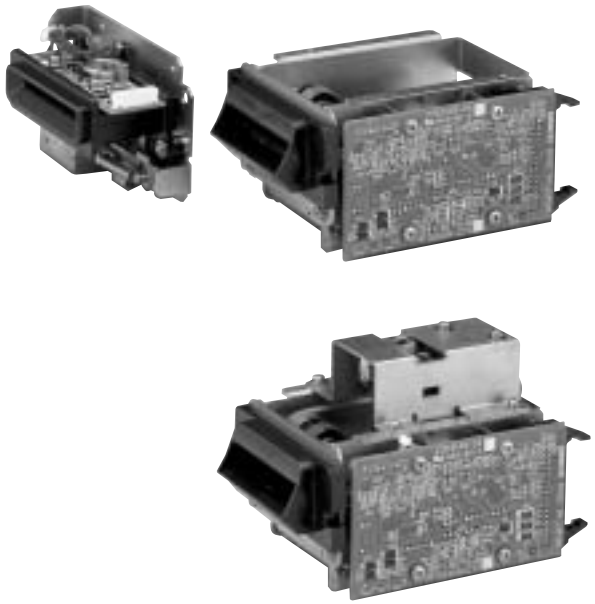
OMRON®

Motor Driven Card Reader

3S4YR-MBR/MCR

Versatile Reader/Writer Reliably Handles Read Function for Magnetic Cards or Read/Write Function for IC Cards



- Compact size and light weight allow easy installation in any terminal
- Single and triple track capability
- Heavy-duty construction for secure environments
- High speed card transport
- Shutter available to prevent insertion of foreign objects and improper cards

Ordering Information

Magnetic Tracks Supported (R, R/W)					IC Contact	Interface	Built-in Shutter	Cover/ Cable	Card Ejection	Color	Part Number
1	2	3	Center	JIS II							
R	R	R	—	—	No	TTL	No	No	Front/Rear	Black	**3S4YR-MBR1**
R	R	R	—	—	No	TTL	Yes	No	Front/Rear	Black	**3S4YR-MBR1D**
—	R	—	—	—	No	TTL	No	No	Front/Rear	Black	**3S4YR-MBR4**
—	R	—	—	—	No	TTL	Yes	No	Front/Rear	Black	**3S4YR-MBR4D**
—	—	—	—	—	ISO 7816	TTL	No	No	Front/Rear	Black	**3S4YR-MCR0JCB**
—	—	—	—	—	ISO 7816	TTL	Yes	No	Front/Rear	Black	**3S4YR-MCR0JDB**

■ ACCESSORIES

Description	Part Number
Shutter for MBR (Prevents tampering and incorrect card insertion)	**Shutter MCD4N**

■ TYPICAL APPLICATIONS

- ID Card Checkers
- Access Control
- Automatic Gate Machines
- EFT
- POS
- Vending Machines
- Kiosks

Specifications

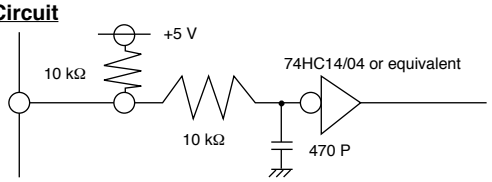
Part number		3S4YR-MBR/MCR				
Recommended card type	Magnetic card	ISO 7810, 7811/1-5, 7812, 7813				
	IC Card	ISO 7816/1-2				
Recording method		FM decoding (F2F)				
Card feeding speed		40 cm/sec (15.7 in/sec)				
Motor type		DC motor				
Service life (See note)	Magnetic head	1,000,000 passes				
	IC contact	300,000 times				
	Transport roller	1,000,000 passes or 5 years				
	Drive belt	1,000,000 passes or 5 years				
	Entire unit	1,000,000 passes (excluding the above mentioned parts)				
Operating power supply		24 VDC ± 10%				
Max. current consumption	3S4YR	MBR	MBR□D		MCR0JCB	MCR0JDB
	Waiting	25 mA	30 mA		20 mA	25 mA
	Operating	350 mA	550 mA		500 mA	700 mA
	Start-up, reverse	2A	2A		2A	2A
Mounting location		Indoors — away from wind, rain, and sunlight				
Ambient temperature	Operation	-5° to 55°C (23° to 131°F)				
	Storage	-25° to 70°C (-13° to 158°F)				
Ambient humidity	Operation	45% to 85% RH without condensation				
	Storage	20% to 90% RH				
Vibration (when not in use)		Single amplitude: 0.75 mm Max acceleration: 100 mm/sec^2; 10 to 150 Hz for 30 minutes in X, Y, and Z directions				
Shock (when not in use)		300 m/sec^2 (30 G) three times in each of X, Y, and Z directions				
Dimensions	3S4YR	MBR	MBR□D		MCR0JCB	MCR0JDB
	Length	122 mm (4.80 in)	147 mm (5.79 in)		122 mm (4.80 in)	147 mm (5.79 in)
	Width	90 mm (3.54 in)	90 mm (3.54 in)		90 mm (3.54 in)	105 mm (4.13 in)
	Height	62 mm (2.44 in)	62 mm (2.44 in)	(2.44 in)	95 mm (3.74 in)	95 mm (3.74 in)
Weight	3S4YR	MBR	MBR□D		MCR0JCB	MCR0JDB
		550 g (19.4 oz)	750g (26.5 oz)		900 g (31.7 oz)	1,100 g (38.8 oz)

Note: One pass denotes one-way travel of card feed.

Engineering Data

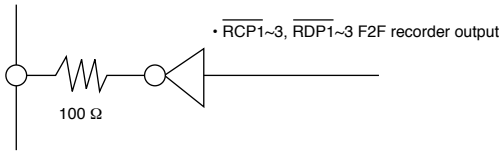
■ OUTPUT CIRCUIT DIAGRAM

Input Circuit



I/F Board

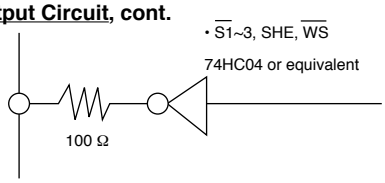
Output Circuit



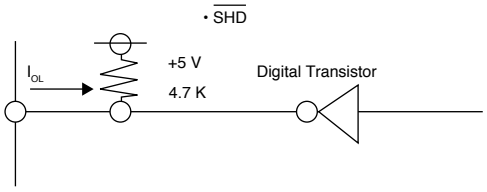
I/F Board

I_{OH} = -1 mA MAX (V_{OH} = 3.5 V MIN)
I_{OL} = 4 mA MAX (V_{OL} = 0.4 V MAX)

Output Circuit, cont.



I/F Board



I/F Board

I_{OL} = 10 mA MAX (V_{OL} = 0.4 V MAX)

■ I/O INFORMATION

3S4YR-MBR1/1D/4/4D

Card reader side: Hirose Electric HIF3BA-26PA-2, 54DS (male)
Cable side: Connector socket conforming to MIL-C-83503 (female); Berg 66900-266 or 65846-002; 3M 3399-6500SC+3448-3926J (connector + strain relief, cable-side connector is not included).

Pin #	Signal	Input/Output	Description
1	24V	—	24 VDC
2	24V	—	24 VDC
3	POV	—	0 VDC
4	POV	—	0 VDC
5	$\overline{MFS}$	Input	Motor forward signal
6	$\overline{MRS}$	Input	Motor reverse signal
7	$\overline{S1}$	Output	Card location sensor 1
8	$\overline{S2}$	Output	Card location sensor 2
9	$\overline{S3}$	Output	Card location sensor 3
10	—	—	—
11	$\overline{RDP1}$	Output	Read data, track 1
12	$\overline{RCP1}$	Output	Read clock, track 1
13	$\overline{RDP2}$*	Output	Read data, track 2
14	$\overline{RCP2}$*	Output	Read clock, track 2
15	$\overline{RDP3}$*	Output	Read data, track 3
16	$\overline{RCP3}$*	Output	Read data, track 3
17	—	—	—
18	—	—	—
19	—	—	—
20	—	—	—
21	$\overline{WS}$**	Output	Card width switch
22	$\overline{SHD}$**	Output	Sense head detector
23	$\overline{SO}$**	Input	Shutter open/close
24	SHE**	Output	Shutter echo switch
25	—	—	—
26	0 VDC	—	0 VDC (GND)

3S4YR-MCROJCB/DB

Card reader side: Hirose Electric HIF3BA-26PA-2, 54DS (male)
Cable side: Connector socket conforming to MIL-C-83503 (female); Berg 66900-226 or 65846-002; 3M 3399-6500SC+3448+3026J (connector + strain relief, cable-side connector is not included).

Pin #	Signal	Input/Output	Description
1	24V	—	24 VDC
2	24V	—	24 VDC
3	POV	—	0 VDC
4	POV	—	0 VDC
5	$\overline{MFS}$	Input	Motor forward signal
6	$\overline{MRS}$	Input	Motor reverse signal
7	$\overline{S1}$	Output	Card location sensor 1
8	$\overline{S2}$	Output	Card location sensor 2
9	$\overline{S3}$	Output	Card location sensor 3
10	IVCC	◆	IC card VCC
11	IRST	◆	IC card RESET
12	ICIO	◆	IC card IN/OUT
13	IGND	◆	IC card GND
14	ICLX	◆	IC card PROGRAM
15	IVVP	◆	IC card CLOCK
16	IRS1	◆	IC card RESERVE 1
17	IRS2	◆	IC card RESERVE 2
18	$\overline{IECO}$***	Output	IC card contact press echo
19	$\overline{IECS}$***	Output	Stopper release sensor echo (rear ejection only)
20	$\overline{ISO1}$***	Input	IC card contact press
21	$\overline{WS}$**	Output	Card width switch
22	$\overline{SHD}$**	Output	Sense head detector
23	$\overline{SO}$**	Input	Shutter open/close
24	SHE**	Output	Shutter echo switch
25	$\overline{ISO2}$***	Input	IC card stopper release (rear ejection only)
26	0 VDC	—	0 VDC (GND)

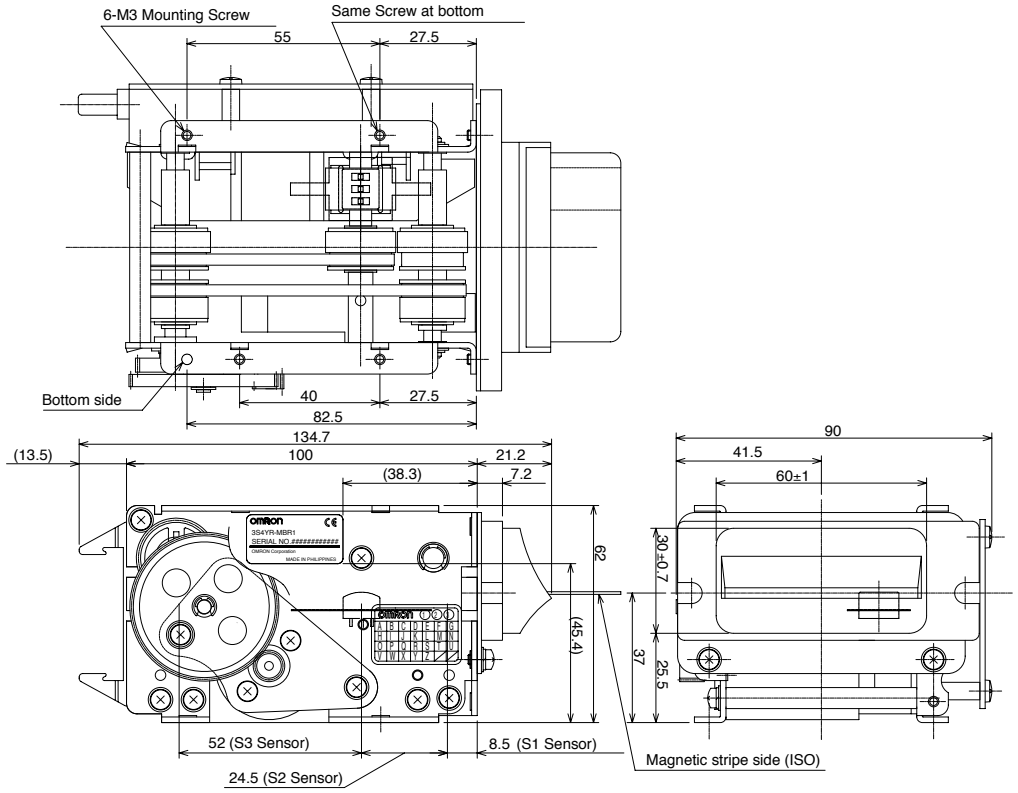
* Signals applicable for the MBR1 and MBR1D only.
** Signals applicable when shutter is attached.
*** Signals applicable for rear ejection models only.

◆ = Direct IC Contact

Dimensions

Unit: mm (inch)

■ 3S4YR-MBR1

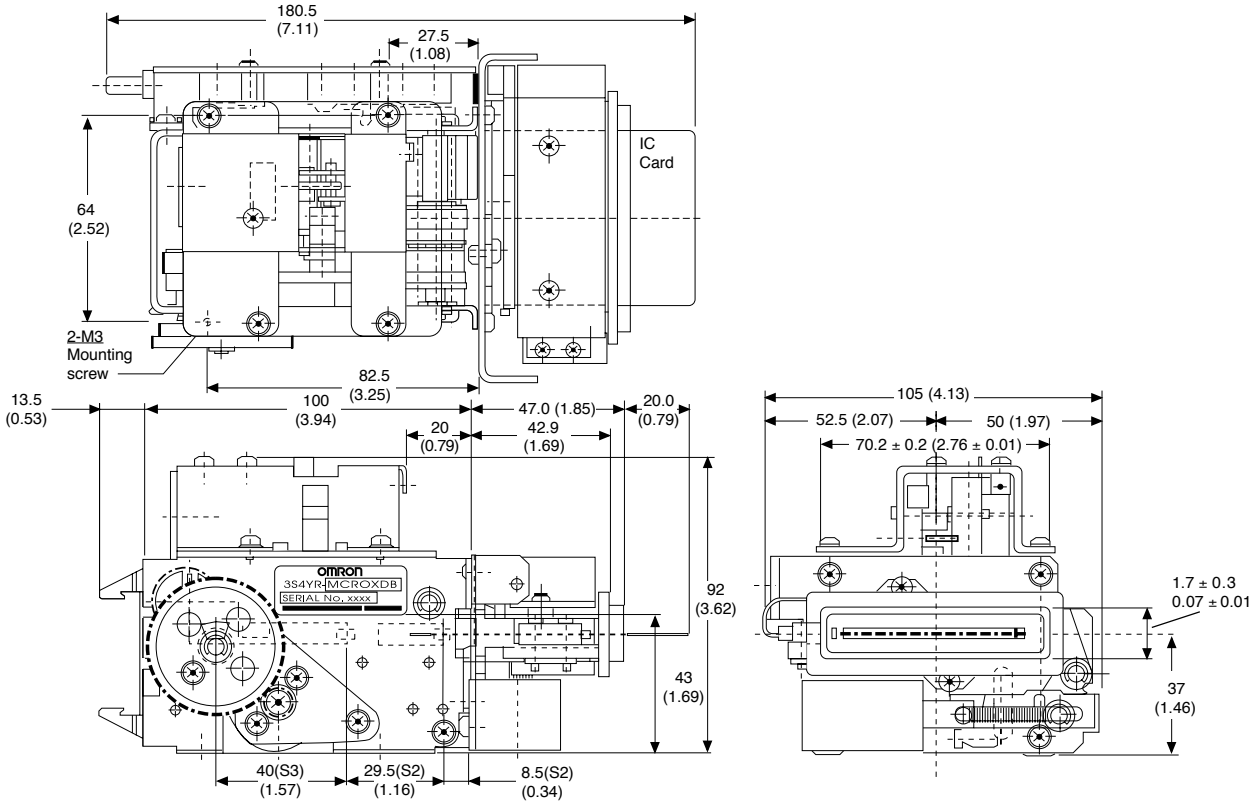


NOTE. Tolerances unless otherwise noted +/-1.5mm

Fig.1 Dimensional Outline Drawing (without shutter unit)

Dimensions

■ 3S4YR-MCR0JDB



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