

# SPECIFICATION

Customer : \_\_\_\_\_

Customer's Model No. : \_\_\_\_\_

Model No. : FS310 Series  
CCD Fixed mount bar code scanner  
\_\_\_\_\_

Date: \_\_\_\_\_

Sample Serial No. : \_\_\_\_\_

Spec. Version & Revision Date: V01

2014.05.06

Received/Approved by

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**Revision History**

Version	Date	Context
00	2014.03.14	Golden release – MCR14
01	2014.05.06	Correct Electrical Characteristics

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## A. General Description

This brand-new designed handheld CCD scanner has inherited the characteristic of “ high performance with low price” from its previous series. Aside from the principle of excellence mechanical design, it also installs with many user-friendly operations; extra-large trigger enable user to access the trigger in any scanning position, detachable cable, and 2 years product warranty; these have added-up additional values to it.

Performance : Its auto-shuttle-emulation-like smart detection, offers superior decoding performance on a reading speed up to 500 scans per second and up to 500mm reading depth for the majority of 1D bar codes and GS1 DataBar™ codes. A stand option can be ordered to facilitate hand-free “ continuous mode” reading options.

With its built-in automatically turn off reading and switch on reading as it sense a bar code moving in front of it, can extend its lifespan. its 100,000 LUX ambient light resistance, hand-on software-programming function, this FS310 is the best choice ever for various fixed mount/build in OEM bar code scanning application.



## B. Physical Characteristics

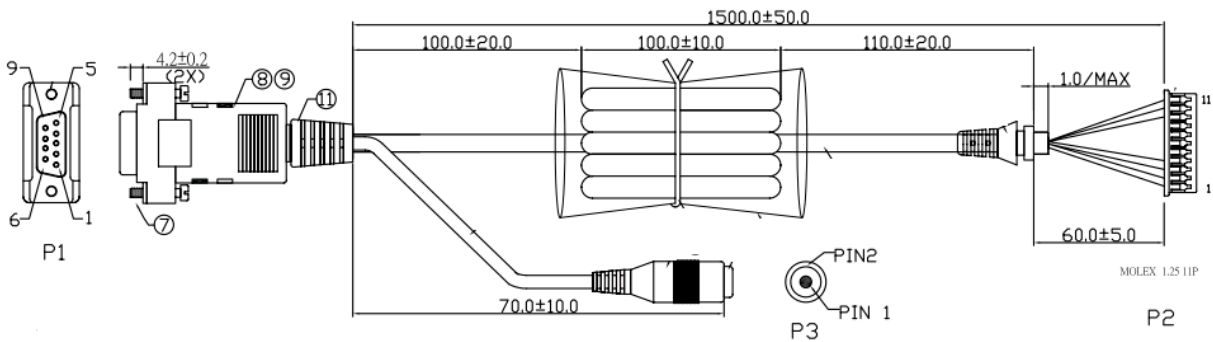
<b>Weight</b>	
Body weight	Approx. 3.98 oz ( 113 g )
Cable weight(USB)	Approx. 4.24 oz ( 120 g )
<b>Material</b>	
	Polycarbonate
Cable Length	5FT. ( 150cm )
<b>Dimension</b>	
	56 mm W x 69 mm D x 28 mm H

### Cable drawing

Unit : mm

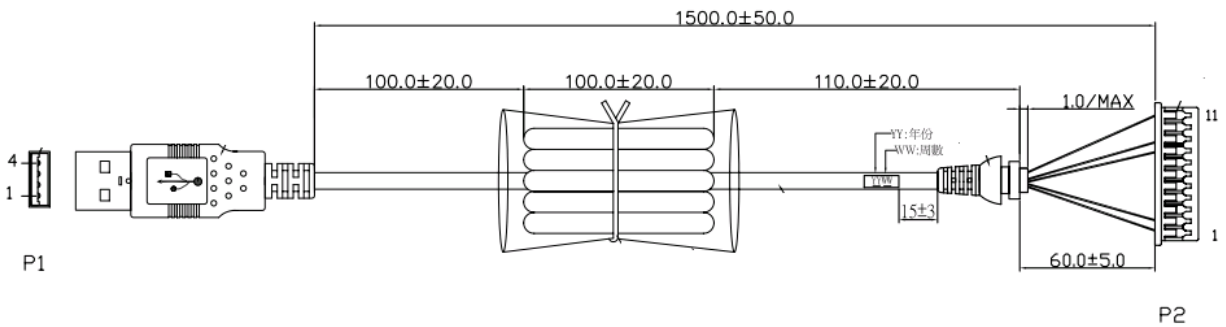
#### RS232 Interface :

Unit :mm

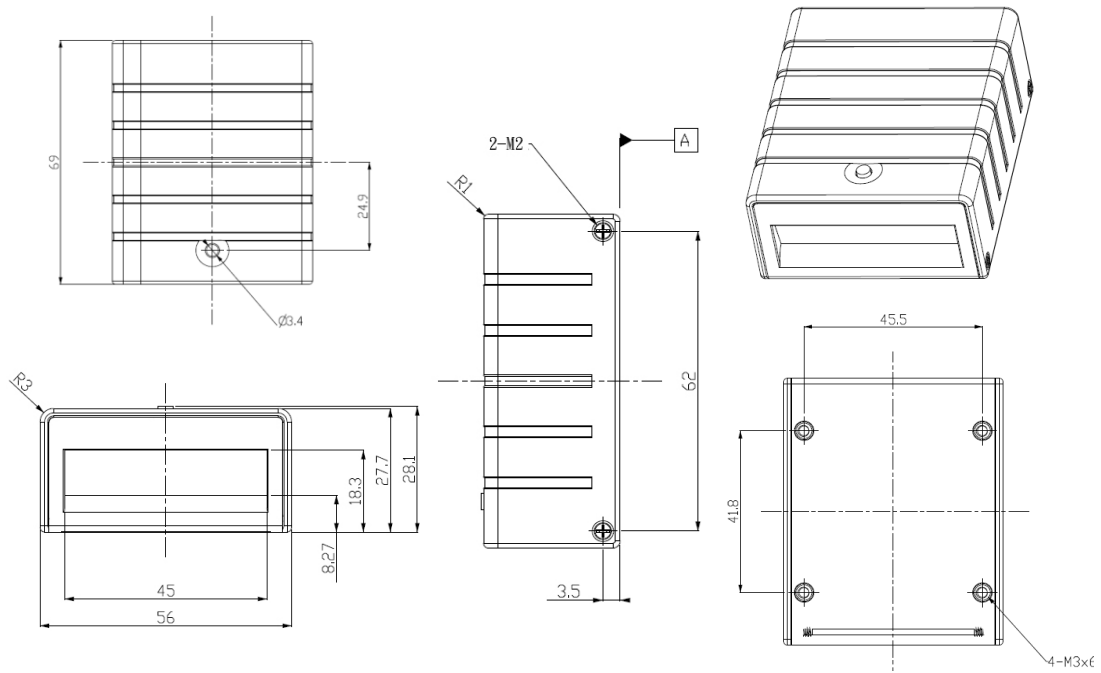


#### USB Interface :

Unit : mm



(a) Mechanical drawing



### C. Electrical Characteristics

Interface	RS232	KB	USB
Input Voltage	DC +5V $\pm$ 5%	DC +5V $\pm$ 5%	DC +5V $\pm$ 5%
Output Voltage (Typ.)	$\pm$ 9V	+5V $\pm$ 10%	+5V $\pm$ 10%
Output low Voltage (Max.)	-	0.7V	0.7V
Current Draw		$\pm$ 10%	
Power On (Typ.)	170 mA	170 mA	170 mA
Stand by (Typ.)	50 mA	50 mA	90 mA
Operation (Typ.)	150 mA	150 mA	150 mA

### D. Performance

Light Source	Visible Red light 632nm LED
Sensor	Linear CCD Sensor
Processor Type	32-bit
Operating Freq.	8 MHz (Internal)
Scan Rate	Smart detection, up to 500 scans per second $\pm$ 10%
Reading Distance	Up to 500mm@20mil/0.5mm PCS90%, Code39
Print Contrast Ratio	30%
Resolution	4mil/0.1mm@PCS90%
Reading Angle	<i>Test Conditions:Code 39, 10mil/0.25mm, PCS90%</i>
Forward & Backward	$\pm$ 10 $^{\circ}$ ~65 $^{\circ}$ ( $\pm$ 5 $^{\circ}$ )
Left & Right	$\pm$ 60 $^{\circ}$ ( $\pm$ 5 $^{\circ}$ )
Ambient Light	100,000 Lux Max. @ Direct sun light

### E. Environmental

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



## F. Readable Symbologies

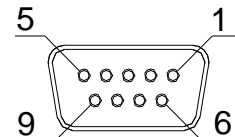
	Readable	Default Enable
All UPC/EAN/JAN	V	V
EAN128 Code	V	
Code 39	V	V
Code 39 Full ASCII	V	
Code32 / Italian Pharmacy	V	
Code 128	V	V
CODABAR/NW7	V	V
Interleave 25	V	V
Industrial 25	V	
Matrix 25	V	
MSI/PLESSEY	V	
Telepen	V	
Code 93	V	
Code 11	V	
China Postage	V	
Code 26	V	
LCD25	V	
GS1 DataBar Omnidirectional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

**G. Pin Assignment**

**1) RS232 Interface**

**DB9 Female with Power Lead**

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

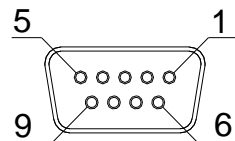


**DB 9 Female**



**DB9 Female without Power Lead**

Pin No.	Function
2	TXD
3	RXD
5	GND
7	CTS
8	RTS
9	Vcc (+5V)

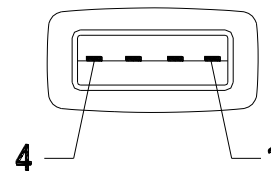


**DB 9 Female**

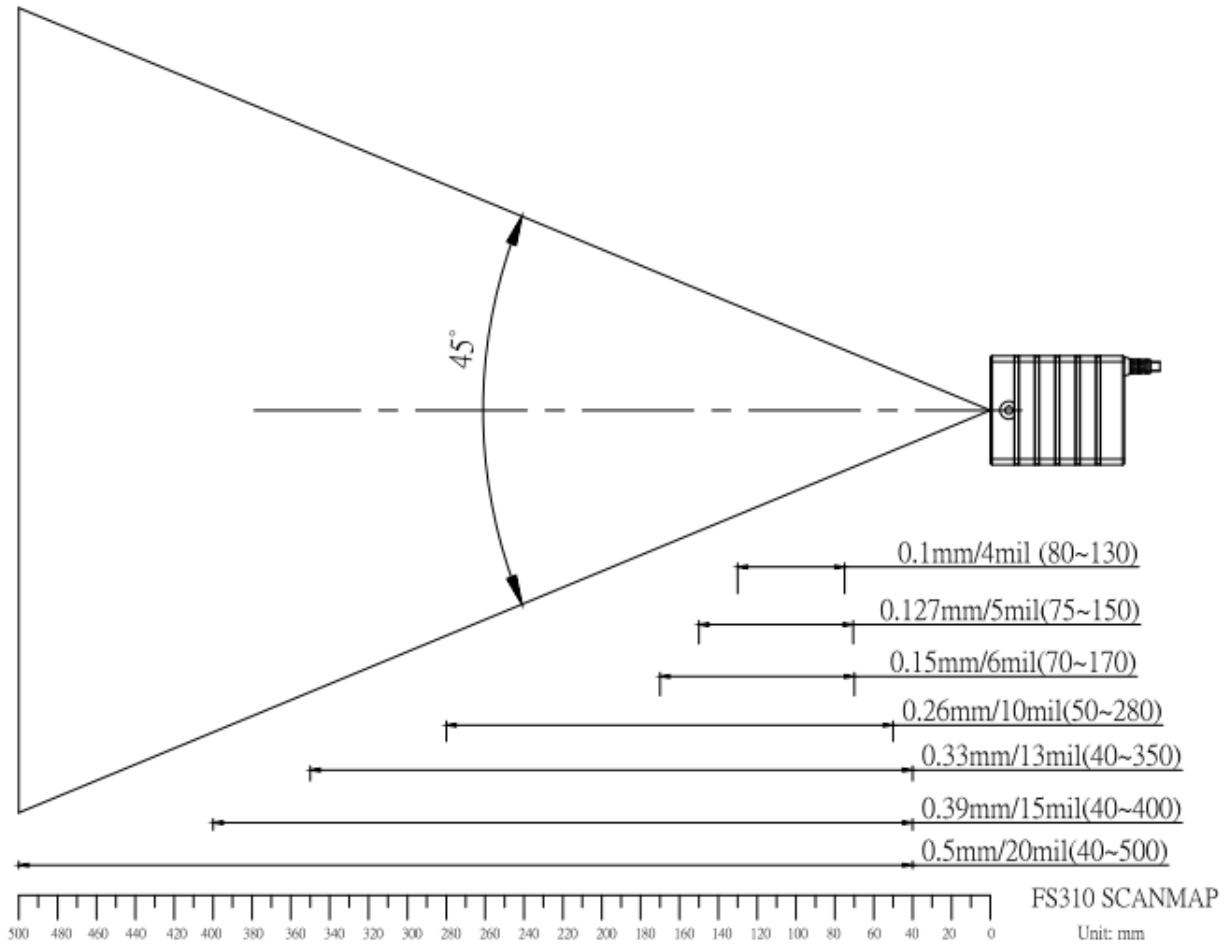
**3) USB Interface**

**USB A TypeMale**

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



**H. Scan Map**



**I. Reliability**

**Life Time**

Trigger Switch	1,000,000 times
MTBF(Calculated)	50,000 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 °)

**Drop** 47.24 inches(120cm) drop on Concrete Surface