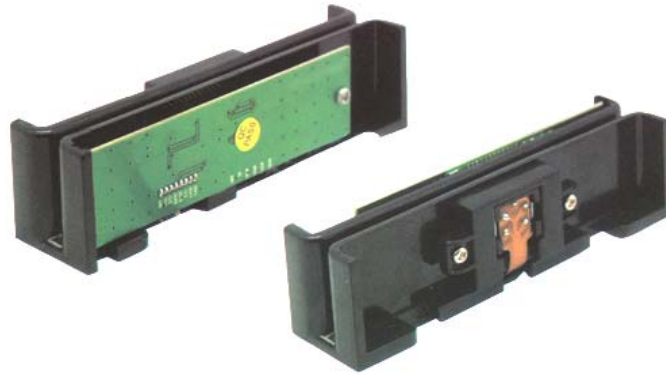


Magnetic card reader module

Model Number: LR-100 Series



Brief introduction:

LR100 serial products are manual swipe card reader, adopting high integrated magnetic card decoding chip. They have small electricity consumption and strong interference resistance. They comply with ISO-7811、7812 magnetic card decoding standard completely to decode data in each track into RDT,RCL and CLS signal for output. Exquisite magnetic installation structure and precise track position makes card reading more stable and reliable, which is our patented technology.

Technical Feature:

3-Dimensional magnetic head design makes magnetic head contact well with cards, and ensures cards to have least abrasion.

Adopting arm suspension type magnetic head assembly method enables machine with soft elasticity and good hand feel. Elasticity will not change in 10,000,000 times, which greatly increases life span of magnetic head.

Installing magnetic head in the magnetic head box makes track position of magnetic head more precise to ensure success card reading rate, and appearance of product looks more beautiful.

Specific integrated circuits guarantee AMP 15% of the card can work properly. Dual-track static current of the whole machine is below 4mA/5V.Strong interference resistance.

Precise electric circuit disposition can read high-co magnetic card at 4000Oe completely.

Magnetic head adopts platinum manganese alloy material, which makes it life span over 800,000 times

Work Environment:

Subject	Specification
Work temperature and humidity	-20°C - 70°C , 20 - 90% RH
Storage temperature and humidity	-30°C - 70°C , less than 95% RH
Vibration	Amplitude 2mm , 2 G , 10-55Hz/min in x,y,z direction
Impact resistance	UP TO 30 G, 11 msec

Technical data and Specification

Dimension and weight

Length (mm)	Width (mm)	Height (mm)	Weight (g)
90	22 or 21	24	45

Specification

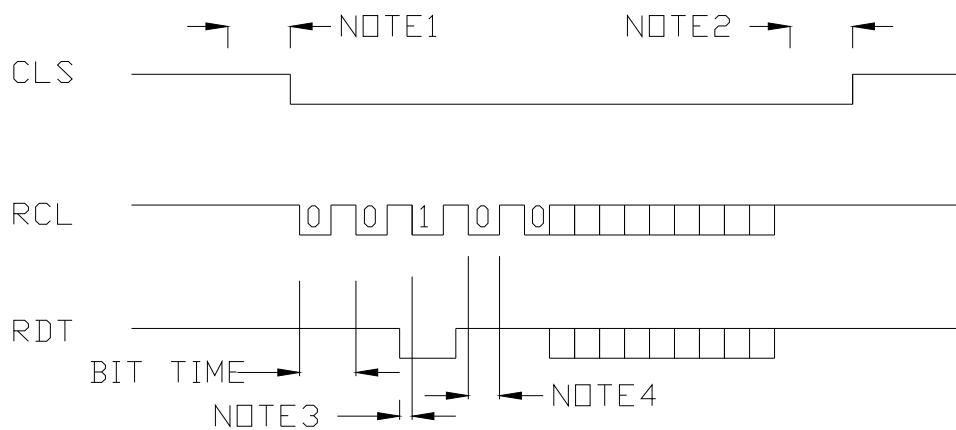
Subject	Specification		
Track Standard	Comply with ISO7811 standard		
Decoding method	F2F (FM)		
Card reading Density	210 BPI	75 BPI	210 BPI
Card reading Data bit	1 track 79 Characters(7-bit)	2 track 40 Characters(5-bit)	3 track 107 characters(5-bit)
Card thickness	0.2~0.84 mm		
Suitable Voltage	DC2.7V~DC5.5V		
Static current	4mA/5V		
Output ripple voltage	Less than 50mVp-p		
Track reading width	1.5mm		
Operation speed	15 - 120 cm/sec (6-50inch/sec)		
Magnetic head life span	Over 800,000 times		
Error rate	Lower than 0.5%		
Insulation resistance	10MΩ		
Interface	TTL		

Output Interface Signal List (2.0MM PIN)

<u>LR110</u>		<u>LR120</u>		<u>LR130</u>	
1	GND	1	GND	1	GND
2	VCC	2	VCC	2	VCC
3	RDT1	3	RDT2	3	RDT3
4	RCL1	4	RCL2	4	RCL3
5	CLS1	5	CLS2	5	CLS3
<u>LR150</u>		<u>LR160</u>		<u>LR180</u>	
1	GND	1	GND	1	GND
2	VCC	2	VCC	2	VCC
3	RDT1	3	RDT2	3	RDT1
4	RCL1	4	RCL2	4	RCL1
5	CLS1	5	CLS2	5	CLS1
6	RDT2	6	RDT3	6	RDT2
7	RCL2	7	RCL3	7	RCL2
8	CLS2	8	CLS3	8	CLS2
				9	RDT3
				10	RCL3
				11	CLS3

Note: TTL PIN dimension and its signal wire sequence can be changed according to customers' requirements.

Output Signal Drawing



Note:[1]RDT: Data signal

[2]RCL: Data clock

[3]CLS : Magnetic card signal

Programming note:

CLS signal: Usually is high level. When magnetic cards with data swipe on the magnetic head, CLS will output low level signal. After magnetic card swiping complete, it will restore into high level. This signal is usually used to detect if there are magnetic cards swiping on the magnetic head.

RCL signal: Usually is high level. When magnetic cards with data swipe on the magnetic head, RCL will output impulse signal. After magnetic card swiping complete, it will restore into high level. This signal is usually used to read data in the magnetic card. When RCL is low level, data in RDT is effective. When programming, it usually read in negative edge. Impulse width: 10us~60us.

RDT signal: Usually is high level. When magnetic cards with data swipe on the magnetic head, RDT will output data signal of magnetic card. Please note that RDT signal level is opposite to data. i.e., when RDT is high level, correlative data is 0; when RDT is low level, correlative data is 1. Level feature is TTL (high level: $>0.8 \times$ input voltage; Low level: $<0.2 \times$ input voltage).

Caution during operation

1 Cards should be inserted in the designated direction, and operation speed should be almost same.

2 Cards using on the standard machine should comply with ISO7811.

3 Magnetic track of the card should not have foreign material, scratch or incompatible default

4 Cards should not put in the position close to magnetic iron to avoid degaussing card signal.

5 If you need to change the usage of products, please contact us or operate by technical person.

6 If you swipe card too hard or have trouble in swiping card, please clean magnetic head (Use cleaning cards).

Installation Structure Drawing

