OMRON

Insert Magnetic/IC Card Reader | 3S4YR-SFR

Compact Insert Reader with Magnetic and IC Card Interface

- Solenoid controlled lock to prevent card removal during IC read/write functions
- Single, double or triple track configurations with IC card option
- Reads 100% of magnetic track
- Red and green LEDs for operation indicator
- TTL-compatible interface

Ordering Information

Magnetic Tracks Supported (R, R/W)					IC Contact	Interface	Color	Part Number
1	2	3	Center	JIS II				
—	—	—	—	—	J-type (ISO)	TTL-compatible	Black	**3S4YR-SFR0J**
R	R	R	—	—	J-type (ISO) (See note 2)	TTL-compatible	Black	**3S4YR-SFR1J**
R	R	R	—	—	—	TTL-compatible	Black	**3S4YR-SFR1N**
R	—	—	—	—	J-type (ISO) (See note 2)	TTL-compatible	Black	**3S4YR-SFR3J**
R	—	—	—	—	—	TTL-compatible	Black	**3S4YR-SFR3N**
—	R	—	—	—	J-type (ISO) (See note 2)	TTL-compatible	Black	**3S4YR-SFR4J**
—	R	—	—	—	—	TTL-compatible	Black	**3S4YR-SFR4N**
—	—	R	—	—	J-type (ISO) (See note 2)	TTL-compatible	Black	**3S4YR-SFR5J**
—	—	R	—	—	—	TTL-compatible	Black	**3S4YR-SFR5N**
R	R	—	—	—	J-type (ISO) (See note 2)	TTL-compatible	Black	**3S4YR-SFR6J**
R	R	—	—	—	—	TLL-compatible	Black	**3S4YR-SFR6N**
—	R	R	—	—	J-type (ISO) (See note 2)	TTL-compatible	Black	**3S4YR-SFR7J**
—	R	R	—	—	—	TTL-compatible	Black	**3S4YR-SFR7N**

Note 1: Consult the *IC Card Basics* section of this catalog for IC contact descriptions.
2: Magnetic stripe and IC contact are on the same side of the card.

■ ACCESSORIES

Description	Part Number
RS-232C interface	**RS232C FOR SFR**

■ TYPICAL APPLICATIONS

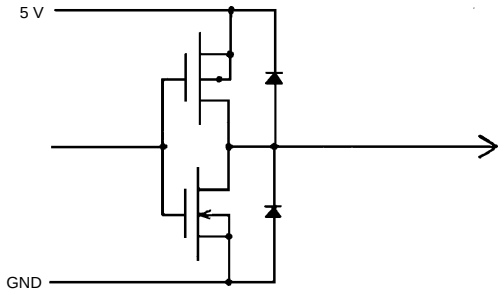
- Remote Terminals for Computers
- Credit Card Readers
- ID Card Checkers
- Electronic Locks
- Automatic Gate Machines
- Point-of-Sale Systems (POS)
- ATMs
- Gas Pump Control
- Vending Machines

Specifications

Part number		3S4YR-SFR
Recommended card type	Magnetic card	ISO 7810-7813
	IC card	ISO 7816/1, 2
Recording method		FM decoding (F2F)
Card feeding speed		10 to 100 cm/sec (4 to 39 in/sec)
Service life	Magnetic head	300,000 passes min.
	IC contact	500,000 passes min.
Operating power supply		5 VDC ± 5% for logic; 12 VDC ± 10% for solenoid
Current consumption	Logic	70 mA max.
	Solenoid	1.2 A max.
Mounting location		Anywhere not directly subject to water
Ambient temperature	Operation	-5° to 55°C (23° to 131°F)
	Storage	-20° to 65°C (-4° to 149°F)
Ambient humidity	Operation	10% to 90% RH without condensation
	Storage	10% to 95%
Vibration		10 to 50 Hz, 2 mm double amplitude, for 30 minutes in X, Y and Z directions
Shock		300 m/sec^2 (30 G) in each of X, Y and Z directions
Dimensions		120L x 60W x 19.4H mm (4.72L x 2.36W x 0.75H in)
Weight		Approx. 100g (3.5 oz)

Engineering Data

■ I/O INFORMATION



Output signal levels

V_{OL} = 0.4 V at 5 mA

V_{OH} = 2.8 at 0.1 mA

■ I/O INFORMATION

3S4YR-SFR1❑ Magnetic Stripe Connector (CN2)

16-pin Molex connector part number 52103-1617.
Flexible printed circuit cable available for interface part number 16P-FPC-FOR-SFR.

Pin #	Signal	Input/Output	Description
1	$\overline{\text{RDT1}}$	Output	Read data, track 1
2	$\overline{\text{RCL1}}$	Output	Read clock, track 1
3	$\overline{\text{RDT2}}$	Output	Read data, track 2
4	$\overline{\text{RCL2}}$	Output	Read clock, track 2
5	$\overline{\text{RDT3}}$	Output	Read data, track 3
6	$\overline{\text{RCL3}}$	Output	Read clock, track 3
7	$\overline{\text{P1}}$	Output	Detects initial card insertion
8	$\overline{\text{P2}}$	Output	Detects complete card insertion
9	$\overline{\text{STATUS}}$	Output	Detects card lock
10	$\overline{\text{SLN}}$	Input	Release locked card
11	$\overline{\text{LED1}}$	Input	Red LED
12	$\overline{\text{LED2}}$	Input	Green LED
13	$\overline{\text{CLS}}$	Output	Card load
14	12 V	—	Power for solenoid
15	5 V	—	Power for logic
16	0 V	—	Ground

3S4YR-SFR3,4,5❑ Magnetic Stripe Connector (CN2)

16-pin Molex connector part number 52103-1617.
Flexible printed circuit cable available for interface part number 16P-FPC-FOR-SFR.

Pin #	Signal	Input/Output	Description
1	—	—	—
2	—	—	—
3	—	—	—
4	$\overline{\text{RDT}}$	Output	Read data, tracks 1, 2, 3
5	$\overline{\text{RCL}}$	Output	Read clock, tracks 1, 2, 3
6	$\overline{\text{CLS}}$	Output	Card loading signal
7	$\overline{\text{P1}}$	Output	Detects initial card insertion
8	$\overline{\text{P2}}$	Output	Detects complete card insertion
9	$\overline{\text{STATUS}}$	Output	Detects card lock
10	$\overline{\text{SLN}}$	Input	Release locked card
11	$\overline{\text{LED1}}$	Input	Red LED
12	$\overline{\text{LED2}}$	Input	Green LED
13	—	—	—
14	12V	—	Power for solenoid
15	5V	—	Power for logic
16	0V	—	Ground

3S4YR-SFR6,7❑ Magnetic Stripe Connector (CN2)

16-pin Molex connector part number 52103-1617.
Flexible printed circuit cable available for interface part number 16P-FPC-FOR-SFR.

Pin #	Signal	Input/Output	Description
1	$\overline{\text{RDT1,3}}$	Output	Read data, tracks 1, 2
2	$\overline{\text{RCL1,3}}$	Output	Read clock, tracks 1, 2
3	$\overline{\text{CLS1,3}}$	Output	Card loading signal, tracks 1, 2
4	$\overline{\text{RDT2}}$	Output	Read data, track 2
5	$\overline{\text{RCL2}}$	Output	Read clock, track 2
6	$\overline{\text{CLS2}}$	Output	Card loading signal, track 2
7	$\overline{\text{P1}}$	Output	Detects initial card insertion
8	$\overline{\text{P2}}$	Output	Detects complete card insertion
9	$\overline{\text{STATUS}}$	Output	Detects card lock
10	$\overline{\text{SLN}}$	Input	Release locked card
11	$\overline{\text{LED1}}$	Input	Red LED
12	$\overline{\text{LED2}}$	Input	Green LED
13	—	—	—
14	12 V	—	Power for solenoid
15	5 V	—	Power for logic
16	0 V	—	Ground

3S4YR-SFR❑J IC Contact Connector (CN1)

8-pin Molex connector part number 52103-0817.
Flexible printed circuit cable available for interface part number 8P-FPC-FOR-SFR.

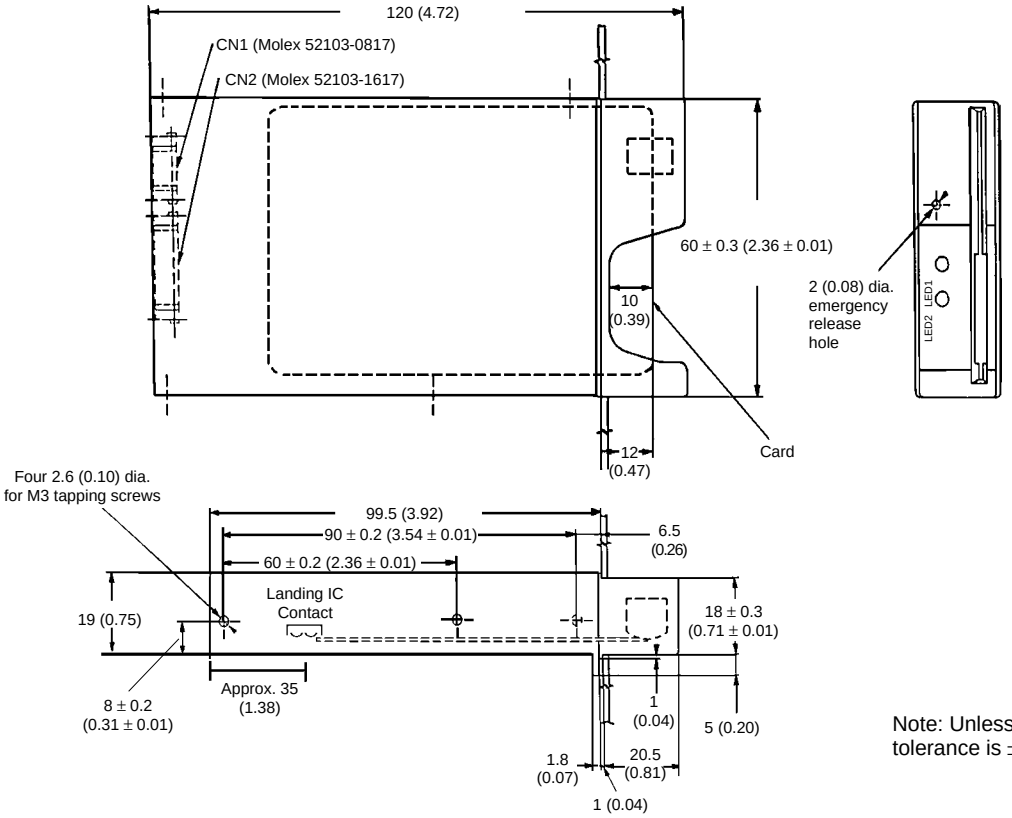
Pin #	Signal	Input/Output	Description
1	IGND	◆	IC contact C5
2	IVCC	◆	IC contact C1
3	IVPP	◆	IC contact C6
4	IRST	◆	IC contact C2
5	IDATA	◆	IC contact C7
6	ICLK	◆	IC contact C3
7	IRFU2	◆	IC contact C8
8	IRFU1	◆	IC contact C4

◆ = Direct IC Contact

Dimensions

Unit: mm (inch)

■ 3S4YR-SFR



Note: Unless otherwise noted, tolerance is ±0.3 mm.

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