

SPECIFICATION

Customer : _____

Customer's Model No. : _____

Model No. : MMR Series _____

Date : _____

Sample Serial No. : _____

Spec. Version & Revision Date: V1.3 2014.01.06 _____

Received/Approved by

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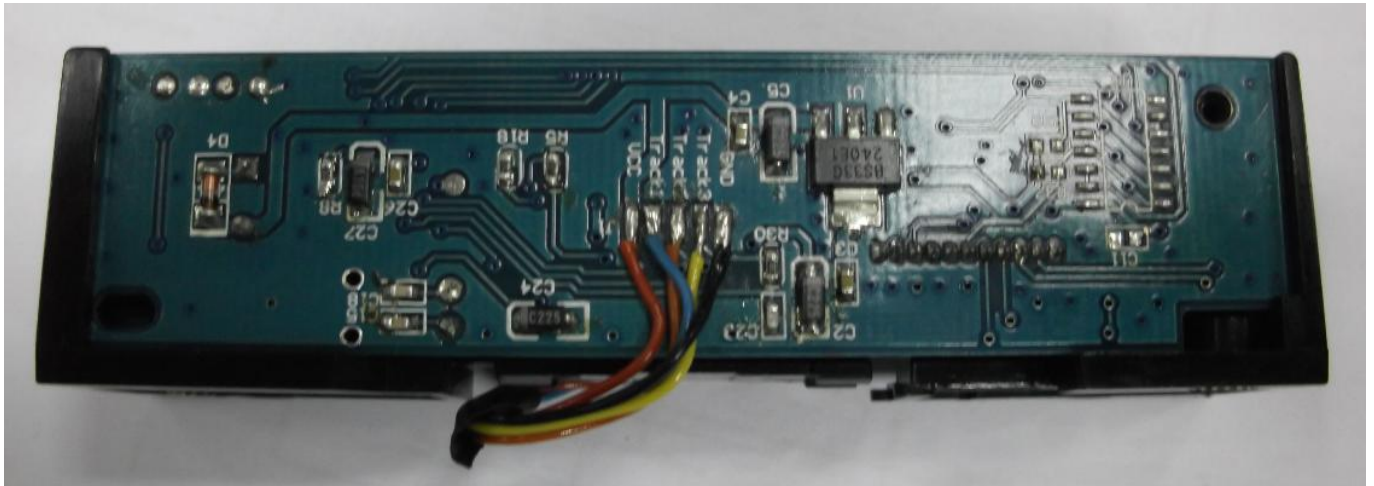
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A. General Description



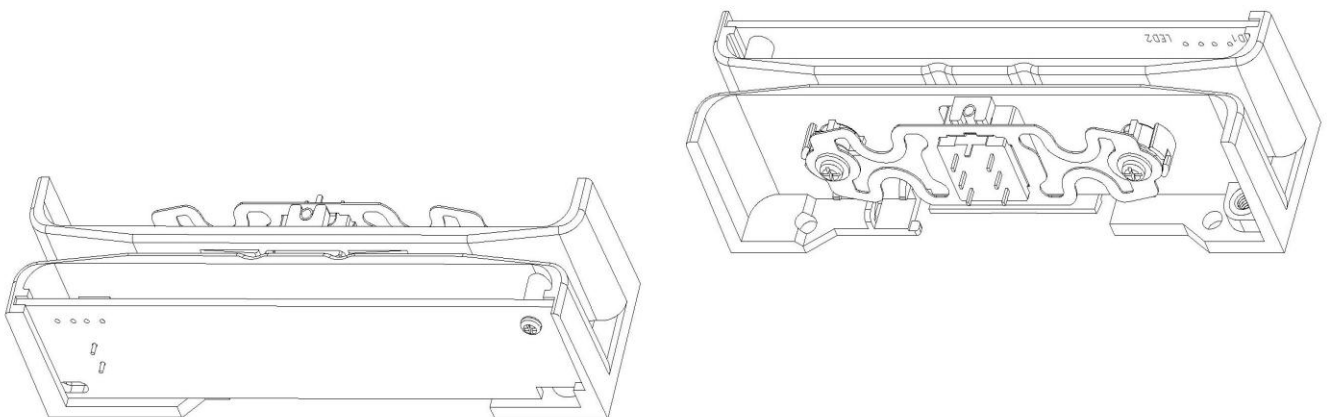
This magnetic stripe reader module is well designed and constructed with high quality components. It conforms to ISO 7810-7813, JIS II standards and is designed for use in access control, retail and time attendance applications, etc. Decoder is an advanced and versatile decoding facility which works with variety of computer interfaces.

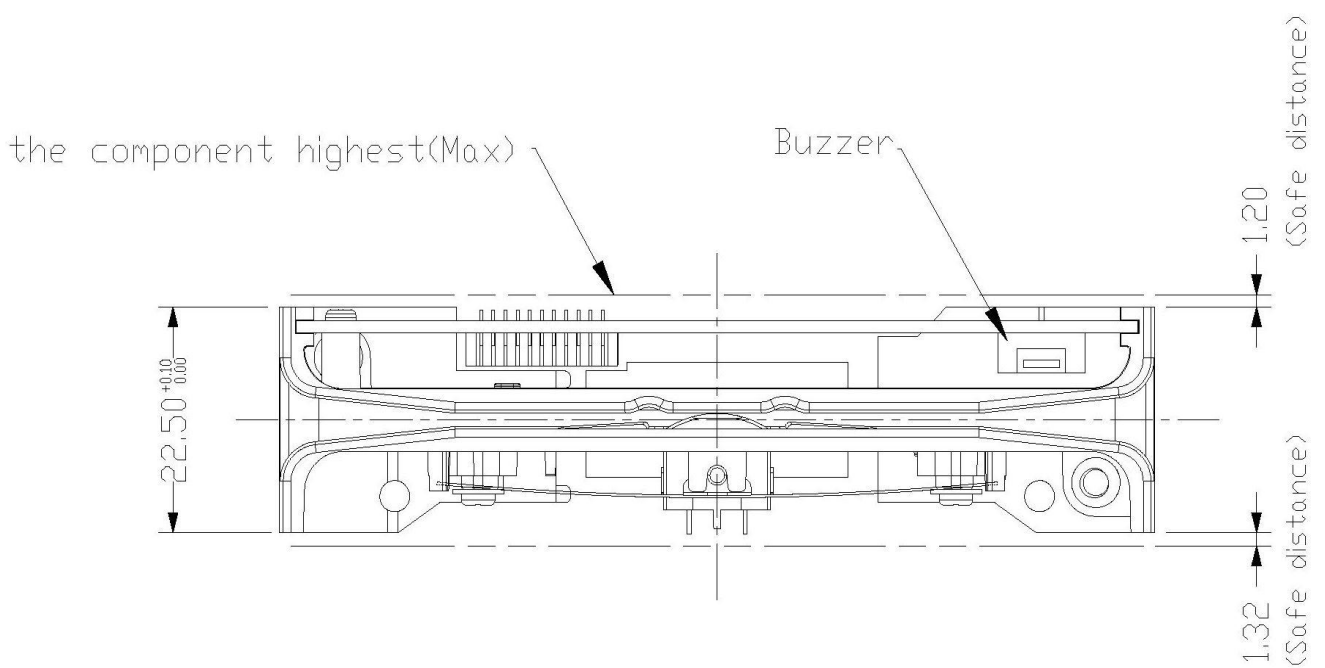
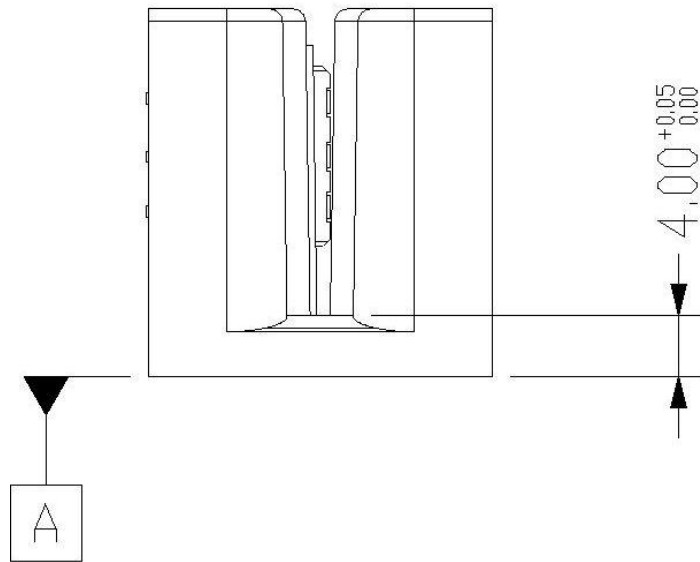
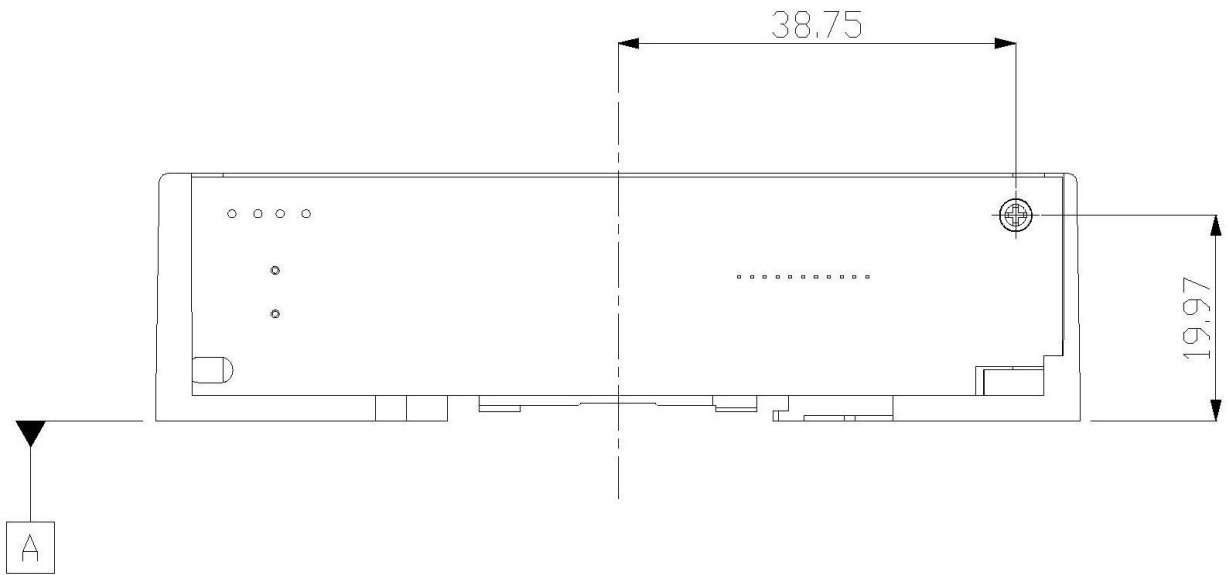
B. Physical Characteristics

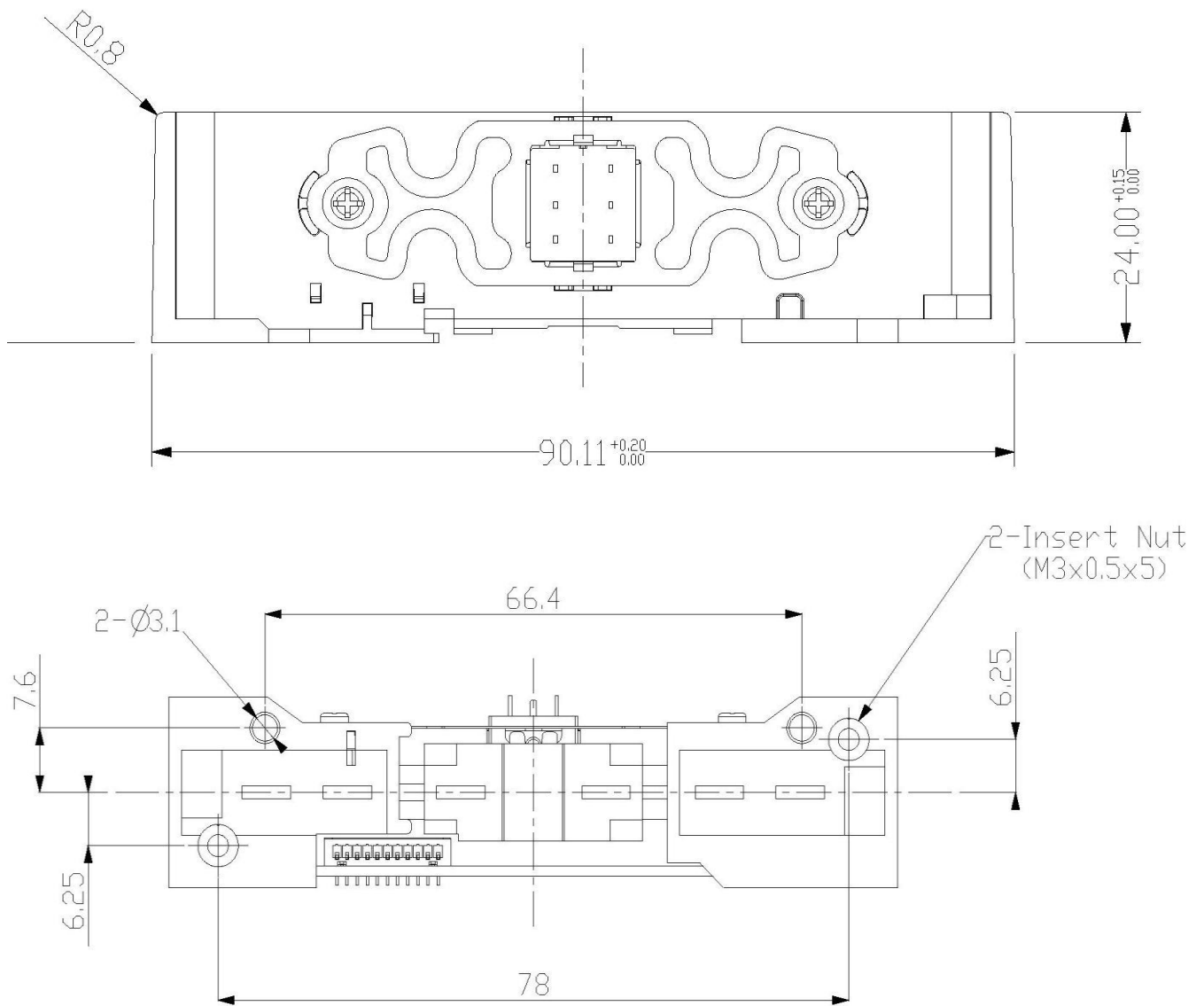
Weight	
Body Weight	29.8 g (1.05 oz)
Material	
	PC&ABS
Dimension	
	90 mm (L) X 25 mm(W) X 24 mm(H)

Mechanical drawing

Unit : mm







C. Electrical Characteristics

Interface	RS232	USB	KBW
Supply Voltage		DC +5V ±5%	
Output Voltage (Typ.)	±9V	+5V	+5V
Output low Voltage (Max.)	-	0.5	0.5
Current Draw			
Power On (max.)	160mA	160mA	160mA
Stand by (max.)	50mA	50mA	50mA
Operation (max.)	150mA	150mA	150mA
ESD sensitivity Voltage			
	Contact ±4KV	On Air ±12KV	

D. Tracks Information

Track	1	2	3
Standard	IATA	ABA	THRIFT/MINTS
Recording Method	F2F (FM)	F2F (FM)	F2F (FM)
Recording Density	210 BPI	75 BPI	210 BPI
Capacity	79 Characters 7 Bits/Characters	40 Characters 5 Bits/Characters	107 Characters 5 Bits/Characters

Data format complies with ISO 7810-7813, JISII standards, reads stripe cards with range from 300 to 4000 Oersted.

E. Performance

Read/Write	Read
Scan Speed	100 - 1000 mm / sec (3.9 - 39 inch / sec)
Direction	Bi-direction
Life Cycle	Approx. 1,000,000 passes

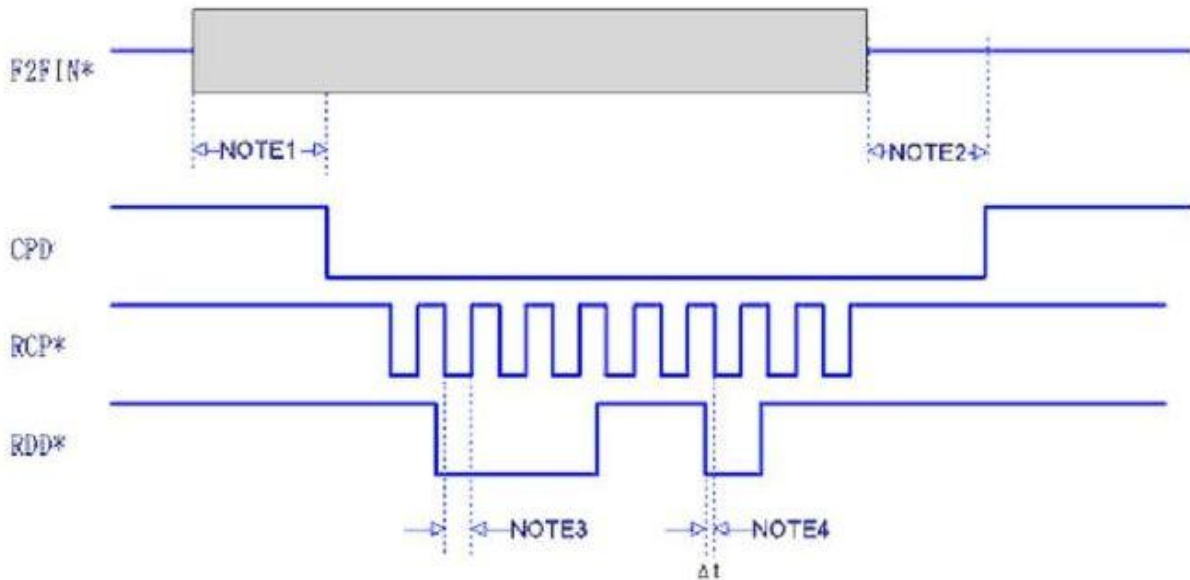
F. Software Characteristics

Module Software Characteristics	
CPU Type	ARM 32-bit
Working Frequency	8MHZ
Readable Tracks	ISO Tracks 1 2 3 & AAMVA
Special Feature	Keyboard Emulation
Firmware Version	V00
Software Version	KS64 Configuration Setup V3.46.11b

G. Environmental

Operating Temperature	0 °C to 50 °C (32 °F to 122 °F)
Storage Temperature	-20 °C to 70 °C (-4 °F to 158 °F)
Relative Humidity	20% to 95% (Non-condensing)

H. TTL Signal Timing Diagram



- **CPD**

When IB is set to high, CPD is asserted low after 11 ± 1 (19 ± 1) flux reversals. When IB is set to low, CPD is asserted low after 13 ± 1 (27 ± 1) flux reversals. CPD returns to high level about 35ms after the last RCP*.

- **RCP***

The RCP* signal indicates RDD*'s output is valid.

- **RDD***

The data signal is valid when the RCP* is low. If the RDD* signal is high, the bit is zero (0); otherwise, the bit is one (1).

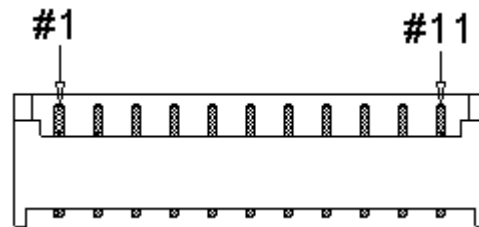
NOTE :

1. Ignore start bits selectable
 - L: 13 ± 1 or H: 11 ± 1 flux changes for track B.
 - L: 27 ± 1 or H: 19 ± 1 flux changes for track A and track C.
2. Timeout of CPD signal occurs about 35ms.
3. The Duty Cycle of RCP* will approximately equals 50% last bit time.
4. The RDD* set up time, Δt , is at least 1.33us.

I. Pin Assignment

Data Output Connector

Type	Wafer (On PCB)
Pin No.	Function
1	GND
2	Vcc (+5V)
3	TXD
4	RXD
5	HOST DATA / D+
6	HOST CLK / D-
7	KB DATA
8	KB CLK
9	RTS
10	CTS
11	SHIELD



J. Reliability

Life Time	
MTBF(Calculated)	24,000 hours
Thermal Shock	
High Temp.	60 °C (140 °F)
Low Temp.	-20 °C (-4 °F)
Cycle time	30 minutes for high temp. , 30 minutes for low temp.
Cycles	24 cycles
Cable Bending Test	25,000 times minimum (30 times/min @ 500g/90 °)
Mechanical Shock	40 inch (100 cm) Drop on Concrete Surface