

MSR280 SERIES

Manual Insert Card Reader

Thank you for purchasing the MSR280 series products.

The MSR280 Series Manual Insert Magnetic Card Reader is a special designed waterproof reader. It can be installed in retail system, time keeping systems, security systems and other card reader related systems, which require moisture resistance in a harsh outdoor location. The model is designed to offer user a card reader solution that will complement many applications.

Triple track of MSR280 is uniquely designed to read both credit cards and Driver Licenses (AAMVA and California standard).

FEATURES

- Light weight: 130g / Compact size: 123L*94W*50H (mm)
- Read magnetic stripe cards comply with ISO 7811
- Read high and low coercivity magnetic stripes (300-4000 Oe)
- Manual full insert
- Bi-directional sends data when insert or withdraw card
- Dual heads design provides user friendly operation



AGENCY APPROVED

- Specification for FCC Class B
- Specification for CE Class B

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

You are cautioned that any change or modifications to the equipment not expressly approve by the party responsible for compliance could void your authority to operate such equipment.

WARRANTY

This product is served under one-year warranty of defects in material and functionality to the original purchasers. Within the warranty period, if the product found to be defective will be repaired or replaced. This warranty applies to the products only under the normal use of the original purchasers, and in no circumstances covers incidental or consequential damages through consumers' misuse or modification of the product.

WARNING

Please to be cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate the equipment.

SPECIFICATIONS

● Function

Card Running: Manual insertion operation

Read / Write: Read only

Card data output: Bi-direction

Card Operating speed:

Test Card	Speed (inch/sec.)
ISO standard card	4 – 40 ips
Jitter*	5 – 35 ips
Low Amplitude**	5 – 35 ips

Note: Test card thickness is 0.76mm ± 0.08mm.

* Reliable to read Jitter card of magnetic stripes encoded with bit cell length variations within +/-15% as defined in ISO 7811.

** Reliable to read Low Amplitude card of magnetic stripes encoded at 60% or more of the amplitude as defined in ISO 7811.

● General Characteristics

Size:	123L×94W×50Hmm
Weight:	Approx. 130g
Power required:	RS232 interface: 4.0 ~ 19VDC USB interface: +5VDC
Power Consumption:	6.0mA in normal condition
Communication:	Standard RS232 / USB (Virtual RS232) signal levels

● Environment Characteristics

Temperature:	Operating: -10 ~ 50°C; Storage: -30 ~ 70°C
Humidity:	Operating: 15 ~ 90% RH; Storage: 10 ~ 90% RH

● Operation Life

Life of head:	Min. 500,000 card insert & withdrawal operation
---------------	---

● Card Standard Information

Card Standard	IATA	ABA	THRIFT
Tracks	Track 1	Track 2	Track 3
Encoding Method	F2F (FM)	F2F (FM)	F2F (FM)
Encoding Density	210 BPI	75 BPI	210 BPI
Character Capacity	79 Characters (7-bit code)	40 Characters (5-bit code)	107 Characters (5-bit code)

IATA: International Air Transportation Association Standard

ABA: American Banker Association Standard

THRIFT: Thrift Industry Standard

PIN ASSIGNMENT

● Pin Assignment for RS232 Interface

DB9	SIGNAL	PCB-J1	SIGNAL
4	DTR	1	Power input 1
6	DSR	2	NC
8	CTS	3	NC
3	TxD	4	RxD
7	RTS	5	Power input 2
2	RxD	6	TxD
	SHIELD	7	SHIELD
5	GND	8	GND

● Pin Assignment for USB Interface

USB A TYPE	SIGNAL	PCB-J1	SIGNAL
1	Vbus	1	Power input
2	D -	3	D -
3	D +	4	D +
4	GND	8	GND
5	Shield	7	GND

Data Format

● Data output format (Self-ARM mode)

Protocol code	Tk1 prefix	Tk1 Data	Tk1 suffix	EOT	BCC	
Protocol code	Separator	Tk2 prefix	Tk2 Data	Tk2 suffix	EOT	BCC
Protocol code	Separator	Tk3 prefix	Tk3 Data	Tk3 suffix	EOT	BCC

● Read data for command

Read tk1 data for command

Protocol code	Tk1 prefix	Tk1 Data	Tk1 suffix	EOT	BCC
---------------	------------	----------	------------	-----	-----

Read tk2 data for command

Protocol code	Tk2 prefix	Tk2 Data	Tk2 suffix	EOT	BCC
---------------	------------	----------	------------	-----	-----

Read tk3 data for command

Protocol code	Tk3 prefix	Tk3 Data	Tk3 suffix	EOT	BCC
---------------	------------	----------	------------	-----	-----

Note: TkX data: SS (option) track data ES (option) LRC (option)

Technical Support: Call 1-888-881-1900 (in USA)