# OMRON ®

## Motor Driven Card Reader/Writer | 3S4YR-MVF/MVS

### Reliably Handles Read/Write Functions for both Magnetic and IC Cards

- ■ Downloadable firmware for specification updates, customer requirements, firmware updates, new smart card support

- ■ Powerful all-roller card feeding system easily handles warped and/or wet cards

- ■ Highly reliable reading/writing of all three tracks using new pick-up encoder technology

- ■ Fully-integrated RS-232C eliminates the need for IC adapter boards

- ■ User-friendly interface with multifunction commands and support for T=0 and T=1, EMV

- ■ Compact size and light weight for easy installation

- ■ Locking shutter for fraud prevention
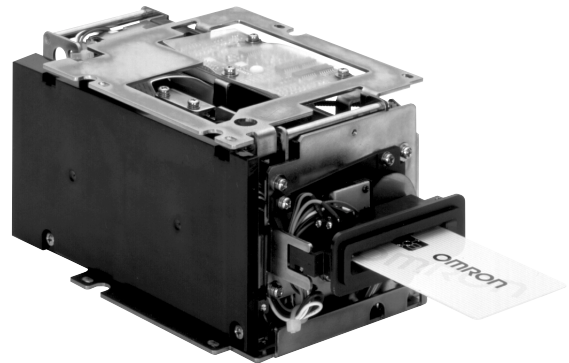
## Ordering Information

| Magnetic Tracks Supported (R, R/W) | | | | | IC Contact | Interface (see note 3) | Built-in Shutter | Card Ejection | Color | Notes | Part Number (see note 2) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | Center | JIS II | | | | | | | |
| R/W | R/W | R/W | — | — | No | RS-232 | Yes | Front/Rear | Black | — | **3S4YR-MVFW1D-052** |
| R/W | R/W | R/W | — | — | ISO 7816 | RS-232 | Yes | Front/Rear | Black | — | **3S4YR-MVFW1JD-051L** |
| R/W | R/W | R/W | — | — | ISO 7816 | RS-232 | Yes | Front/Rear | Black | Memory card support (see note1) | **3S4YR-MVFW1JD-M51L** |
| R/W | R/W | R/W | — | — | ISO 7816 | RS-232 | Yes | Front/Rear | Black | HiCo | **3S4YR-MVFW1JDH-074** |
| R/W | R/W | R/W | — | — | No | RS-232 | Yes | Front/Rear | Black | — | **3S4YR-MVS1D (MVFW1D-052 Core)** |
| R/W | R/W | R/W | — | — | ISO 7816 | RS-232 | Yes | Front/Rear | Black | Housing | **3S4YR-MVS1JD (MVFW1JD-051L Core)** |

Note 1: Inquire regarding specific memory card support.

    2: Models with support for SAM modules are available. Please contact Omron for details.

    3: Please contact Omron for details concerning USB interface availability.

### ■ TYPICAL APPLICATIONS

- • Cash Dispensers
- • Automatic Teller Machines (ATM)
- • POS Terminals

- • Credit Card Checkers
- • ID Card Checkers
- • Electronic Lock System

- • Medical Patient System
- • Health Control System
- •Teller Terminal

- • Front desk card encoders

# Specifications

| Part number | | 3S4YR-MVF | 3S4YR-MVS |
|---|---|---|---|
| Recommended card type | Magnetic card | ISO 7810, 7811/1-5, 7812, 7813. Please inquire if using high-coercivity cards. | |
| | IC card (see Note 1) | ISO 7816/1-4 (T=0 and/or T=1) | |
| Recording method | | FM decoding (F2F) | |
| Card feeding speed | | 20 cm/sec (8 in/sec) in normal operation; 5 cm/sec (2 in/sec) IC card handling | |
| Location of magnetic stripe | | Installation | At bottom |
| Motor type | | DC motor | |
| Service life (see note 2) | Entire unit | 1,500,000 passes or 5 years, whichever comes first | |
| | IC contact | 300,000 times | |
| Operating power supply | | 24 VDC ± 10% | 100 VAC to 240 VAC (± 10%) |
| Current consumption | | 2.0 A or less when motor revolution starts; 500 mA in standby mode | |
| Mounting location | | Indoors — away from wind, rain, and sunlight | |
| Ambient temperature | Operation | 5° to 55°C (41° to 131°F) | 0° to 40° C (32° to 104°F) |
| | Storage | -25° to 55°C (-13° to 131°F) | -25° to 55° C (-13° to 131°F) |
| Ambient humidity | Operation | 5% to 85% RH, no condensation | 35% to 85% RH, no condensation (see note 3) |
| | Storage | 5% to 90% RH, no condensation | 5% to 90% RH, no condensation (see note 3) |
| Vibration | | 10 to 150 Hz and single vibration width of 0.15 mm or an acceleration of 2 G (19.6 m/sec$^2$), whichever is smaller | |
| Shock | | 20 G in six directions (up and down, left and right, forward and back, 3 times in each direction) | |
| Dimensions (with shutter) | | 210L x 124W x 90H mm (8.27L x 4.88W x 3.54H in) | 271L x 130W x 154H mm (10.67L x 5.12W x 6.06H in) |
| Weight | | Approx. 2 kg (4.41 lbs) | Approx. 4.5 kg (9.92 lbs.) without attachment |

Note 1: Please request confirmation on specific IC card compatibility, including EMV (Europay / Mastercard / Visa) and memory cards.

2: One pass denotes one round trip.

3: Absolute air humidity in operation is 23 g/m$^3$ or less. In storage, absolute air humidity is 40 g/m$^3$ or less.

# Engineering Data

## ■ I/O INFORMATION

RS-232C Interface automatically recognizes data transmission speeds of 1200, 2400, 4800, 9600, and 19200 baud.

### 3S4YR-MVFW1JD RS-232C Interface

Card reader side:
JAE 9-pin D-Sub socket, DELC-J9SAF-10L9.

| Pin # | Signal | Input/Output | Description |
|---|---|---|---|
| 1 | NC | — | Not connected |
| 2 | RXD | Input | Receive data |
| 3 | TXD | Output | Transmit data |
| 4 | DTR | Output | Data terminal ready |
| 5 | GND | — | Ground |
| 6 | NC | — | Not connected |
| 7 | NC | — | Not connected |
| 8 | CTS | Input | Clear to send |
| 9 | NC | — | Not connected |

### 3S4YR-MVFW1JD Power Interface

Card reader side:
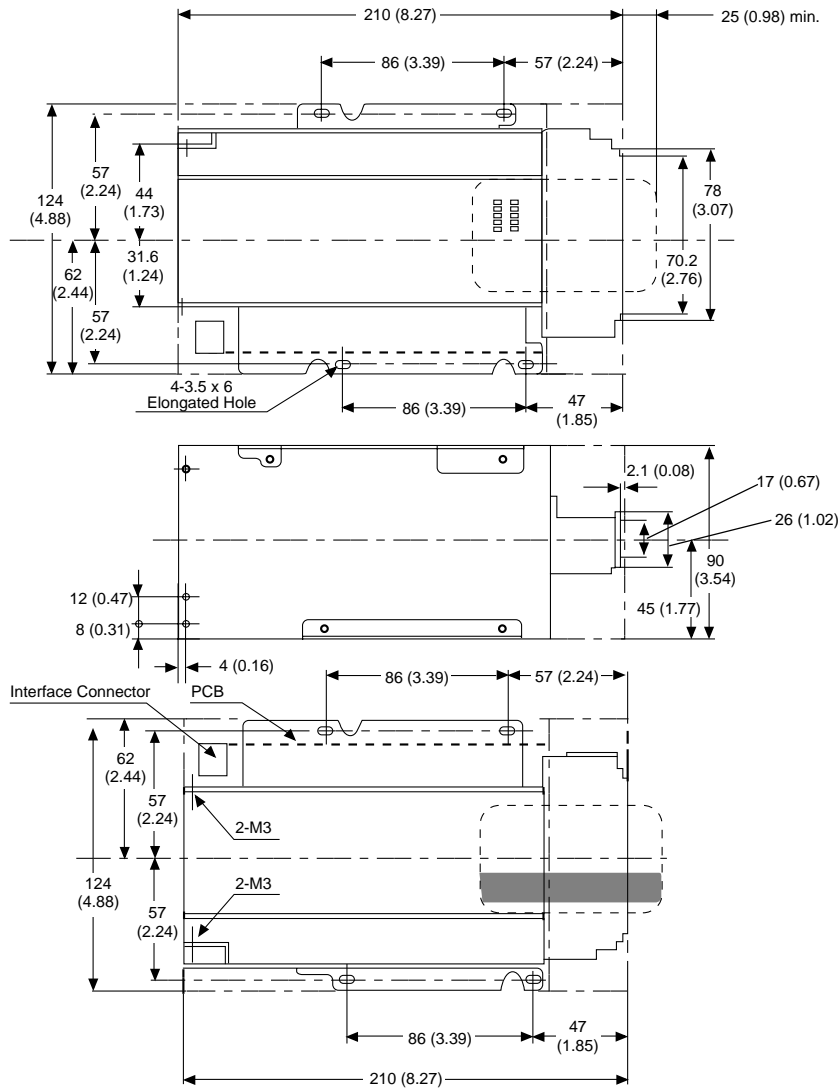Molex 4 node, 2.54 mm pitch in serial 5046-04A.

| Pin # | Signal | Input/Output | Description |
|---|---|---|---|
| 1 | +24V | — | Power supply |
| 2 | GND | — | Power ground |
| 3 | XGND | — | Secondary power ground |
| 4 | X24V | — | Secondary supply |

# Dimensions

Unit:  mm (inch)

## ■  **3S4YR-MVF with shutter**

(Also available without shutter.)

210 (8.27)    25 (0.98) min.

86 (3.39)    57 (2.24)

124 (4.88)    57 (2.24)    44 (1.73)    31.6 (1.24)    62 (2.44)    57 (2.24)

78 (3.07)    70.2 (2.76)

4-3.5 x 6 Elongated Hole

86 (3.39)    47 (1.85)

2.1 (0.08)    17 (0.67)    26 (1.02)    90 (3.54)    45 (1.77)

12 (0.47)    8 (0.31)    4 (0.16)

Interface Connector    PCB

86 (3.39)    57 (2.24)

62 (2.44)    57 (2.24)    2-M3

124 (4.88)    2-M3    57 (2.24)

86 (3.39)    47 (1.85)

210 (8.27)

3

■ **3S4YR-MVS**

Unit: mm (inch)

Bottom            Top

70
(2.76)

271.5
(10.69)

144.1 (5.67)

POWER
READY
RUN
ERROR

130 (5.12)

Bottom            Top

9.9 (0.39)

97.2 (3.83)

154 (6.06)
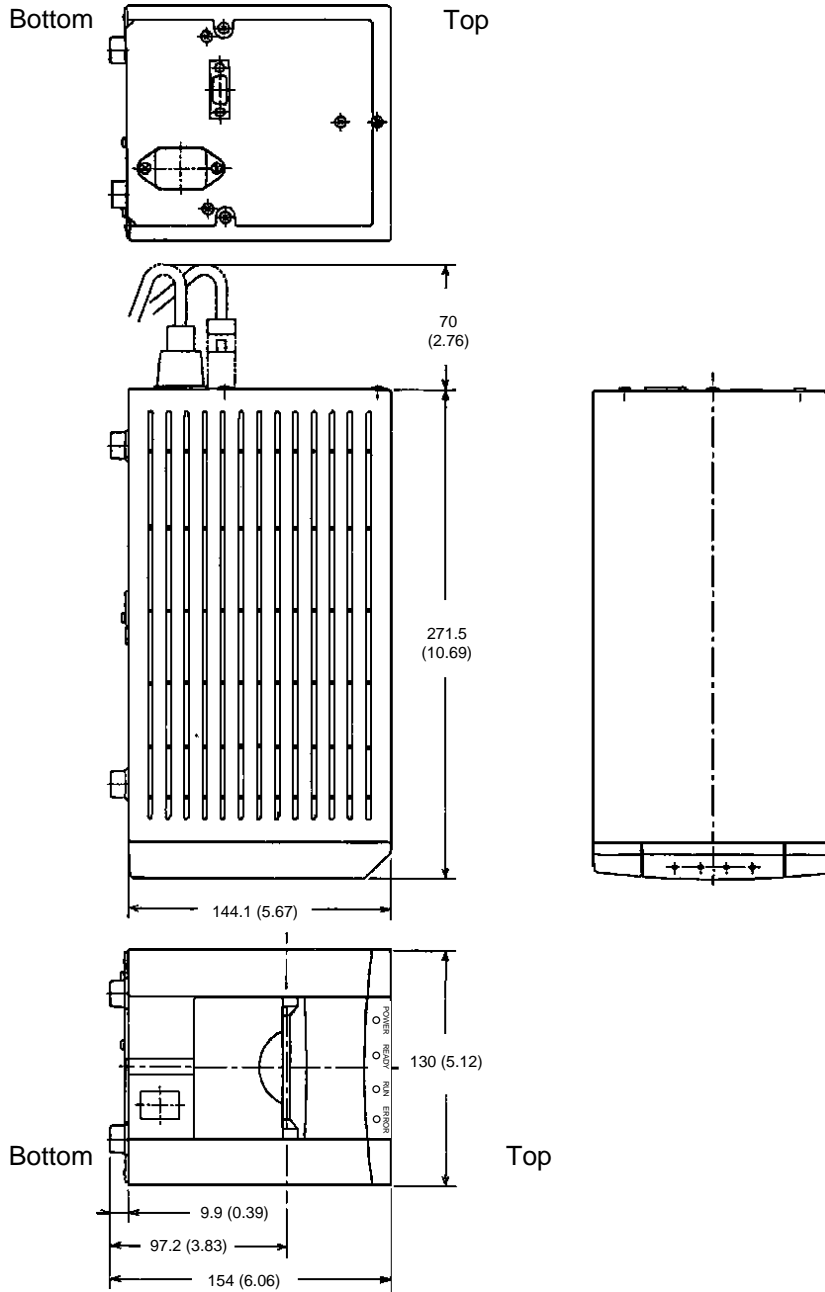
**NOTE: DIMENSIONS SHOWN ARE IN MILLIMETERS. To convert millimeters to inches divide by 25.4.**

**OMRON** ®

**OMRON ELECTRONICS, INC.**
One East Commerce Drive
Schaumburg, IL 60173
**1-800-55-OMRON**

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