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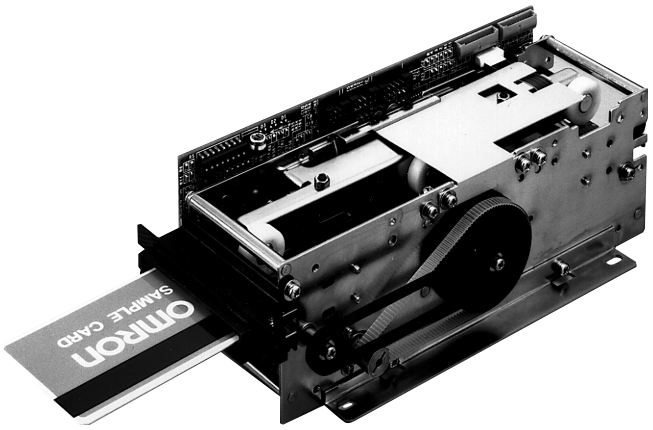
OMRON

# Motor Driven Card Reader/Writer

**3S4YR-MM❑, MZ❑**

## Reliable Reader/Writer Handles Magnetic Cards

- Single, triple, or center track read/write capability
- Compact size and light weight ease installation in any terminal
- User-selectable bit recording densities of 75 bpi, 105 bpi, 150 bpi, and 210 bpi
- HiCo write capability available
- Adjustable to card thicknesses of 0.20 mm, 0.40 mm, or 0.76 mm (PET, paper, or PVC cards)
- RS-232C or TTL-compatible interface




## Ordering Information

| Magnetic Tracks Supported (R, R/W) | | | | | IC Contact | Voltage | Interface | Cover | Cable | Color | Part Number (See note 1) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 3 | Center | JIS II | | | | | | | |
| R/W | R/W | R/W | — | — | No | 24 | TTL | No | No | Black | **3S4YR-MMW1** |
| R/W | R/W | R/W | — | — | No | 12 | TTL | No | No | Black | **3S4YR-MMW1-101** |
| R/W | — | — | — | — | No | 24 | TTL | No | No | Black | **3S4YR-MMW3** |
| R/W | — | — | — | — | No | 12 | TTL | No | No | Black | **3S4YR-MMW3-101** |
| — | R/W | — | — | — | No | 24 | TTL | No | No | Black | **3S4YR-MMW4** |
| — | R/W | — | — | — | No | 12 | TTL | No | No | Black | **3S4YR-MMW4-101** |
| — | R/W | — | — | — | No | 24 | TTL | No | No | Black | **3S4YR-MMW4HT** (See notes 2 & 3) |
| — | — | R/W | — | — | No | 24 | TTL | No | No | Black | **3S4YR-MMW5** |
| — | R/W | — | — | — | No | 24 | RS-232C | No | No | Black | **3S4YR-MMF4** |
| — | R/W | — | — | — | No | 24 | TTL | No | No | Black | **3S4YR-MMF4-HT2** (See note 2) |
| — | — | — | R/W | — | No | 24 | TTL | No | No | Black | **3S4YR-MZW9T** |
| — | — | — | R/W | — | No | 24 | TTL | No | No | Black | **3S4YR-MZW9HT** (See notes 2 & 3) |
| — | — | — | R/W | — | No | 24 | RS-232C | No | No | Black | **3S4YR-MZF9T4** (See note 3) |
| — | — | — | R/W | — | No | 24 | TTL | No | No | Black | **3S4YR-MZW99T** (See note 4) |

Note 1: Contact your Omron representative for other configurations.
2: Models capable of writing HiCo cards. All models can read HiCo cards.
3: Configured at factory for thin cards (0.40 mm).
4: Dual head allows insertion of card in any orientation.

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## ■ TYPICAL APPLICATIONS

- Access Control
- ID Card Checkers
- Public Transportation Systems
- Closed Systems
- Electronic Lock Systems
- Parking Systems
- Vending Machines
- Automatic gate machines
- Customer loyalty schemes
- Ticket machines

## ■ ACCESSORIES

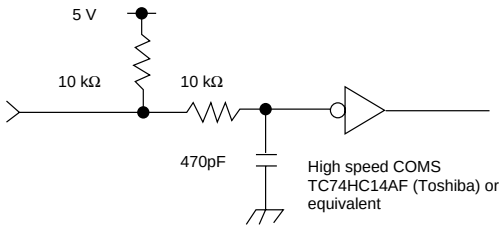
| Description | **Part Number** |
|---|---|
| Shutter for MMW | **SHUTTER MMW** |

# Specifications

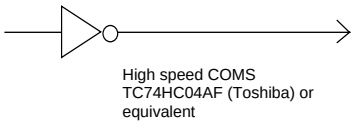
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|---|---|---|
| Part number | | 3S4YR-MMW, MMF, MZW |
| Recommended card type | Magnetic card | ISO 7810-7813, JIS X6301/6302 for center stripe |
| Recording method | | FM decoding (F2F) |
| Recording density | | User selectable 75 DPI, 105 DPI, 150 DPI, or 210 BPI |
| Card feeding speed | | 30 cm/sec ± 10% (11.8 in/sec) |
| Service life | | 500,000 passes |
| Operating power supply | | 24 VDC ± 10% or 12 VDC ± 10% (depending on mode) |
| Current consumption | | 1.5 A max. |
| Motor type | | DC motor |
| Mounting location | | Indoors |
| Ambient temperature | Operation | 0° to 45°C (32° to 113°F) |
| | Storage | -15° to 60°C (5° to 140°F) |
| Ambient humidity | Operation | 30% to 85% RH without condensation |
| | Storage | 20% to 90% RH without condensation |
| Vibration | | 10 to 150 Hz, 0.15 mm, for 8 minutes in X, Y, and Z directions |
| Shock | | 200 m/sec$^2$ (20 G) in each of X, Y, and Z directions |
| Dimensions | | 211L x 90W x 65H mm (8.31L x 3.54W x 2.56H in) |
| Weight | | Approx. 850 g (1.87 lbs) when fully equipped |

# Engineering Data

## ■ INPUT CIRCUIT DIAGRAM




## ■ OUTPUT CIRCUIT DIAGRAM






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## ■ I/O INFORMATION

### 3S4YR-MMW1
### (TTL) Interface Connector

MMW1 connectors (34 pin)
Hirose HIF3BA-34PA-2.54DS (male) for card reader side.
Hirose HIF3BA-34D-2.54R (female) for the cable side.

| Pin # | Signal | Input/Output | Pin # | Signal | Input/Output |
|---|---|---|---|---|---|
| 1 | +24 V | — | 18 | MRS | Input |
| 2 | +24 V | — | 19 | $\overline{S1}$ | Output |
| 3 | +24 V | — | 20 | $\overline{S2}$ | Output |
| 4 | +24 V | — | 21 | $\overline{S3}$ | Output |
| 5 | 0 V | — | 22 | $\overline{S4}$ | Output |
| 6 | 0 V | — | 23 | $\overline{RCP2}$ | Output |
| 7 | 0 V | — | 24 | $\overline{RCP3}$ | Output |
| 8 | 0 V | — | 25 | $\overline{RDP2}$ | Output |
| 9 | $\overline{RCP}$ | Output | 26 | $\overline{RDP3}$ | Output |
| 10 | $\overline{RDT}$ | Output | 27 | $\overline{WDT2}$ | Input |
| 11 | $\overline{WCP}$ | Output | 28 | $\overline{WDT3}$ | Input |
| 12 | $\overline{FGP}$ | Output | 29 | $\overline{WCP2}$ | Output |
| 13 | $\overline{WDT}$ | Input | 30 | — | — |
| 14 | $\overline{CONT}$ | Input | 31 | — | — |
| 15 | $\overline{CONT2}$ | Input | 32 | — | — |
| 16 | $\overline{CONT3}$ | Input | 33 | — | — |
| 17 | $\overline{MFS}$ | Input | 34 | — | — |

### 3S4YR-MMW3,4,5
### (TTL) Interface Connector

MMW other connectors (26 pin)
Hirose HIF3BA-26PA-2.54DS (male) for card reader side.
Hirose HIF3BA-26D-2.54R (female) for the cable side.

| Pin # | Signal | Input/Output | Pin # | Signal | Input/Output |
|---|---|---|---|---|---|
| 1 | 24 V | — | 14 | $\overline{CONT}$ | Input |
| 2 | 24 V | — | 15 | — | — |
| 3 | 24 V | — | 16 | — | — |
| 4 | 24 V | — | 17 | $\overline{MFS}$ | Input |
| 5 | 0 V | — | 18 | $\overline{MRS}$ | Input |
| 6 | 0 V | — | 19 | $\overline{SI}$ | Output |
| 7 | 0 V | — | 20 | — | — |
| 8 | 0 V | — | 21 | $\overline{S3}$ | Output |
| 9 | $\overline{RCP}$ | Output | 22 | $\overline{S4}$ | Output |
| 10 | $\overline{RDT}$ | Output | 23 | — | — |
| 11 | $\overline{WCP}$ | Output | 24 | — | — |
| 12 | $\overline{FGP}$ | Output | 25 | — | — |
| 13 | $\overline{WDT}$ | Input | 26 | — | — |

### 3S4YR-MMF4
### RS-232C Interface Connector

MMF4 connectors (34 pin)
3M 3431-6002LCSC for card reader/writer side.
3M 3414-6500SC or 3M 3448-3034J for the cable side.

| Pin # | Signal | Input/Output | Pin # | Signal | Input/Output |
|---|---|---|---|---|---|
| 1 | FG | — | 18 | SG | Input |
| 2 | FG | — | 19 | DSR | Input |
| 3 | POV | — | 20 | CTS | Input |
| 4 | POV | — | 21 | RXD | Input |
| 5 | POV | — | 22 | DTR | Output |
| 6 | + 24 V | — | 23 | RTS | Output |
| 7 | +24 V | — | 24 | TXD | Output |
| 8 | +24 V | — | 25 | — | — |
| 9 | 0 V | — | 26 | — | — |
| 10 | 0 V | — | 27 | BZ | Output |
| 11 | +5 V | — | 28 | +24 V | — |
| 12 | +5 V | — | 29 | +5 V | — |
| 13 | — | — | 30 | 0 V | — |
| 14 | — | — | 31 | LED3 | Output |
| 15 | FG | — | 32 | LED2 | Output |
| 16 | FG | — | 33 | LED1 | Output |
| 17 | SG | — | 34 | +5 V | — |

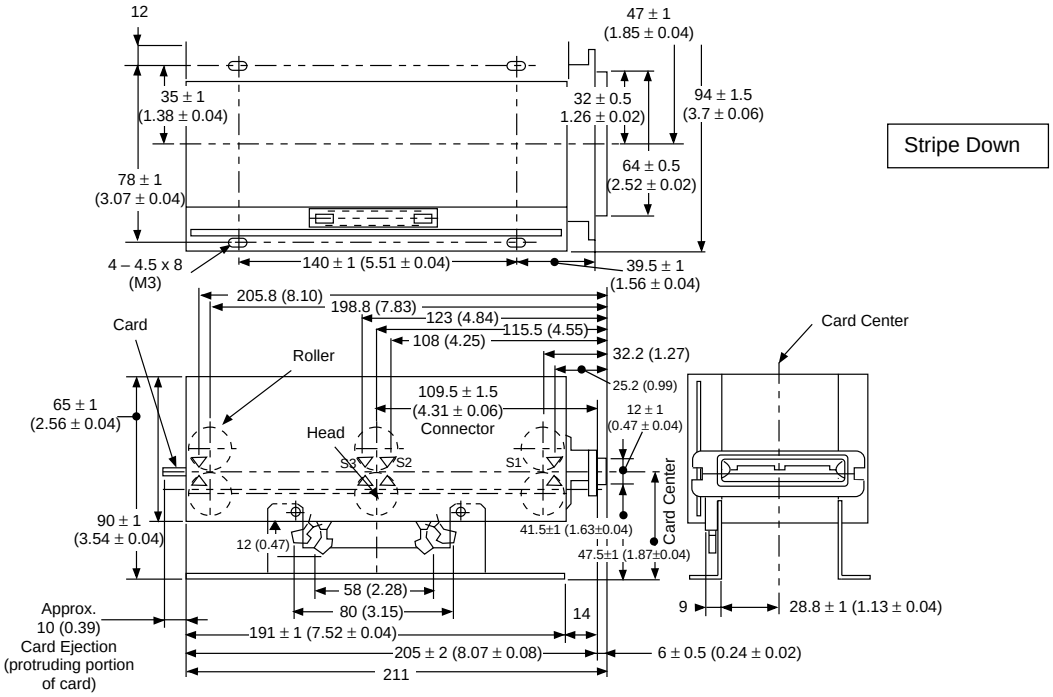


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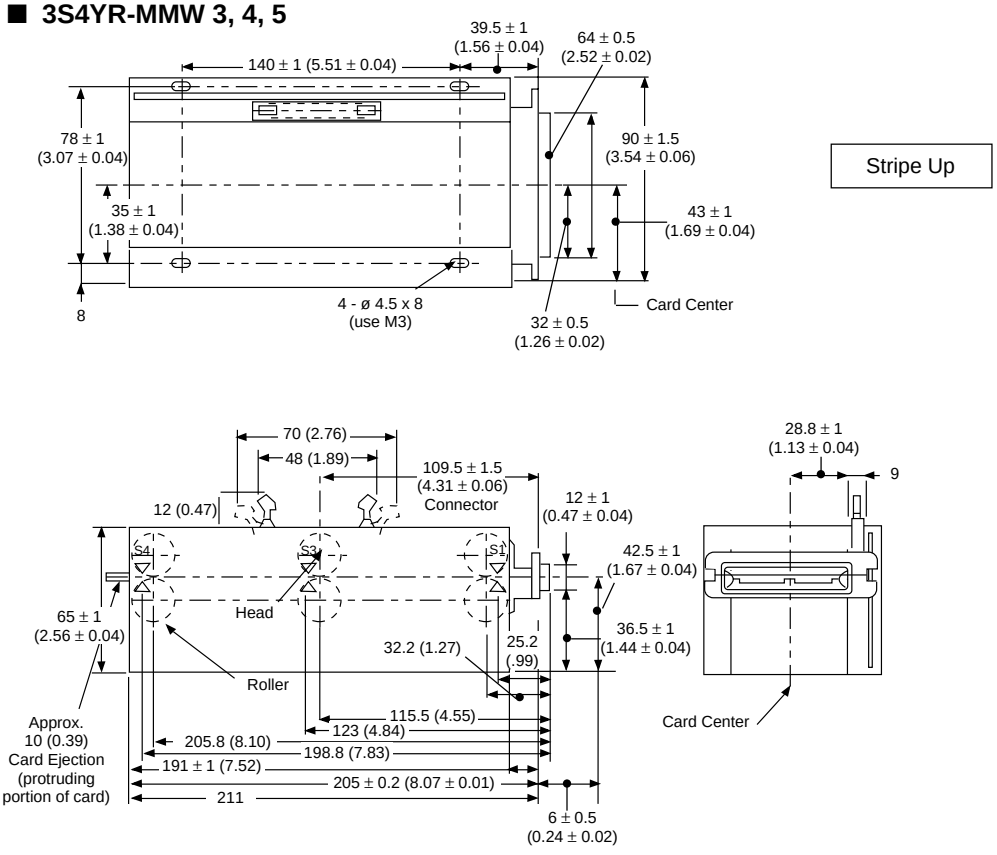
# Dimensions

Unit: mm (inch)

## ■ 3S4YR-MMW1



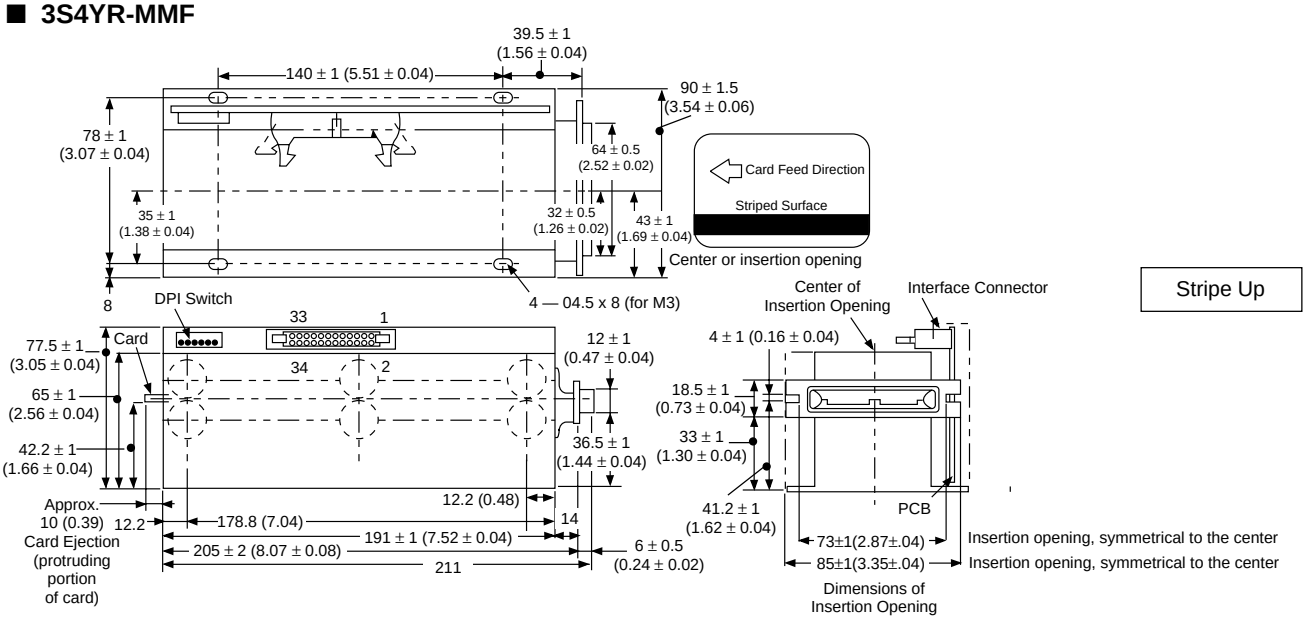

## ■ 3S4YR-MMW 3, 4, 5






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## ■ 3S4YR-MMF






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

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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

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