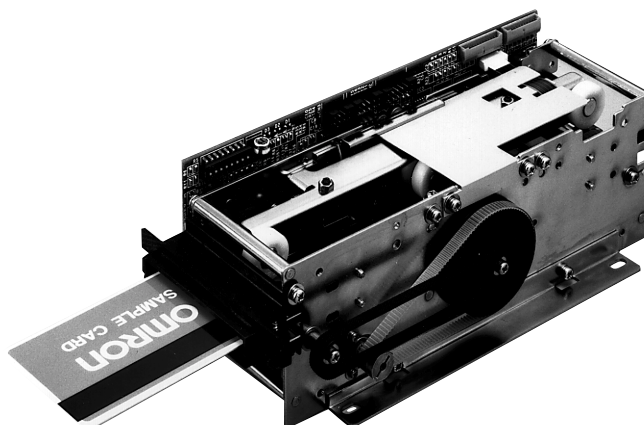


Motor Driven Card Reader/Writer

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.

■ 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

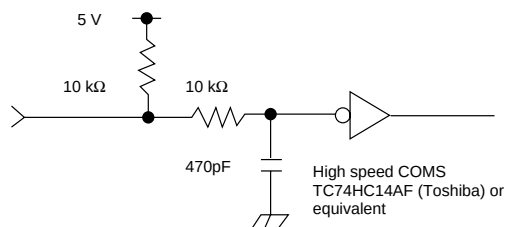
Description	Part Number
Shutter for MMW	SHUTTER MMW

Specifications

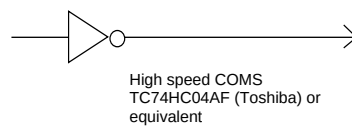
Part number		3S4YR-MMW, MMF, MZW
Recommended card type	Magnetic card	ISO 7810-7813, JIS X6301/6302 for center stripe
Recording method		FM decoding (F2F)
Recording density		User selectable 75 DPI, 105 DPI, 150 DPI, or 210 BPI
Card feeding speed		30 cm/sec $\pm$ 10% (11.8 in/sec)
Service life		500,000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



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	—

Unit: mm (inch)

Technical drawing of a card reader assembly, showing front and side views with dimensions in millimeters (mm) and inches (in).

Front View Dimensions:

- Top edge: 12 mm (0.47 in)
- Left side: 35 ± 1 mm (1.38 ± 0.04 in)
- Bottom left: 78 ± 1 mm (3.07 ± 0.04 in)
- Bottom left hole: 4 - 4.5 x 8 (M3)
- Bottom center: 140 ± 1 mm (5.51 ± 0.04 in)
- Bottom right: 39.5 ± 1 mm (1.56 ± 0.04 in)
- Right side: 47 ± 1 mm (1.85 ± 0.04 in)
- Right side hole: 32 ± 0.5 mm (1.26 ± 0.02 in)
- Right side hole: 64 ± 0.5 mm (2.52 ± 0.02 in)
- Right side hole: 94 ± 1.5 mm (3.7 ± 0.06 in)

Side View Dimensions:

- Top edge: 65 ± 1 mm (2.56 ± 0.04 in)
- Left side: 90 ± 1 mm (3.54 ± 0.04 in)
- Bottom left: 12 mm (0.47 in)
- Bottom center: 58 mm (2.28 in)
- Bottom center: 80 mm (3.15 in)
- Bottom center: 14 mm
- Bottom center: 191 ± 1 mm (7.52 ± 0.04 in)
- Bottom center: 205 ± 2 mm (8.07 ± 0.08 in)
- Bottom center: 211 mm
- Bottom right: 6 ± 0.5 mm (0.24 ± 0.02 in)
- Right side: 9 mm
- Right side: 28.8 ± 1 mm (1.13 ± 0.04 in)

Internal Components and Dimensions:

- Card
- Roller
- Head
- Connector
- S1, S2, S3 (Sensors)
- Card Center
- Card Ejection (protruding portion of card)

Other Dimensions:

- 205.8 (8.10)
- 198.8 (7.83)
- 123 (4.84)
- 115.5 (4.55)
- 108 (4.25)
- 109.5 ± 1.5 mm (4.31 ± 0.06 in)
- 32.2 (1.27)
- 25.2 (0.99)
- 12 ± 1 mm (0.47 ± 0.04 in)
- 41.5 ± 1 mm (1.63 ± 0.04 in)
- 47.5 ± 1 mm (1.87 ± 0.04 in)

3S4YR-MMW 3, 4, 5

Technical drawing showing the front and side views of the 3S4YR-MMW 3, 4, 5 card reader with dimensions in millimeters (mm) and inches (in).

Front View Dimensions:

- Overall Width: 140 ± 1 (5.51 $\pm$ 0.04)
- Overall Height: 78 ± 1 (3.07 $\pm$ 0.04)
- Top Mounting Hole Spacing: 39.5 ± 1 (1.56 $\pm$ 0.04)
- Top Mounting Hole Diameter: 64 ± 0.5 (2.52 $\pm$ 0.02)
- Internal Vertical Spacing: 35 ± 1 (1.38 $\pm$ 0.04)
- Bottom Mounting Hole Spacing: 43 ± 1 (1.69 $\pm$ 0.04)
- Bottom Mounting Hole Diameter: 32 ± 0.5 (1.26 $\pm$ 0.02)
- Card Center Offset: 90 ± 1.5 (3.54 $\pm$ 0.06)
- Internal Feature: $4 \text{ - } \phi 4.5 \times 8$ (use M3)

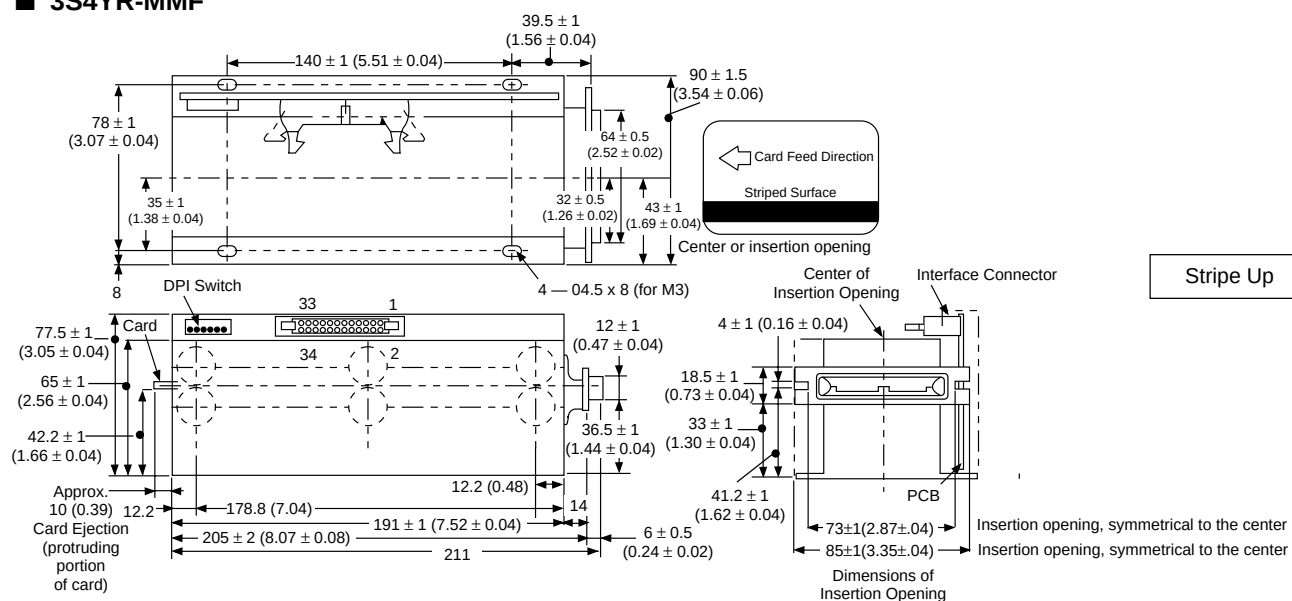
Side View Dimensions:

- Overall Depth: 109.5 ± 1.5 (4.31 $\pm$ 0.06)
- Connector Mounting Hole Spacing: 70 (2.76)
- Connector Mounting Hole Diameter: 48 (1.89)
- Head Mounting Hole Spacing: 12 (0.47)
- Head Mounting Hole Diameter: 65 ± 1 (2.56 $\pm$ 0.04)
- Roller Mounting Hole Spacing: 32.2 (1.27)
- Roller Mounting Hole Diameter: 25.2 (0.99)
- Card Ejection Portion (protruding): 10 (0.39)
- Card Ejection Portion (approximate): 191 ± 1 (7.52)
- Card Ejection Portion (approximate): 205.8 (8.10)
- Card Ejection Portion (approximate): 198.8 (7.83)
- Card Ejection Portion (approximate): 205 ± 0.2 (8.07 $\pm$ 0.01)
- Card Ejection Portion (approximate): 211
- Card Center Offset: 28.8 ± 1 (1.13 $\pm$ 0.04)
- Card Center Offset: 42.5 ± 1 (1.67 $\pm$ 0.04)
- Card Center Offset: 36.5 ± 1 (1.44 $\pm$ 0.04)
- Card Center Offset: 6 ± 0.5 (0.24 $\pm$ 0.02)

Labels:

- Stripe Up
- Card Center
- Head
- Roller
- Connector
- Card Ejection (protruding portion of card)

■ 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