

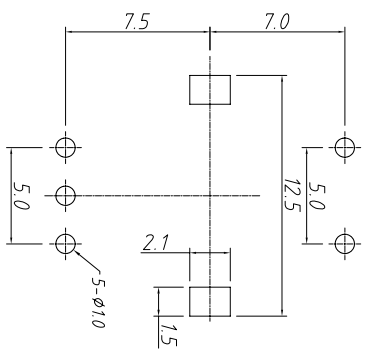
Shaft type

Shaft type	D=5						D=7					
	L	10	11.5	12	15	18	L	10	11.5	12	15	18
Q Shaft	F	3.5	5	5	7	11	3.5	5	5	7	11	18

Shaft type	D=5						D=7					
	L	10	10.5	11	12.5	13	L	10	10.5	11	12.5	13
AB Shaft	F	3.5	4	4	5.5	5	3.5	4	4	5.5	5	7

Shaft type	D=5						D=7					
	L	10.5	11.5	12	13	16	L	10.5	11.5	12	13	15
T Shaft	F	4	5	5	7	9	4	5	5	7	9	6

Shaft type	D=5						D=7					
	L	10	10.5	11	13	15	L	10	10.5	11	13	15
F Shaft	F	3.5	4	5	6	7	3.5	4	5	6	7	7

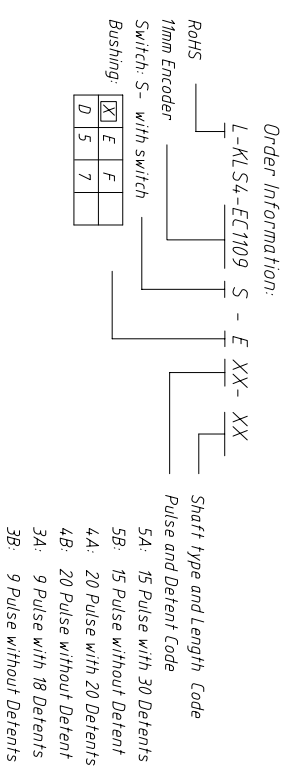


PCB LAYOUT

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-EC1109S-EXX-XX
Check by: Date	2017-09-05		
SCALE	SHEET	OF	

KLS ELECTRONIC CO., LTD.