

**SERIES:** ACZ16

**DESCRIPTION:** mechanical incremental encoder

## ELECTRICAL SPECIFICATIONS

parameter	conditions/description
output waveform	square wave
output signals	A, B phase
current consumption	0.5 mA
output phase difference	T1, T2, T3, T4 $\geq$ 3.5 ms @ 60 rpm (see output waveform)
supply voltage	5 V dc max.
output resolution	12, 24 ppr
insulation resistance	50 V dc, 100 M $\Omega$
withstand voltage	50 V ac

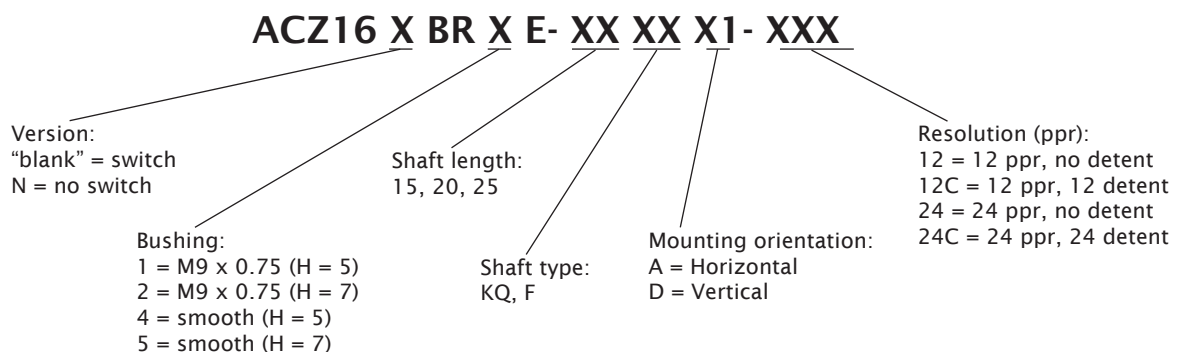
## MECHANICAL SPECIFICATIONS

parameter	conditions/description	min	nom	max	units
shaft load	axial			7	kgf
rotational torque	with detent click	50		130	gf·cm
	without detent click	90		210	gf·cm
rotational life				100,000	cycles

## ENVIRONMENTAL SPECIFICATIONS

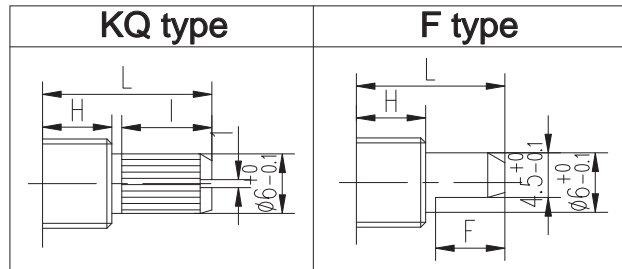
parameter	conditions/description	min	nom	max	units
operating temperature		-10		65	$^{\circ}$ C
storage temperature		-40		75	$^{\circ}$ C
humidity		85			% RH
vibration	0.75 mm max. travel for 2 hours	10		55	Hz

## PART NUMBER KEY



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**SHAFT OPTIONS**


BUSHING		
Condition	H	
1	M9-P0.7 5	5
2	M9-P0.7 5	7

**H=5**

	15KQ	20KQ	25K Q
L	15	20	25
I	7	12	12

**H=5**

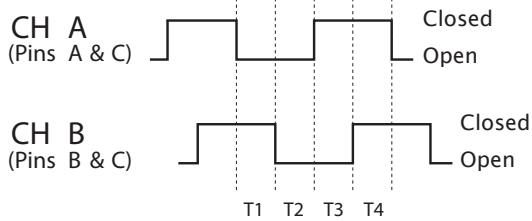
	15F	20F	25F
L	15	20	25
F	8	10	12

**H=7**

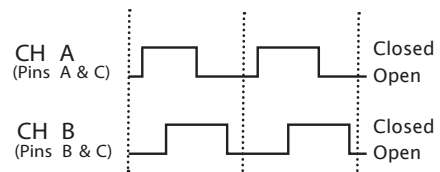
	15KQ	20KQ	25K Q
L	15	20	25
I	7	12	12

**H=7**

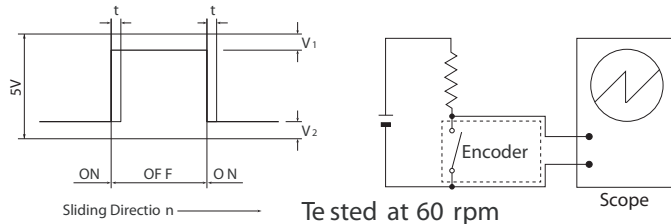
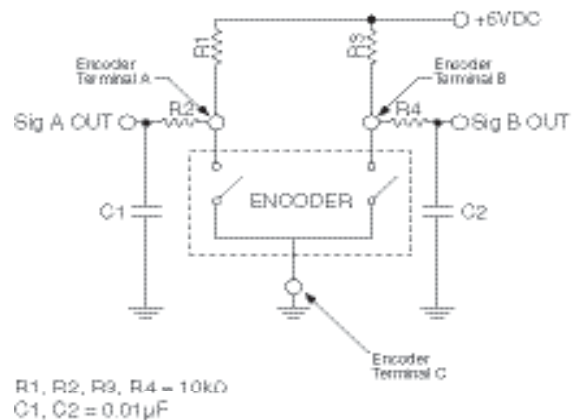
	15F	20F	25F
L	15	20	25
F	8	10	12

**OUTPUT WAVEFORM**


CW direction (@ 60 rpm)

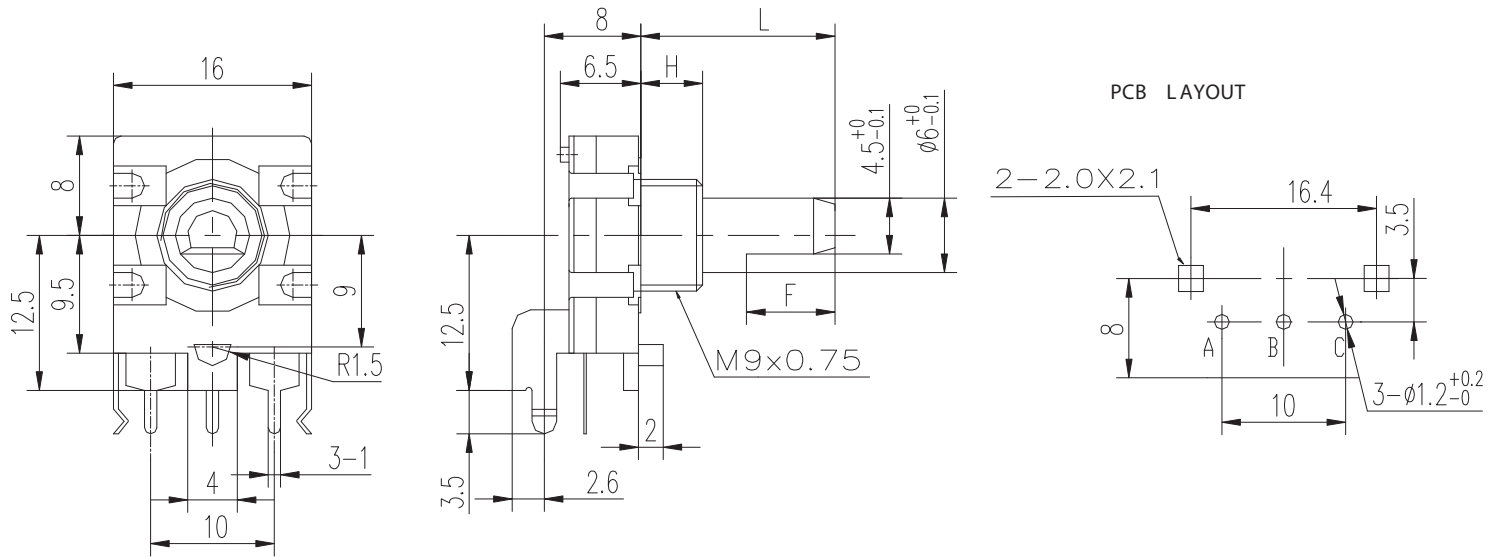
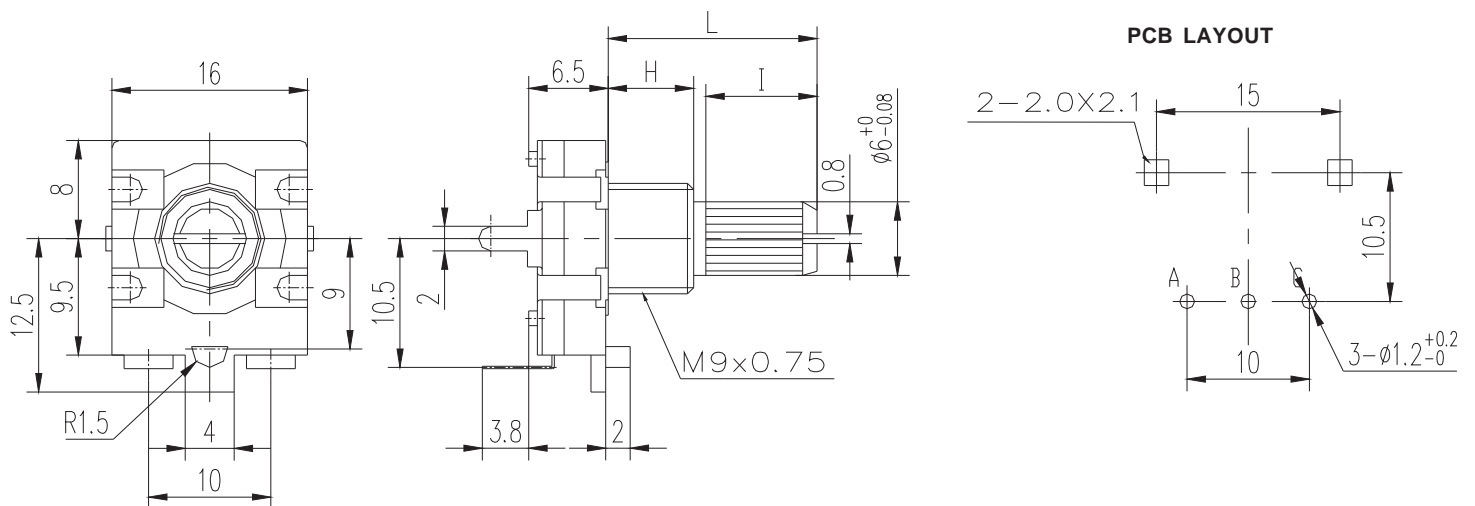
**DETENT POSITIONS**
**Model 12C & 24C**


CW direction →

**SLIDING NOISE**
 $t = \text{Masking time to avoid chatter (5ms)}$   $V_1 = V_2 = 1V \text{ max.}$ 

**SUGGESTED FILTER**


SERIES: ACZ16

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**MECHANICAL DRAWING (horizontal)**

**MECHANICAL DRAWING (vertical)**


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**MECHANICAL DRAWING (vertical, push switch)**
