

5.3 ELECTRICAL

Location Accuracy:	±2.5mm Measured over 9 points (See note 1)
Linearity:	1.5%
Current Consumption:	20mA max at DC 5V when applying 5VDC between pins 3 & 5
Switch Bounce (Chattering):	10ms min when using the silicon rubber measurement rod.
Insulation resistance:	10MΩ minimum at 25KV DC applied between pins 3 & 7 or between 5 and 7
Dielectric Strength:	No problems when at 25KV DC for 1 minute

Note 1:

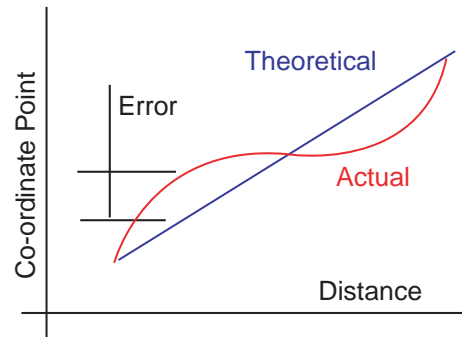
Measurement condition of linearity is corrected within the control IC. In general the location accuracy is specified as follows:

Actual co-ordinate point - theoretical co-ordinate point = location accuracy.

In general a 9 point co-ordinate calibration system is used to adjust the micro controller accuracy. (20 point can be used in combination with an EEPROM design).

Note 2:

Pins 3, 5 and 7 are the glass and film connection points.



5.4 ENVIRONMENTAL

Operating Temperature (*):	-5°C to 60°C
Storage Temperature:	-30°C to 70°C
Operating Humidity:	20% to 90% RH with a Maximum wet bulb temperature of 38°C
Storage Humidity:	10% ~ 90% RH with a Maximum wet bulb temperature of 38°C
Chemical Resistance:	Coating with the following chemicals and storing at room temperature for 2 hours gives no problems. 10% Nacl-water solution, ethyl-acetate, ethyl-alcohol, toluene, methyl-ethyl-ketone.

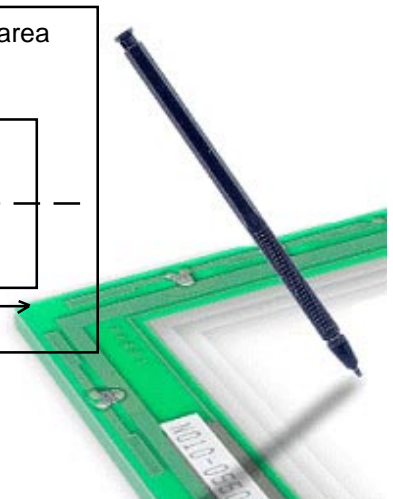
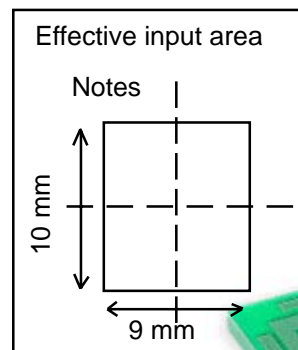
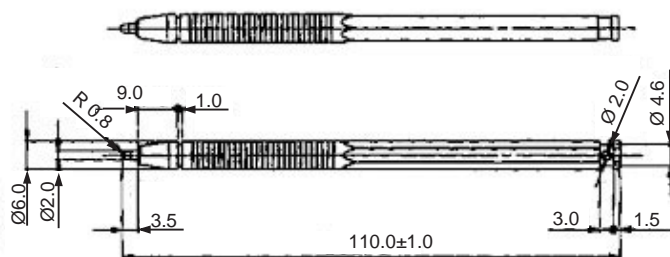
5.5 PEN LIFE

Note taking life: 1,000,000 words minimum

Input life : 10,000,000 times minimum

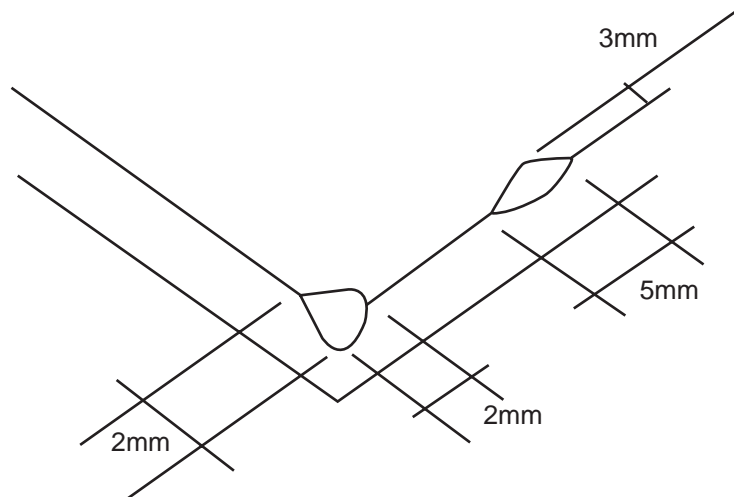
Note 1:

Words are written in the notes area and the size of the word is 7.5mm x 6.75mm. A word is any Alphabet / Number / Mark. The pen is as shown below and applies a force of 350g. A failure is judged to happen when the current consumption or insulation resistance or dielectric strength are not met as shown in 5.3. The location accuracy with 9 point calibration must be ±4.4 mm max.



■ **7 REJECT CRITERIA**

Description		Reject Criteria	
Film Dent		Area $\geq 0.1\text{mm}^2$ Area $\geq 0.05\text{mm}^2$ & area $< 0.1\text{mm}^2$ Area $< 0.05\text{mm}^2$: to be zero : to be max. 5 points : none specified
Foreign material between glass and film	Dot type	Area $> 0.1\text{mm}^2$ Area $\geq 0.05\text{mm}^2$ & area $< 0.1\text{mm}^2$ Area $< 0.05\text{mm}^2$: to be zero : to be max. 5 points : none specified
	Line type	Area $\geq 0.1\text{mm}$ Area $\geq 0.03\text{mm}$ & width $< 0.1\text{mm}$ and length $< 10\text{mm}$ Area $< 0.05\text{mm}$: to be zero : to be max. 1 point : none specified
Scratch		Area $\geq 0.1\text{mm}$ Area $\geq 0.03\text{mm}$ & width $< 0.1\text{mm}$ with length $< 80\text{mm}$ Area $< 0.03\text{mm}$ & width $< 0.1\text{mm}$ with length $< 30\text{mm}$: to be zero : to be max. 1 point : none specified
Dot blur or hard coat missing		Area $\geq 0.5\text{mm}^2$ Area $\geq 0.03\text{mm}^2$ & area $< 0.5\text{mm}^2$ Area $< 0.05\text{mm}^2$: to be zero : to be max. 5 points : none specified
Newton Ring		These must not be seen from Panel film side under a fluorescent lamp (3 wavelength type lamp). Not to be verified form glass side.	
Glass flaw		To be no flaw which is bigger than that shown in the following diagram. The number of flaws is not specified.	



■ **8 GENERAL POINTS OF CAUTION**

Touch panels are made of glass, so care must be taken in handling them. Do not stress, pile, bend, lift by the cable or put any stress on the film, for example moving by film face vacuum. In order to clean wring dry a cloth which has been emersed in a natural detergent. DO NOT use any organic solvent, acid or alkali solution. Watch the edge of the panel when cleaning, again for safety reasons.

