR



Note: Unless otherwise indicated, tolerance is ±0.3.

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

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