

Shaft type

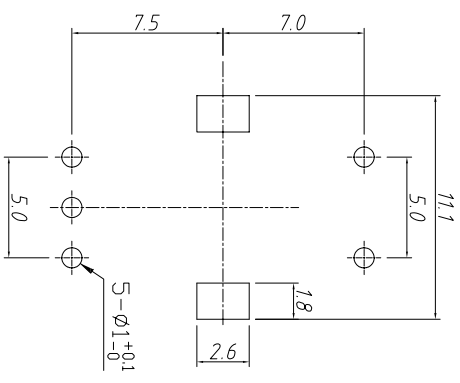
D=7	
L	15.5 16.9 18 20 20.5
F	6 7 6 10 11

Shaft type

D=5		D=7	
L	11 11.5 12.5 13.5 14	16	13.7 16 17 18.5
F	4 3.5 4.5 6 6	5	4 5 5 5.5

Shaft type

D=5		D=7	
L	12.5 13 13.5 14 15 15.5 14.5 15	16	17 18 19 20 22
F	4.5 5 5.5 6 6 7 4.5 5 5 6.5 7 7 10 12		

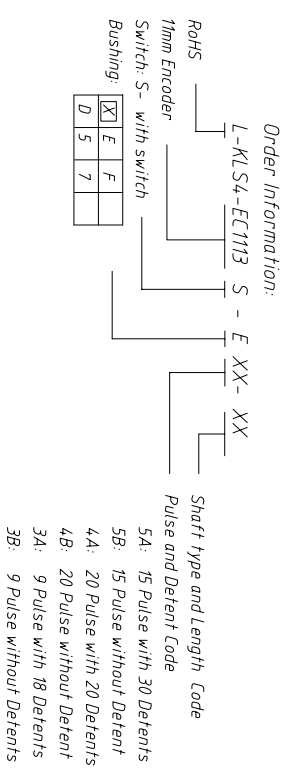


PCB LAYOUT

Electrical Characteristics
 Rated Power: DC5V 5mA Max.
 Output signal: A \ B 2signals
 Resolution: 15 Pulses 360°
 20 Pulses 360°
 9 Pulses 360°
 Phase difference: 0.08T Min.
 Sliding noise: 3mS Max.
 Contact Resistance: 1Ω Max.
 Insulation resistance: 100MΩ Min. at DC 250V
 Withstand voltage: AC300V / 1min

Mechanical
 Total rotation angle: 360°
 Rotational Torque: 20~200 gf.cm Max
 Click Torque: 20~150 gf.cm
 Push-pull Strength of Shaft: 8.0kgf Min.
 Number of Detents: 30 detents Step angle: 12°±2°
 20 detents Step angle: 18°±2°
 18 detents Step angle: 20°±2°
 Without detents

Rotational Life: 30000±200 cycles per 100gf.cm Min.
 Temp. Range: -30 °C ~ +80 °C
 Soldering: 250 °C 3Sec. Max.



GENERAL TOLERANCE	ANGLE TOLERANCE	PROJECTION	Description:
X. ±0.50	X. ±5°	mm	11MM Encoder with Switch
.X ±0.38	.X ±3°	A4	
.XX ±0.25	.XX ±2°		

Draw by: Date	2017-09-01	KLS P/N:	KLS4-EC113S-EXX-XX
Check by: Date	2017-09-05		
SCALE	OF	KLS ELECTRONIC CO., LTD.	