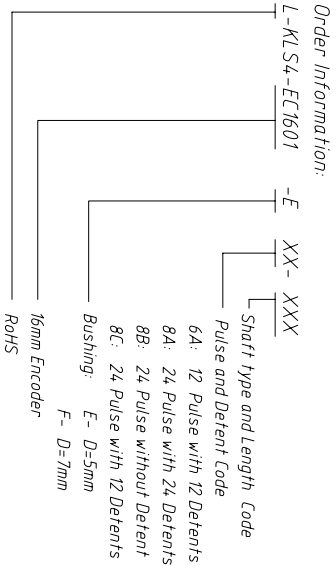


PCB LAYOUT

**Electrical Characteristics**  
 Rated Power: DCSV 5mA Max.  
 Output signal: A \ B 2signals  
 Resolution: 12 Pulses 360°  
 Sliding noise: 24 Pulses 360°  
 3mS Max.  
 Contact Resistance: 1 Ω Max.  
 Insulation resistance: 100MΩ Min. at DC 250V  
 Withstand voltage: AC50V / 1 min

**Mechanical**  
 Total rotation angle: 360°  
 Detents Torque: 30~200 gf.cm  
 Number of Detents: 12 detents Step angle: 30°±2°  
 24 detents Step angle: 15°±2°  
 Rotational Life: 30000±200 cycles per 100gf.cm Min.  
 Temp. Range: -10 ° C ~ + 70 ° C  
 Soldering: 235 ° C 5Sec. Max.



Shaft type

L	15	18.5	19	20	22.5	25
F	7	11.5	12	12	12	12

GENERAL TOLERANCE

X. ±0.50	X. ±5°
.X ±0.38	.X ±3°
.XX ±0.25	.XX ±2°

ANGLE TOLERANCE

X. ±5°
.X ±3°
.XX ±2°

PROJECTION

UNITS	mm
SHEET SIZE	A4
KLS P/N:	KLS4-EC1601-EXX-XXX

Description:

16mm Encoder
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KLS ELECTRONIC CO., LTD.