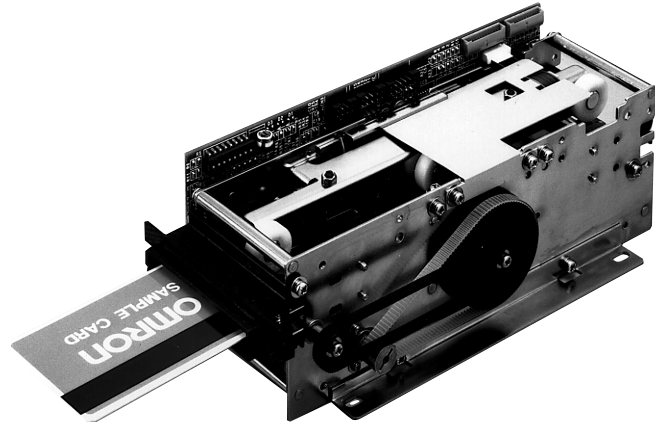


### Reliable Reader/Writer Handles Magnetic Cards

- 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 <small>(See note 1)</small>                  |
|------------------------------------|-----|-----|--------|--------|------------|---------|-----------|-------|-------|-------|--|
| 1                                  | 2   | 3   | Center | JIS II |            |         |           |       |       |       |  |
| R/W                                | R/W | R/W | —      | —      | No         | 24      | TTL       | No    | No    | Black | <b>3S4YR-MMW1</b>  |
| R/W                                | R/W | R/W | —      | —      | No         | 12      | TTL       | No    | No    | Black | <b>3S4YR-MMW1-101</b>                                    |
| R/W                                | —   | —   | —      | —      | No         | 24      | TTL       | No    | No    | Black | <b>3S4YR-MMW3</b>  |
| R/W                                | —   | —   | —      | —      | No         | 12      | TTL       | No    | No    | Black | <b>3S4YR-MMW3-101</b>                                    |
| —                                  | R/W | —   | —      | —      | No         | 24      | TTL       | No    | No    | Black | <b>3S4YR-MMW4</b>  |
| —                                  | R/W | —   | —      | —      | No         | 12      | TTL       | No    | No    | Black | <b>3S4YR-MMW4-101</b>                                    |
| —                                  | R/W | —   | —      | —      | No         | 24      | TTL       | No    | No    | Black | <b>3S4YR-MMW4HT</b> <small>(See notes 2 &amp; 3)</small> |
| —                                  | —   | R/W | —      | —      | No         | 24      | TTL       | No    | No    | Black | <b>3S4YR-MMW5</b>  |
| —                                  | R/W | —   | —      | —      | No         | 24      | RS-232C   | No    | No    | Black | <b>3S4YR-MMF4</b>  |
| —                                  | R/W | —   | —      | —      | No         | 24      | TTL       | No    | No    | Black | <b>3S4YR-MMF4-HT2</b> <small>(See note 2)</small>        |
| —                                  | —   | —   | R/W    | —      | No         | 24      | TTL       | No    | No    | Black | <b>3S4YR-MZW9T</b>                                       |
| —                                  | —   | —   | R/W    | —      | No         | 24      | TTL       | No    | No    | Black | <b>3S4YR-MZW9HT</b> <small>(See notes 2 &amp; 3)</small> |
| —                                  | —   | —   | R/W    | —      | No         | 24      | RS-232C   | No    | No    | Black | <b>3S4YR-MZF9T4</b> <small>(See note 3)</small>          |
| —                                  | —   | —   | R/W    | —      | No         | 24      | TTL       | No    | No    | Black | <b>3S4YR-MZW99T</b> <small>(See note 4)</small>          |

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.

## ■ 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

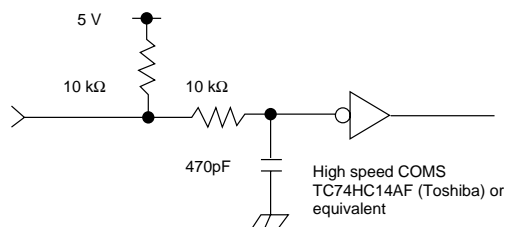
| Description     | Part Number |
|-----------------|-------------|
| Shutter for MMW | SHUTTER MMW |

## Specifications

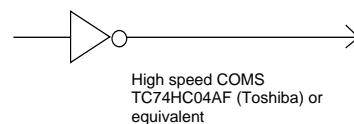
|                        |   |   |
|------------------------|---|---|
| Part number            | 3S4YR-MMW, MMF, MZW   |   |
| Recommended card type  | Magnetic card   | ISO 7810-7813, JIS X6301/6302 for center stripe |
| Recording method       | FM decoding (F2F)   |   |
| Recording density      | User selectable 75 DPI, 105 DPI, 150 DPI, or 210 BPI            |   |
| Card feeding speed     | 30 cm/sec $\pm$ 10% (11.8 in/sec)                               |   |
| Service life           | 500,000 passes  |   |
| Operating power supply | 24 VDC $\pm$ 10% or 12 VDC $\pm$ 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 <sup>2</sup> (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



## ■ 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    | $\overline{S1}$   | 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.

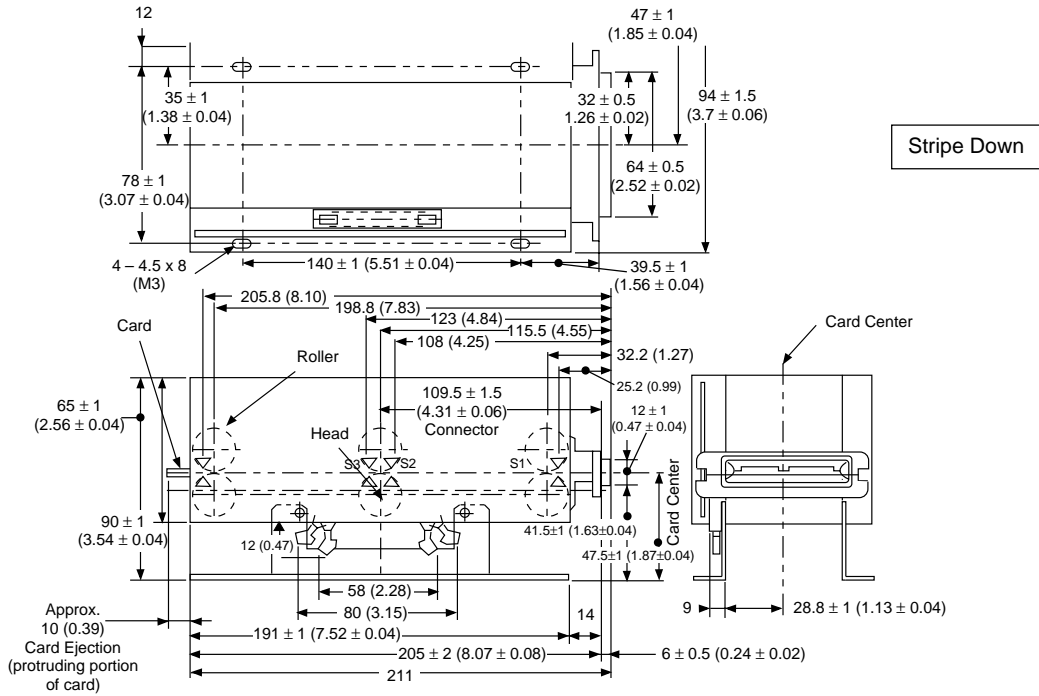
3M 3414-6500SC or 3M 3448-3034J for the cable side.

| 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   | —            |

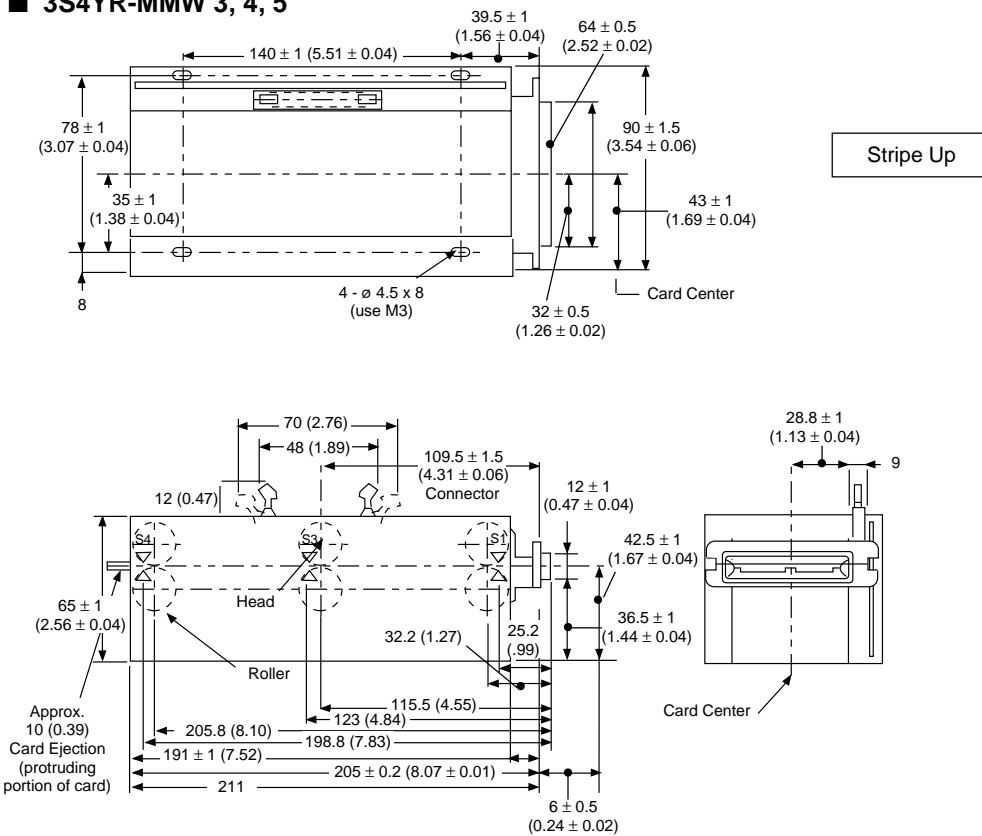
# Dimensions

Unit: mm (inch)

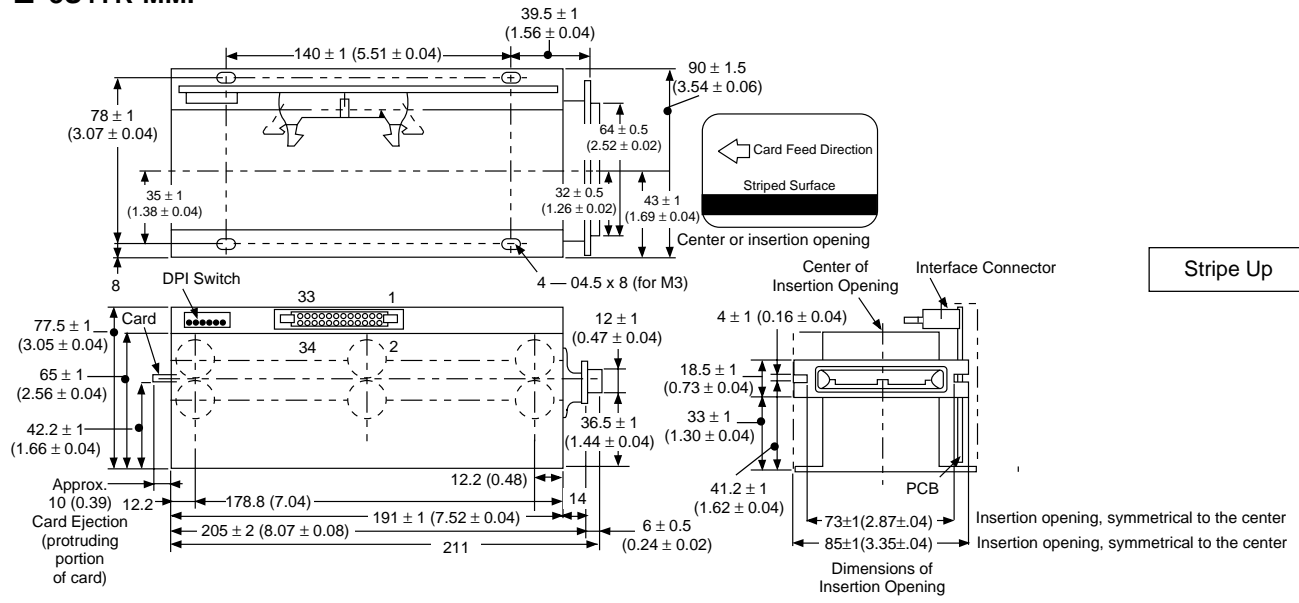
## ■ 3S4YR-MMW1



## ■ 3S4YR-MMW 3, 4, 5



■ 3S4YR-MMF



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