



PCB LAYOUT

Shaft type	D=7		D=5		D=7	
	L	F	L	F	L	F
Q Shaft	15.5	6	16.9	7	18	6
	20	10	20.5	11		
AB Shaft						
	14		15		16.5	
	6		5		7	
T Shaft						
	11		11.5		12.5	
	13.5		14		16	
	4		3.5		6	
	6		6		5	
	4		5		4	
	5		5		5	
	5.5		5.5		5.5	
F Shaft						
	12.5		13.5		14	
	13		14		15	
	4.5		5.5		6	
	5		6		6	
	6		7		7	
	4.5		5.5		6	
	5		6		7	
	6		7		8	
	7		8		9	
	7		8		9	
	10		11		12	
	12		13		14	
	13		14		15	
	4.5		5.5		6	
	5		6		7	
	6		7		8	
	7		8		9	
	8		9		10	
	9		10		11	
	10		11		12	

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.

Order Information:
 L-KLS4-EC1121 - E XX- XX
 RnHS 11mm Encoder
 Bushing:

<input checked="" type="checkbox"/>	E	F	
<input type="checkbox"/>	D	5	7

 Shaft type and Length Code
 Pulse and Detent Code
 5A: 15 Pulse with 30 Detents
 5B: 15 Pulse without Detent
 4A: 20 Pulse with 20 Detents
 4B: 20 Pulse without Detent
 3A: 9 Pulse with 18 Detents
 3B: 9 Pulse without Detents

GENERAL TOLERANCE	ANGLE TOLERANCE	PROJECTION	Description:
X: ±0.50	X: ±5°	UNIT/mm	11MM Encoder without switch
X: ±0.38	X: ±3°	SHEET SIZE	
XX: ±0.25	XX: ±2°	KLS P/N:	KLS4-EC1121-EXX-XX
Draw by: Date	2017-09-01		
Check by: Date	2017-09-05		
SCALE	SHEET	OF	

KLS ELECTRONIC CO., LTD.