SPECIFICATION

Customer :

Customer's Model No. :

Model No. : MBR2 Series

Date :

Sample Serial No. :

Spec. Version & Revision Date: V02 2011.04.06

Received/Approved by

Champtek Incorporated
5/F, No. 2, Alley 2, Shih-Wei Lane, Chung Cheng Rd.,
Hsin Tien District, New Taipei City, Taiwan, R.O.C.
Tel : 886-2-22192385
Fax : 886-2-22192387

Web : http://www.champtek.com
E-mail : sales@champtek.com

Revision History

Version	Date	Context
00	2004.04.22	Golden release
01	2006.02.14	
02	2011.04.06	Add on optional 80mm cable

TABLE OF CONTENTS

A. General Description

This slot reader module is well designed and constructed with high quality components. It accepts wide range of reading speed and provides very accurate barcode scanning. With different wavelengths, barcodes which are printed on different materials can be easily read to suit the application needs. Because it has the same dimensions as most of barcode slot readers or magnetic stripe readers, integrating this module to most of housings is a snap. It simplifies the development process and can save tooling cost. The TTL output allows the slot reader to be universally accepted by most decoders.

The built-in decoder is an advanced and versatile decoding facility for barcoding systems .It works with variety of bar code types and computer interfaces.

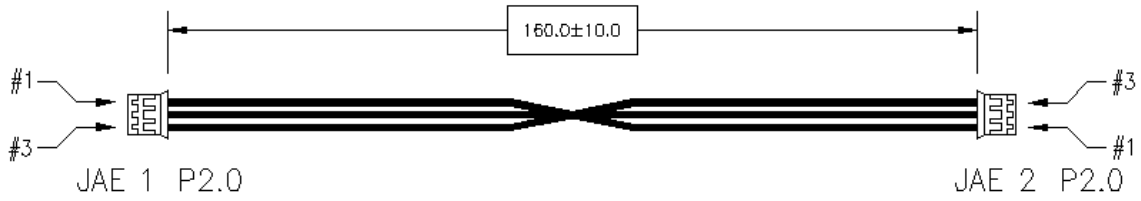
B. Physical Characteristics

	MBR2-XX1	MBR2-XX3
Weight		
Body Weight	28.4 g (1.0 oz)	23 g (0.81 oz)
Cable Weight	Approx. 1.4 g (0.05 oz)	
Material	PC&ABS	
Cable Length	160 mm (6.29 inch) or 80mm (3.14 inch)	
Decorder Board Weight	11 g (0.4 oz)	
Dimension (Unit : mm)	90.0 X 28.5 X 24.0	90.0 X 24.0 X24.0

(a)Cable drawing

Unit : mm

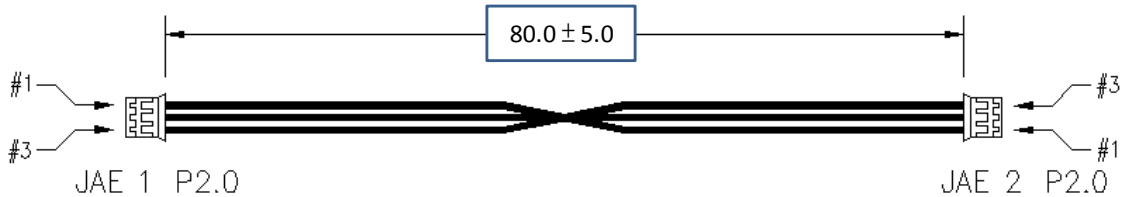
TTL Interface :



Pin Assignment :

JAE 1	JAE 2	Function
1	1	Vcc
2	2	DATA
3	3	GND

or



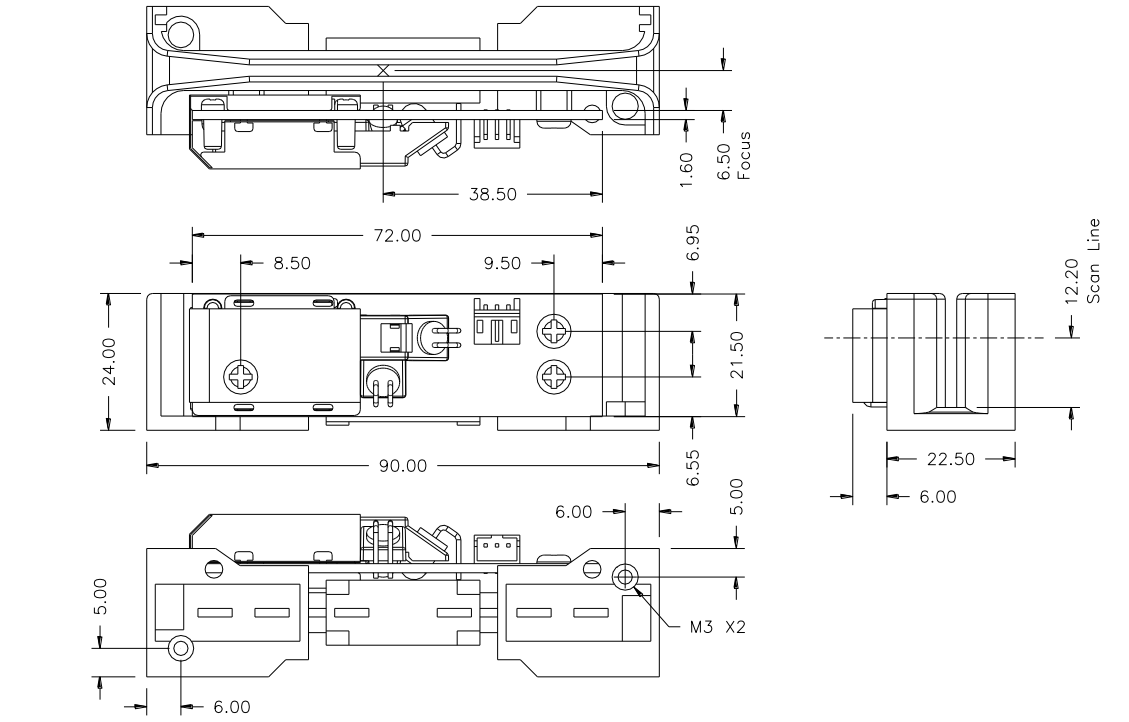
Pin Assignment :

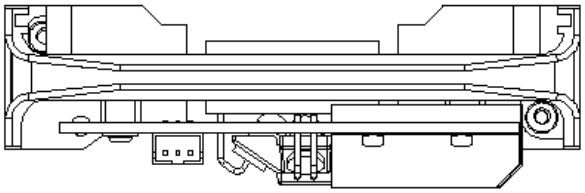
JAE 1	JAE 2	Function
1	1	Vcc
2	2	DATA
3	3	GND

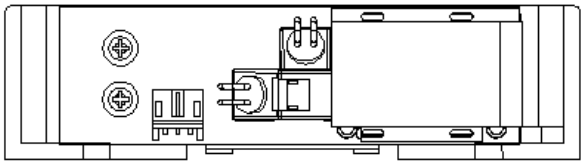
(b)Mechanical drawing

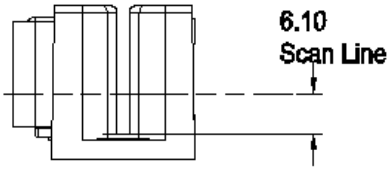
Unit : mm

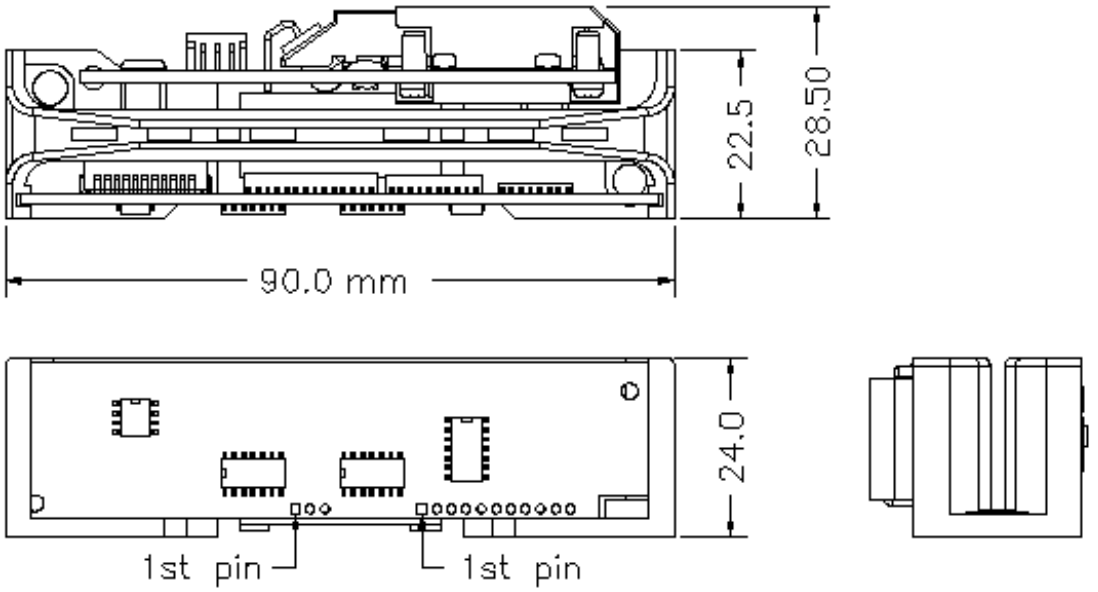
MBR2-X01 & MBR2-X11



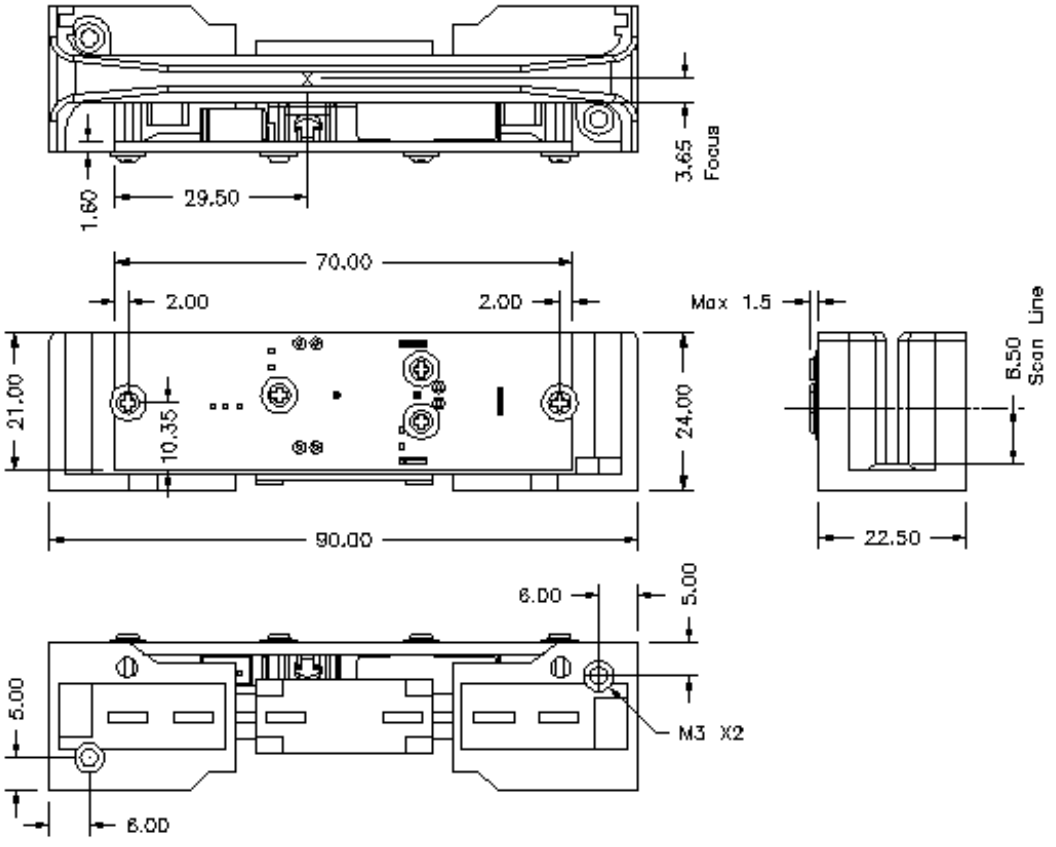


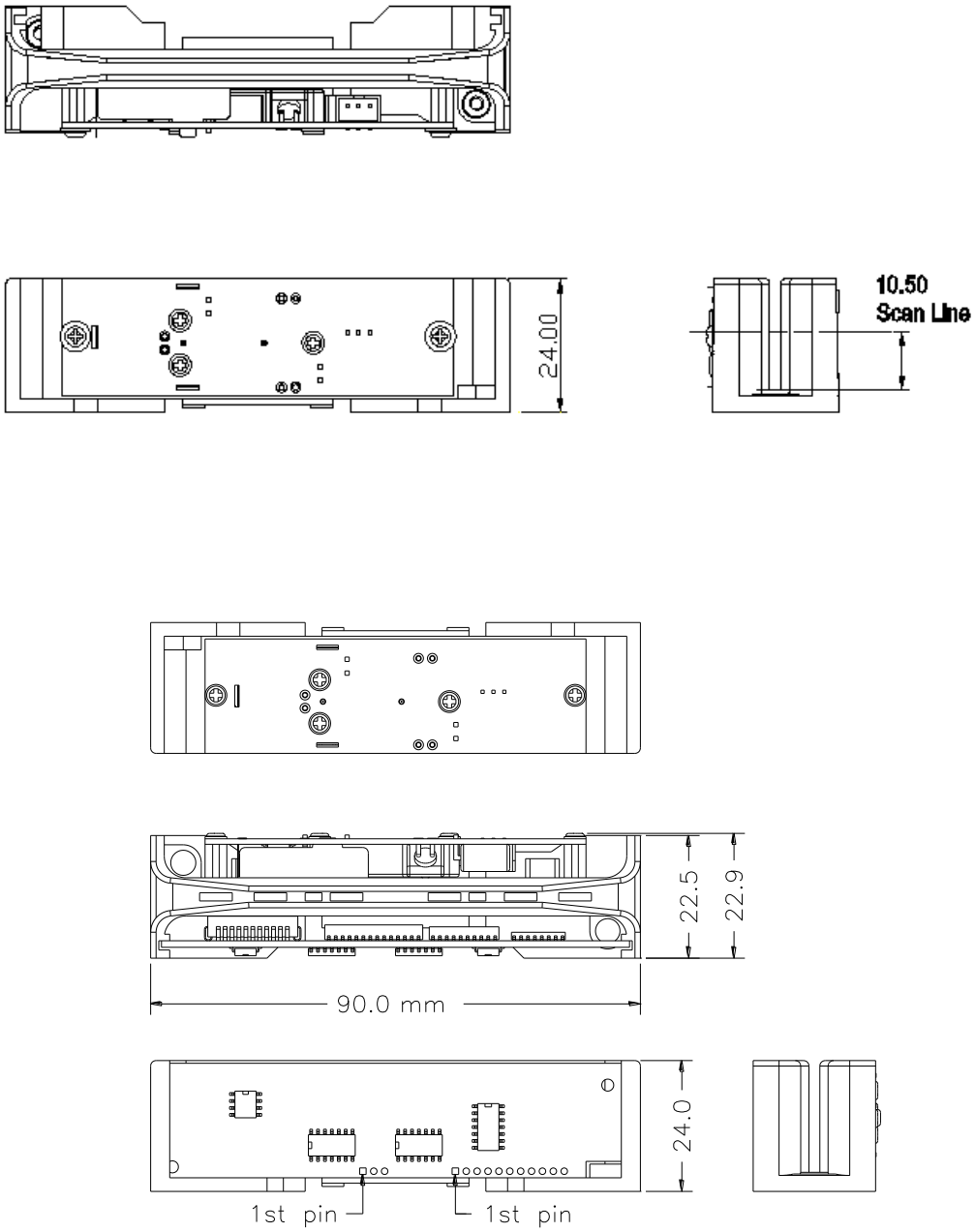






MBR2-X03 & MBR2-X13




24.00
10.50
Scan Line
22.5
22.9
90.0 mm
24.0
1st pin
1st pin

C. Electrical Characteristics

MBR2-0X1

Interface	TTL	RS232	KB	RS232 TTL Level	ABA
Supply Voltage			DC +5V ±5%		
Output Voltage (Typ.)	+5V ±5%	±9V	+5V ±5%	+5V ±5%	+5V ±5%
Output low Voltage (Max.)	0.4V	-	0.4V	0.4V	0.4V
Current Draw			±10%		
Power On (Typ.)	12 mA	60 mA	50 mA	51 mA	60 mA
Stand by (Typ.)	12 mA	40 mA	40 mA	35 mA	18 mA
Operation (Typ.)	12 mA	50 mA	45 mA	45 mA	37 mA

MBR2-1X1

Interface	TTL	RS232	KB	RS232 TTL Level	ABA
Supply Voltage			DC +5V ±5%		
Output Voltage (Typ.)	+5V±5%	±9V	+5V±5%	+5V±5%	+5V±5%
Output low Voltage (Max.)	0.4V	-	0.4V	0.4V	0.4V
Current Draw			±10%		
Power On (Typ.)	10 mA	57 mA	46 mA	50 mA	57 mA
Stand by (Typ.)	10 mA	38 mA	35 mA	33 mA	17 mA
Operation (Typ.)	10 mA	46 mA	42 mA	41 mA	38 mA

MBR2-0X3

Interface	TTL	RS232	KB	RS232 TTL Level	ABA
Supply Voltage			DC +5V ±5%		
Output Voltage (Typ.)	+5V±5%	±9V	+5V±5%	+5V±5%	+5V±5%
Output low Voltage (Max.)	0.4V	-	0.4V	0.4V	0.4V
Current Draw			±10%		
Power On (Typ.)	15 mA	63 mA	52 mA	54 mA	63 mA
Stand by (Typ.)	15 mA	43 mA	40 mA	38 mA	21 mA
Operation (Typ.)	15 mA	52 mA	48 mA	47 mA	40 mA

MBR2-1X3

Interface	TTL	RS232	KB	RS232 TTL Level	ABA
Supply Voltage			DC +5V ±5%		
Output Voltage (Typ.)	+5V±5%	±9V	+5V±5%	+5V±5%	+5V±5%
Output low Voltage (Max.)	0.4V	-	0.4V	0.4V	0.4V
Current Draw			±10%		
Power On (Typ.)	14 mA	61 mA	50 mA	53 mA	61 mA
Stand by (Typ.)	14 mA	42 mA	37 mA	37 mA	20 mA
Operation (Typ.)	14 mA	50 mA	46 mA	45 mA	42 mA

D. Performance

	MBR2-0X1	**MBR2-1X1**	**MBR2-0X3**	**MBR2-1X3**
Light Source	Visible Red light 660nm LED	Infrared ray 940nm	Visible Red light 660nm LED	Infrared ray 940nm
Sensor	Photo Diode			
Scan Rate	100 - 1000 mm / sec (3.9 - 39 inch / sec)			
Resolurion	6mil/0.15mm@PCS90%			
Height Scan Line	12.2 mm / 6.1 mm		10.5 mm / 8.5 mm	
Ambient Light	3000 Lux Max.			

E. Environmental

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

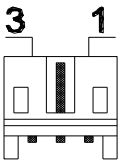
F. Readable Symbologies

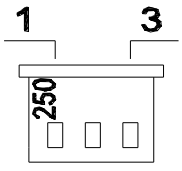
	Readable	Default Enable
All UPC/EAN/JAN	V	V
EAN128 Code	V	V
Code 39	V	V
Code 39 Full ASCII	V	
Code32 / Italian Pharmacy	V	
Code 128	V	V
CODABAR/NW7	V	V
Interleave 25	V	V
Industrial 25	V	
Matrix 25	V	
MSI/PLESSEY	V	
Telepen	V	
Code 93	V	
Code 11	V	
China Postage	V	

G. Pin Assignment

(a) TTL Board

Function	Wafer(On PCB)	Housing
Vcc (+5V)	1	3
GND	3	2
SignalData	2	1





(b) Decoder Board

TTL Input (Square pad is first pin)

Pin No.	Function
1	Vcc(+5V)
2	Signal Data
3	GND

Interface(Square pad is first pin)

Pin No.	Function
1	+5V
2	HOST_CLOCK
3	HOST_DATA
4	KB_CLOCK
5	KB_DATA
6	GND
7	RXD
8	TXD
9	POWER(DC 6V-9V)
10	RTS
11	CTS

H. Reliability

Life Time	
MTBF(Calculated)	40,000 hours
Thermal Shock	
High Temp.	60 ^{o}C (140 ^{o}F)
Low Temp.	-20 ^{o}C (-4 ^{o}F)
Cycle time	20 minutes for high temp. , 20 minutes for low temp.
Cycles	5 cycles
Cable Bending Test	25,000 times minimum (30 times/min @ 500g/90 ^{o})
Drop	100 cm (39.37 inches) drop on concrete surface