SPECIFICATION

Customer :

Customer's Model No. :

Model No. : **MCR12**

Date :

Sample Serial No. :

Spec. Version & Revision Date: V01 2010.07.19

Received/Approved by

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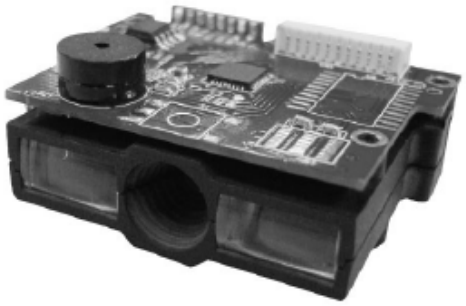
A. General Description



The MCR Series brings the benefits of bar code scanning to a variety of OEM devices.

The MCR Series Scan Module is a perfect choice for your OEM design. The MCR Series brings the benefits of bar code scanning to all types of OEM devices. Now kiosks, medical instruments, diagnostic equipment, lottery terminals, vending machines and countless other appliances can all be equipped with the leading-edge scanning technology and reliability.

The MCR Series has been designed to provide the highest scanning performance in the smallest package possible. For added versatility, allowing for fast, cost-effective interchangeability when upgrading or modifying your OEM device for specialized applications.

MCR12 is a compact long-range CCD bar code scanning module with high sensitive liner image sensor and **build in Auto-sense function**. As remote-operation ability, 5,000 LUX ambient light resistance, 100 scan-rate per second and aiding in various major bar codes, hand-on software-programming function, this MCR12 is your best choice of CCD type bar code scanning module to be suitable for application where needs a high performance, small foot-print and the reliable operation.

MCR12 is a CCD bar code decoding capabilities. MCR12 decode board is powered by a fast processor and to decode a wide array of 1D bar codes. The decode board is compatible with Utility, a PC-based software for easy Configuration.

The MCR12 is designed with the industrial standard size, mounting options and output to facilitate integration into existing applications. The Scanner module’s miniature size makes MCR12 ideal for integration into data terminals and other small devices. MCR12 is supplied as an assembled module with a mounting bracket or as separate components for custom mounting. The scanner module’s unique open system architecture allows MCR12 to accept third party and custom plug-ins, giving the MCR12 virtually unlimited application flexibility.

Pb-Free (RoHS Compliant).

B. Auto-sense Reading Mode

Champtek's MCR12 with a futuristic design and high-performance scanning module represents the best auto-triggered scanner value on the OEM project.

The infrared light source can be sensitive automatically when barcode has been motion in front of MCR12 which means activating red light to scanning.

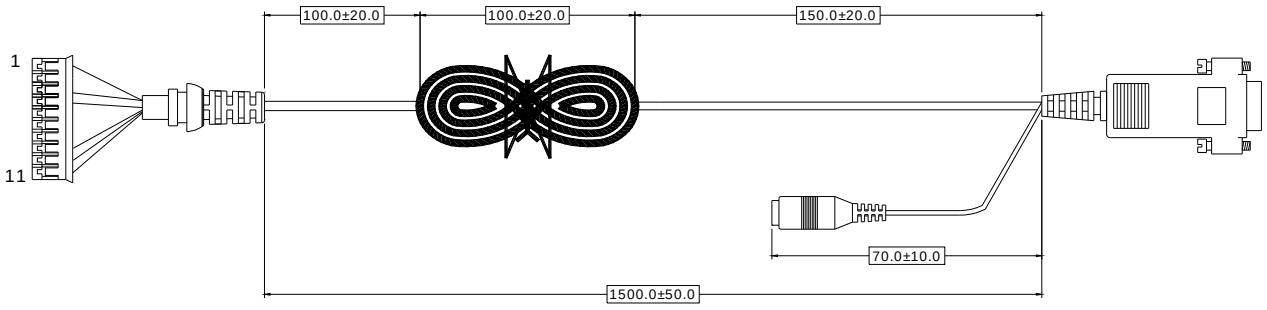
C. Physical Characteristics

Weight	
Body weight	Approx. 0.56 oz（17 g）
Cable weight(USB)	Approx. 1.87 oz（53 g）
Material	Polycarbonate
Cable Length	5FT.（150cm）
Connector	WAFER 11P Pitch 1.25
Dimension	44.15 mm W x 31.95 mm D x 20 mm H

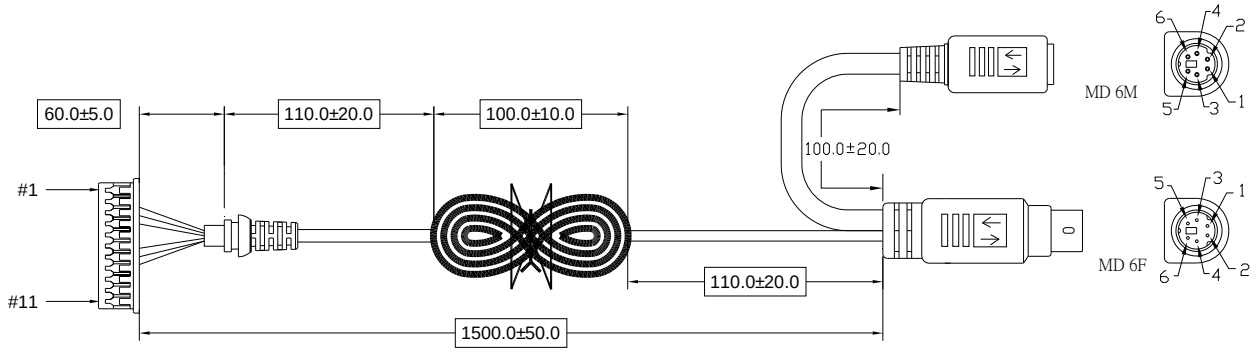
1) Cable drawing

Unit : mm

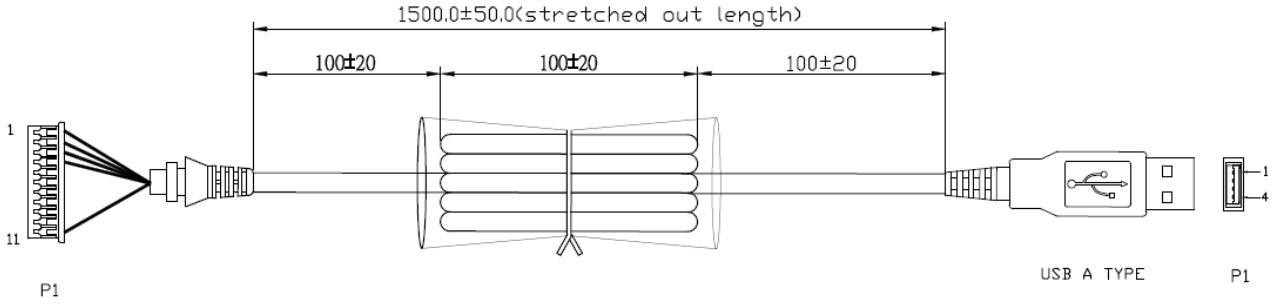
(1)RS232



(2)Keyboard

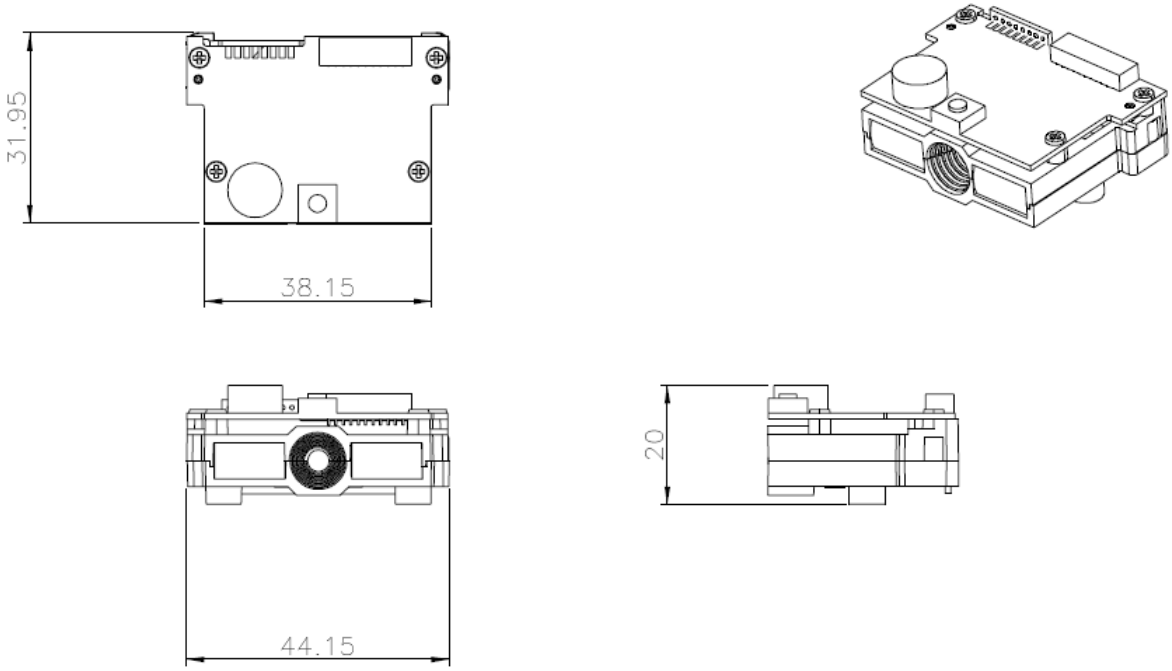


(3)USB



2) Mechanical drawing

Unit : mm



D. Electrical Characteristics

Interface	RS232	KB	USB
Supply Voltage		DC +5V ±5%	
Output Voltage (Typ.)	±9V	+5V±5%	+5V±5%
Output low Voltage (Max.)		0.7V	
Current Draw		±10%	
Power On (Typ.)	120mA	120mA	120mA
Stand by (Typ.)	20mA	20mA	20mA
Operation (Typ.)	100mA	100mA	115mA
Auto-sense standby (Typ.)	80mA	80mA	80mA

E. Performance

Light Source	Visible Red light 632nm LED
Sensor	Linear CCD Sensor
Processor Type	C8051 compatible
Operating Freq.	24.5 MHz (Internal)
Scan Rate	100 scans/sec ±10%
Reading Distance	240mm@20mil/0.5mm, PCS90%
Print Contrast Ratio	PCS60%@6mil/0.15mm
Resolution	5mil/0.127mm@PCS90%
Reading Angle	*Test Conditions : Code 39, 10mil/0.25mm,PCS90%*
Pitch Angle	5°~70° (±5°)
Skew Tolerance	5°~60° (±5°)
Ambient Light	5000 Lux Max.

F. 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)

G. Readable Symbologies

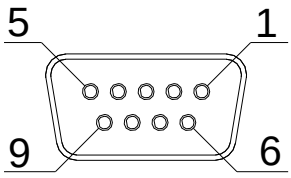
	Readable	Default Enable
All UPC/EAN/JAN	V	V
EAN128 Code	V	
Code 39	V	V
Code 39 Full ASCII	V	
Code32 / Italian Pharmacy	V	
Code 128	V	V
CODABAR/NW7	V	V
Interleave 25	V	V
Industrial 25	V	
Matrix 25	V	
MSI/PLESSEY	V	
Telepen	V	
Code 93	V	
Code 11	V	
China Postage	V	
Code 26	V	
LCD25	V	
GS1 DataBar Omnidirectional	V	
GS1 DataBar Limited	V	
GS1 DataBar Expanded	V	

H. Pin Assignment

(a)RS232 Interface

DB 9 Female

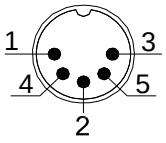
Pin No.	Function
2	TXD
3	RXD
5	GND
7	CTS
8	RTS
9	Vcc/+5V
Power Lead	Vcc/+5V



(b)KBW Interface

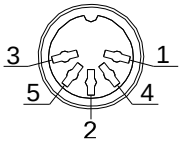
DIN 5 MALE

Pin No.	Function
1	HOST CLK
2	HOST DATA
4	GND
5	Vcc(+5V)



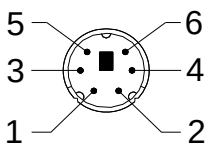
DIN 5 FEMALE

Pin No.	Function
1	KB CLK
2	KB DATA
4	GND
5	Vcc(+5V)



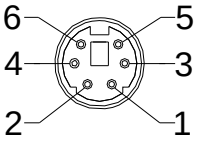
MiniDIN 6 MALE

Pin No.	Function
1	HOST DATA
3	GND
4	Vcc(+5V)
5	HOST CLK



MiniDIN 6 FEMALE

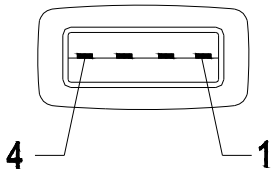
Pin No.	Function
1	KB DATA
3	GND
4	Vcc(+5V)
5	KB CLK



(c)USB Interface

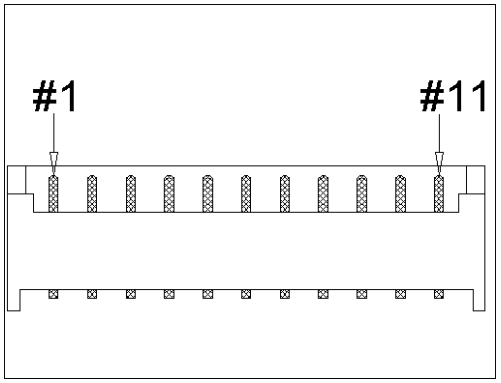
USB A Type Male

Pin No.	Function
1	Vcc
2	D-
3	D+
4	GND

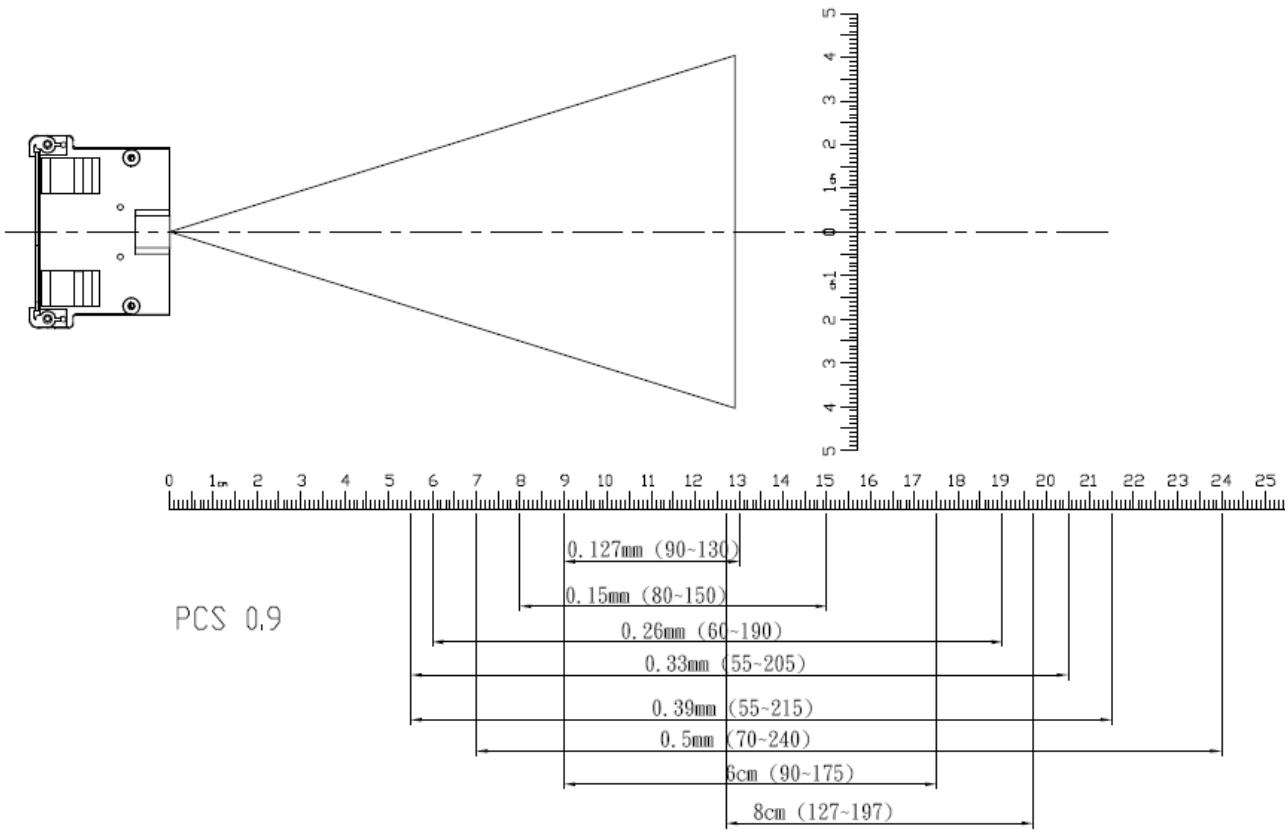


Decoder Data Output Connector

Type	MOLEX (or Compatible) 11P Pitch 1.25
Pin No.	Function
1	GND
2	Vcc (+5V)
3	TXD
4	RXD
5	HOST DATA
6	HOST CLK
7	KB DATA
8	KB CLK
9	RTS
10	CTS
11	SHIELD



I. Scan Map



J. Reliability

Life Time	
Light Source	40,000 hours
MTBF(Calculated)	80,000 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
Mechanical Shock	2000G, 0.7ms, 3 axes