Magnetic card reader

-RS-232 inteface

Model No.: LX-Mx0 Series

Model Number Rules
X=U=USB Interface
X=S=RS232 Interface
X=K=PS2 Interface
x=1=Read first track only
x=2=Read Second track only
x=3=Read Third track only
x=5=Read first and second track only
x=6=Read second and third track only
x=8=Read all track (1,2,3 track)
Example: LU-M80 means USB interface and read all three tracks.

1. Brief Introduction

RS-232 magnetic card serial products are hand swipe operated magnetic card reading machine with 232 interface, 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. It can read card bi-directionally, free to choose data with or without enter key and has intelligent lights to alert if card data is read correctly. Exquisite magnetic installation structure makes card reading more stable and reliable, which is our patented technology. Reasonable product design makes products small and compact.

2. Technical Feature

-2 color LED & Buzzer indicator can controllable by upper PC/server command.
-ISO7811,12,13, AMMVA,
-Bi-direction card reading, high capacity program design, high card reading ability.
-Can free to choose enter key between data of each track.
-Can customize tract starting character.
-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 magnetic card at 4000Oe completely. Magnetic head adopts platinum manganese alloy material, which makes it life span over 800,000 times

3. Specification:

Subject	Specification		
Track standard	Comply with ISO7811,12,13, AMMVA		
Decodeing method	F2F(FM)		
Starting character	Track 1 "%"	Track 2 "?"	Track 3 "+"
Card reading data bit	Track 1 79 characters (7-bit)	Track 2 40 characters (5-bit)	Track 3 107 characters (5-bit)
Card thickness	0.2~0.84mm		
Operate voltage	DC5V +/- 0.5V (Optional 6.5-40VDC)		
Static current	10mA/5V		
Track reading width	1.5mm		
Magstripe passing speed	15-120 cm/sec (6-50inch/sec)		
Magnetic head life span	More than 800,000 passes		
Error rate	Lower than 0.5%		
Interface	RS-232		
Dimensions	L/W/H=90mm*27mm*28mm		
Net Weight	130g		

4. Environment Requirements

Subject	Specification
Work temperature and humidity	0 -50℃, 20 - 90% RH
Storage temperature and humidity	-30 to 70℃ , 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

5. RS-232 Communication interface:

Data type	Format
Baud rate	9600 bit/sec
Data bit	8bit
Verify bit	N (none)
Stop bit	1 bit

Data packet format: (Suitable to all magnetic card reader)

Track 1 start character：％ End character：？

Track 2 start character：; End character：？

Track 3 start character：＋ End character：？

Enter key is end character of the whole data packet.

VII Wire Connection and Operation

Communication protocol

V2.1

1. Command

Command name	Command code	Command parameters	Remark
Set working mode	0x30	0x30:Active mode	Upload data after read card
		0x31: Store mode	Store data and do not upload after read card
Check configuration	0x31	0x30	Get configuration parameters of card reader
Check version no	0x32	0x30	Get version no of card reader
Read magnetic card	0x33	0x30	Read magnetic card data
Set baud rate	0x34	0x30：4800 0x31：9600 0x32：19200 0x33：38400	
Set track parameter	0x35	T1_SS,T1_ES,T2_SS,T2_ES T3_SS,T3_ES,TRn,CR	

Note：T1_SS：Start symbol of track 1， T1_ES：End symbol of track 1

T2_SS：Start symbol of track 2， T2_ES：End symbol of track 2

T3_SS：Start symbol of track 3， T3_ES：End symbol of track 3

> TRn：Read tracks selection:
>
> > 0x31   track 1
> >
> > 0x32   track 2
> >
> > 0x34   track 3
> >
> > 0x33   track 1 and 2
> >
> > 0x36   track 2 and 3
> >
> > 0x37   track 1.2.3
>
> CR：Tracks end enter to output selection
>
> 0x30：Without enter
>
> 0x31：With enter

Error command list

0x30	Command error
0x31	Command parameters error
0x40	Read/write storage error
0x41	With magnetic card data

2. Command format remark

1. Set card reader mode：

0x02	0x02	0x30	Mode	0x03	BCC		

Return successfully：

0x02	0x03	0x30	Mode	'Y'	0x03	BCC	

Return with failure：

0x02	0x04	0x30	Mode	'N'	ErroCode	0x03	BCC

Mode：0x30: Active mode，0x31:Command mode

Error Code

2. Check configuration：

0x02	0x02	0x31	0x30	0x03	BCC		

Return successfully：

0x02	0x04	0x31	0x30	'Y'	Config	0x03	BCC

Return with failure：

0x02	0x0E	0x31	0x30	'N'	ErroCode	0x03	BCC

Config：10 bytes：Mode、T1_SS、T1_ES、T2_SS、T2_ES、T3_SS、T3_ES
、TrackN、CR、BaudRate。

ErroCode

3. Check version no：

0x02	0x02	0x32	0x30	0x03	BCC		

Return successfully：

c0x02	0x13	0x32	0x30	'Y'	Version	0x03	BCC

Return with failure：

0x02	0x04	0x32	0x30	'N'	ErroCode	0x03	BCC

Mode：0x30: Active mode，0x31:Command mode

Version：Rec-R830

Error Code

4. Read data：

0x02	0x02	0x33	0x30	0x03	BCC		

Return successfully：

0x02	0xxx	0x33	0x30	'Y'	Data	0x03	BCC

Return with failure：

0x02	0x04	0x33	0x30	'N'	ErroCode	0x03	BCC

Data is magnetic card data, format is：% track 1 data？ ;track 2 data？ +track 3 data？ ,%;+？ is each tracks start/end symbol，if one of track without corresponding start symbol, the end symbol will not be exist also. When this command get magnetic card data that will empty immediately. If execute this command again and do not swiping card that will be return failed.

5. Set baud rate：

0x02	0x02	0x34	BaudRate	0x03	BCC		

Return successfully：

0x02	0x03	0x34	BaudRate	'Y'	0x03	BCC	

Return with failure：

0x02	0x04	0x34	0x30	'N'	ErroCode	0x03	BCC

    Baud Rate

6.   Set track parameters

0x02	0x09	0x35	Config	0x03	BCC

Return successfully:

0x02	0x02	0x35	'Y'	0x03	BCC

Return with failure：

0x02	0x03	0x35	'N'	ErroCode	0x03	BCC

Config：8 bytes：   T1_SS、T1_ES、T2_SS、T2_ES、T3_SS、T3_ES
、TrackN、CR。

LED and Buzzer indicate basic control commands(Optional Model):

LED :
Protocol / Command from Server to ON/OFF LED
Send "R01" _ to turn ON Red LED
Send "R00" _ to turn OFF Red LED
Send "G01" _ to turn ON Green LED
Send "G00" _ to turn OFF Green LED
Buzzer:
Protocol / Command from Server to ON/OFF BUZZER
When swipe card, for slave side, if card data was reading success, there is one sound "Bi", if fail, there is two sound "Bi..Bi"
And, the buzzer also can be control by upper PC/server's command, command format as:
Send "BZ01Tnnnn" _ to turn ON BUZZER for "nnnn" millisecond
Example: Reader receive one of BZ01T0500 command, it response one sounds, the sounds last for 500ms.
Send "BZ00" _ to turn OFF BUZZER

Certifications: