
FEATURES:

Major features of the Swipe Reader are as follows:

- Powered through the USB port – no external power supply required
- Hardware Compatible with PC or any computer or terminal with an RS-232 interface
- Bidirectional card reading
- Reads encoded data that meets ANSI/ISO/AAMVA standards
- Green LED and buzzer for status

CONFIGURATION:

The Reader, LED Indicator, pin numbers for the 9-pin connector and the 25-pin adapter are shown in Figure 1-2.

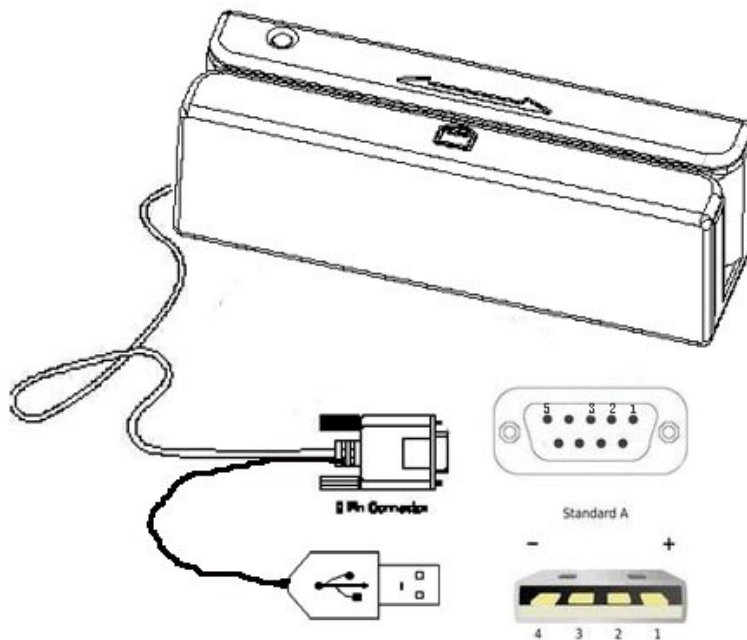


Figure 1-2. Reader Cable and Optional Adapter

Pin numbers and signal descriptions for the 9-pin (DB9) adapter shown in the illustration are listed in Table 1-1.

Table 1-1. 9-Pin Connectors Adapter

9-pin Adapter	Signal
1,4,6,7,8,9	NC*
2	TXD (to PC RXD)
3	RXD (to PC TXD)
5	GND

SPECIFICATIONS

Table 1-2 lists the specifications for the Port Powered Swipe Reader. Figure 1-3 shows the dimensions for the standard product. Other sizes are available by special order.

Table 1-2. Specifications

OPERATING	
Reference Standards	ISO/ANSI/AAMVA*
Power Input	USB interface
Recording Method	Two-frequency coherent phase (F2F)
Message Format	ASCII
Card Speed	3 to 60 in/s (7.6 to 152.4 cm/s) – forward or reverse
Head Life	1,000,000 passes
ELECTRICAL	
DTR Voltage	5 to 15 VDC
Quiescent Transmit/Read Peak at Power On	2 to 8 mA typical (continuous) 8 to 15 mA typical (5 ms duration) 20 mA
RS-232 Communication	Adjustable (default 9600 bps 8N1)
MECHANICAL (STANDARD PRODUCT)	
Dimensions	Length: 3.54" (90.0 mm) Width: 1.06" (26.89 mm) Height: 1.10" (28.0 mm)
Weight	Reader 3.8 oz. (110 gr.)
Cable length	See Table 3-2
Signal connector	9 pin D female
Power connector	USB-A male
ENVIRONMENTAL	
Temperature	
Operating	32°F to 158°F (0°C to 70°C)
Storage	-22°F to 158°F (-30°C to 70°C)
Humidity	
Operating	10% to 90% noncondensing
Storage	10% to 90% noncondensing

* ISO (International Standards Organization), ANSI (American National Standards Institute), and AAMVA (American Association of Motor Vehicle Administrators).

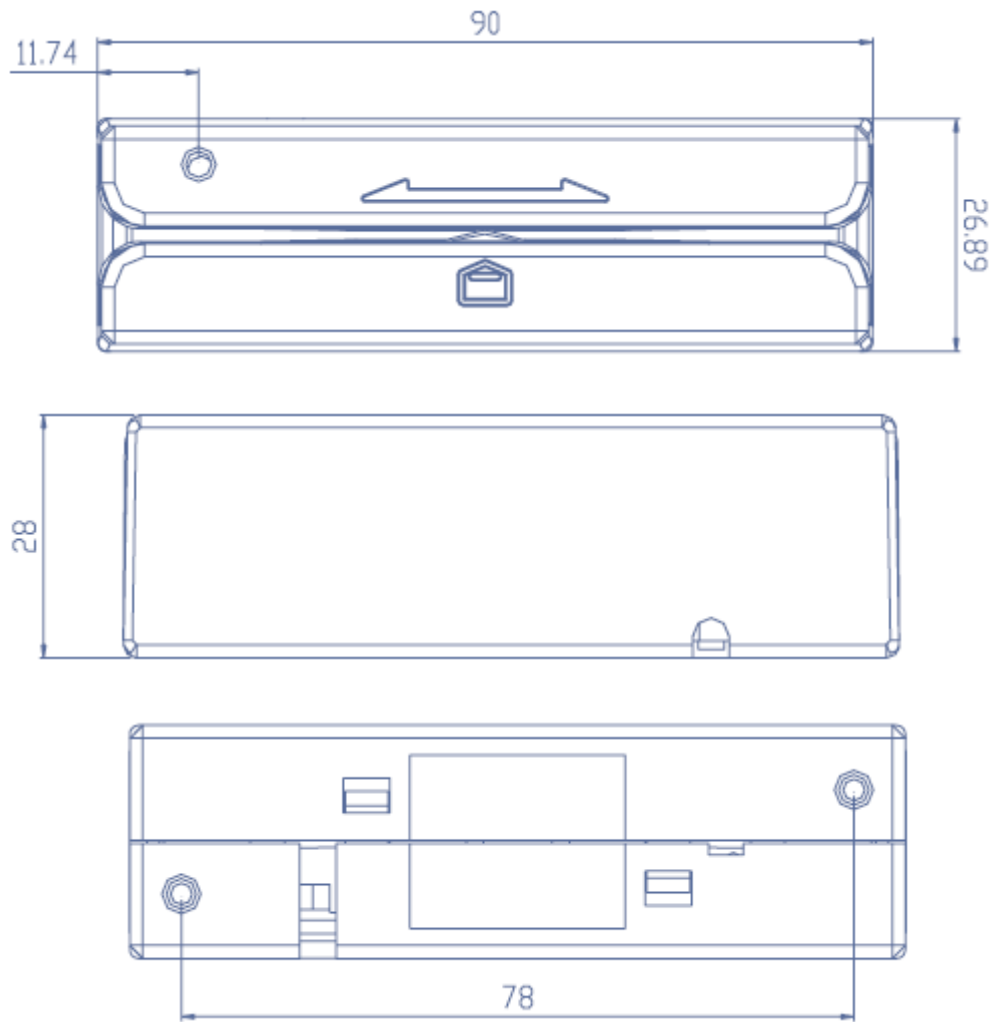


Figure 1-3. Dimensions

SECTION 2. INSTALLATION

The hardware installation consists of plugging the cable into the PC and optional 25-pin adapter, if required, Com Port setup, and testing the Reader.

REQUIREMENTS

- Swipe Reader
- PC with Serial RS-232 Com Port
- RS-232 communications program
- PC USB port

MOUNTING

1. The Reader can be mounted on a surface in three ways:

- By two screws through the surface attached to the bottom of the unit and running the cable on the top of the surface
- By two screws through the surface attached to the bottom of the unit and by drilling a hole in the surface for the cable and running the cable through the hole
- By attaching the unit to the surface with 3M™ Dual Lock™ fasteners (or equivalent) and running the cable on the top of the surface

Note

The two mounting inserts are 3 mm diameter; 10 mm deep. The length of the screws used depends on the mounting surface thickness and the thickness of washers (if used).

The mounting dimensions are shown in Figure 2-1. Determine the method of mounting required.

2. Ensure the Reader is positioned on a flat, accessible surface with at least 4 inches clearance on either end for room to swipe a card. Orient the Reader so the side with the LED is facing the direction of intended use.

If fastening tape is to be used, clean the area that the Reader will be mounted on with isopropyl alcohol. Remove the adhesive protective cover on the fastening tape, and position the Reader and push down firmly.

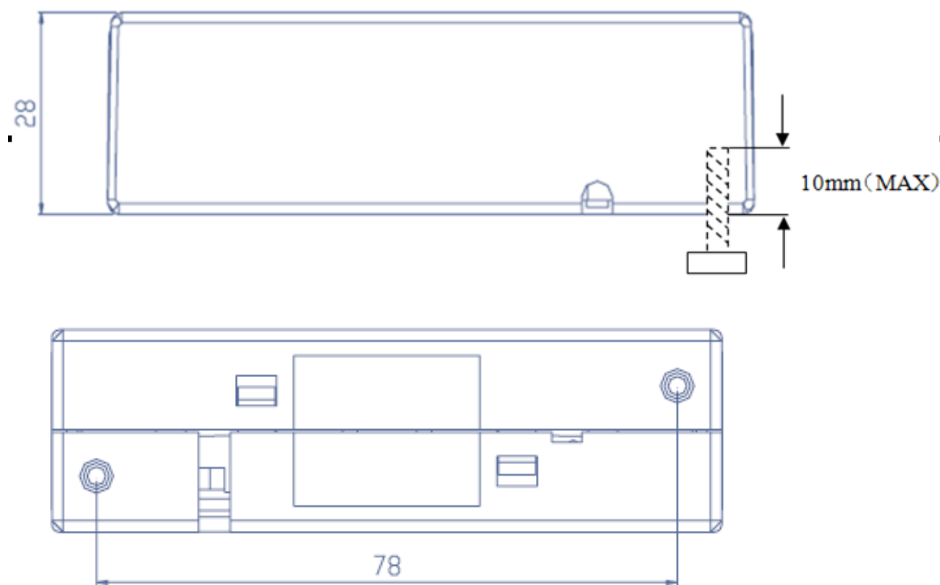


Figure 2-1. Mounting Hole Dimensions for Surface

3. Mount the Reader.

INSTALLATION AND TEST

To install the Swipe Reader, perform the following steps:

1. Connect the Swipe Reader cable connector into a 9-pin serial Com Port and USB on the PC.
2. On the program, select the Com Port the Reader is connected to.
3. Select the baud rate of 9600. 8 data bits, no parity, 1 stop bit.
4. Click on the Connect card reader button.
6. Select (With the *new* version, this setting can be adjusted as required.)
7. With the LED on, swipe a card. The data on the screen will show Track 1 beginning with “%” and ending with “?”. Track 2 begins with “;” and ends with “?”. Track 3 begins with “+” (normal) or “!” (CDL) and ends with “?”. The following is an example:

```
%B123^Smith/Joann^9812101000?;1122223333334444444444?<0x0D 0x0A>
```

If Tracks 1 and 3 are bad and Track 2 is good, the display will be similar to the following:

```
;22222222222222222222? <0x0D 0x0A>
```

8. If the data on the screen is not numeric or alphanumeric similar to the above, check the communications rate. If the alphanumeric characters are similar to the above, the unit is ready for operation.

SECTION 3. OPERATION

Included in this section are Indicator, Card Read, Reader to Host Message Format, and a timing diagram of sign-on ID.

LED INDICATOR

A green LED indicator on the panel gives the operator the status of the Reader. If the cabling is correct, the indicator will show green.

CARD READ

A card may be swiped through the Reader slot when the green LED is flash. The magnetic stripe must face toward the front (the side with the LED) and may be swiped in either direction.

READER TO HOST MESSAGE FORMAT

Track data is sent in the following order: SS, Card Data, ES.

The format in which data is transmitted (in track order) after a card is read successfully is as follows:

SS CARD DATA ES CR

Table 3-1 lists the default Start Sentinel and End Sentinel symbols.

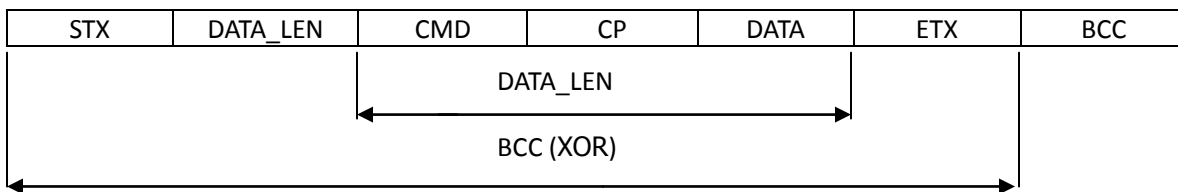
Table 3-1. SS and ES Track Symbols

Start Sentinel	End Sentinel	Description
%	?	Track 1
;	?	Track 2
+	?	Track 3 – ISO / AAMVA (Old version)
+	?	Track 3 – ISO (New version)
#	?	Track 3 - AAMVA (New version)

SECTION 4. PROPERTIES AND COMMANDS

A full set of properties and commands have been incorporated into the *new* version of the Port Powered Swipe Reader. This section describes the function and operation of each of these properties, and shows how to implement the commands.

COMMAND FORMAT



STX: 1Byte 0X02
 DATA_LEN: 1Byte
 CMD: 1Byte
 CP: 1Byte
 DATA: Nbyte
 ETX: 1Byte
 BCC: 1Byte (XOR)

SENDING COMMANDS

The default communication parameters are 9600 bps with 8 bits, no parity and 1 stop bit (8N1). If the Reader fails to respond after a command has been transmitted, the application should modify the

transmission parameters until a response is received.

VERSION REQUEST

In order to determine which device is connected, the application can send a Version Request command to the Reader:

0x02	0x02	0x32	0x30	0x03	0x01
------	------	------	------	------	------

MSR response (Right)

0x02	0x10	0x32	0x30	'Y'	Version	0x03	BCC
------	------	------	------	-----	---------	------	-----

MSR response (Error)

STX	0x03	0x32	0x30	'N'	ETX	BCC
-----	------	------	------	-----	-----	-----