

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

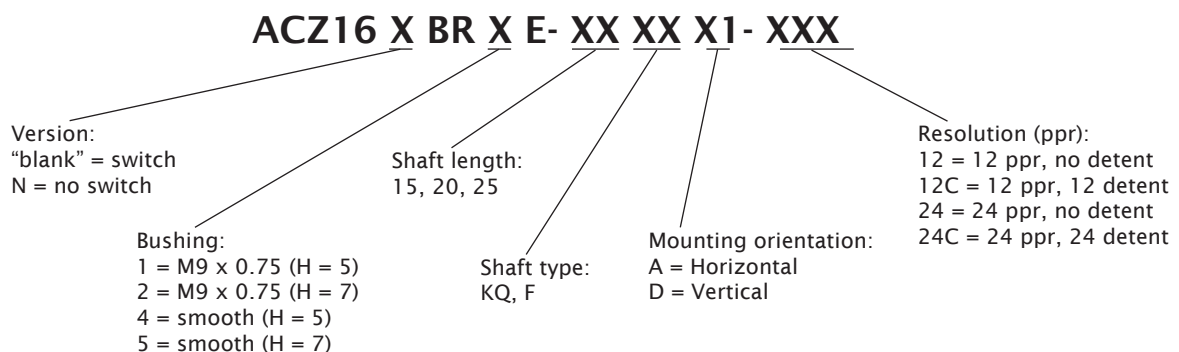
## MECHANICAL SPECIFICATIONS

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

## ENVIRONMENTAL SPECIFICATIONS

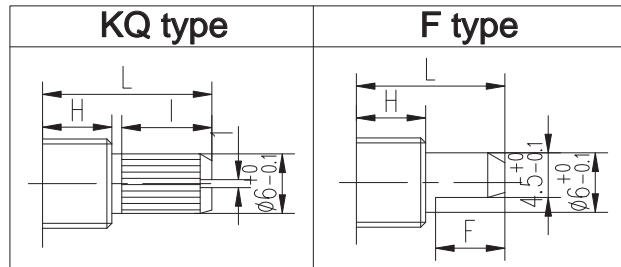
parameter	conditions/description	min	nom	max	units
operating temperature		-10		65	°C
storage temperature		-40		75	°C
humidity		85			% RH
vibration	0.75 mm max. travel for 2 hours	10		55	Hz

## 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**

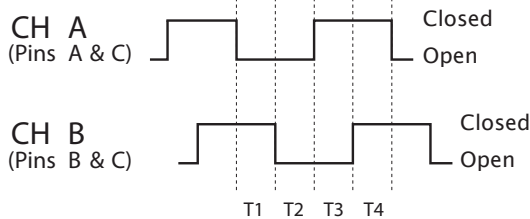
	15F	20F	25F
L	15	20	25
F	8	10	12

**H=7**

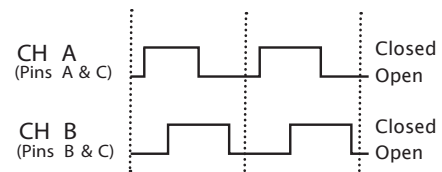
	15KQ	20KQ	25K Q
L	15	20	25
I	7	12	12

**H=7**

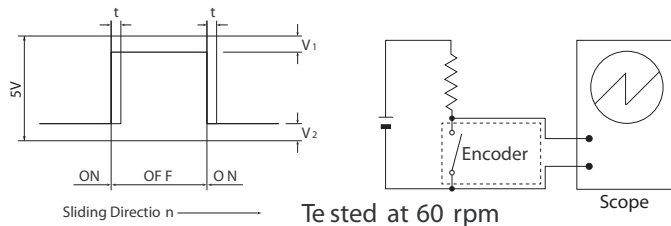
	15F	20F	25F
L	15	20	25
F	8	10	12

**OUTPUT WAVEFORM**


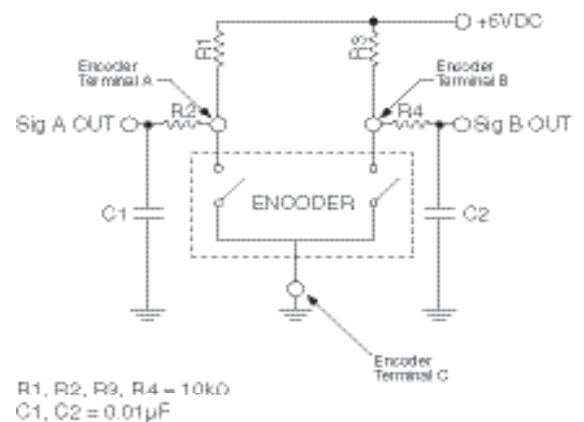
CW direction (@ 60 rpm)

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


CW direction →

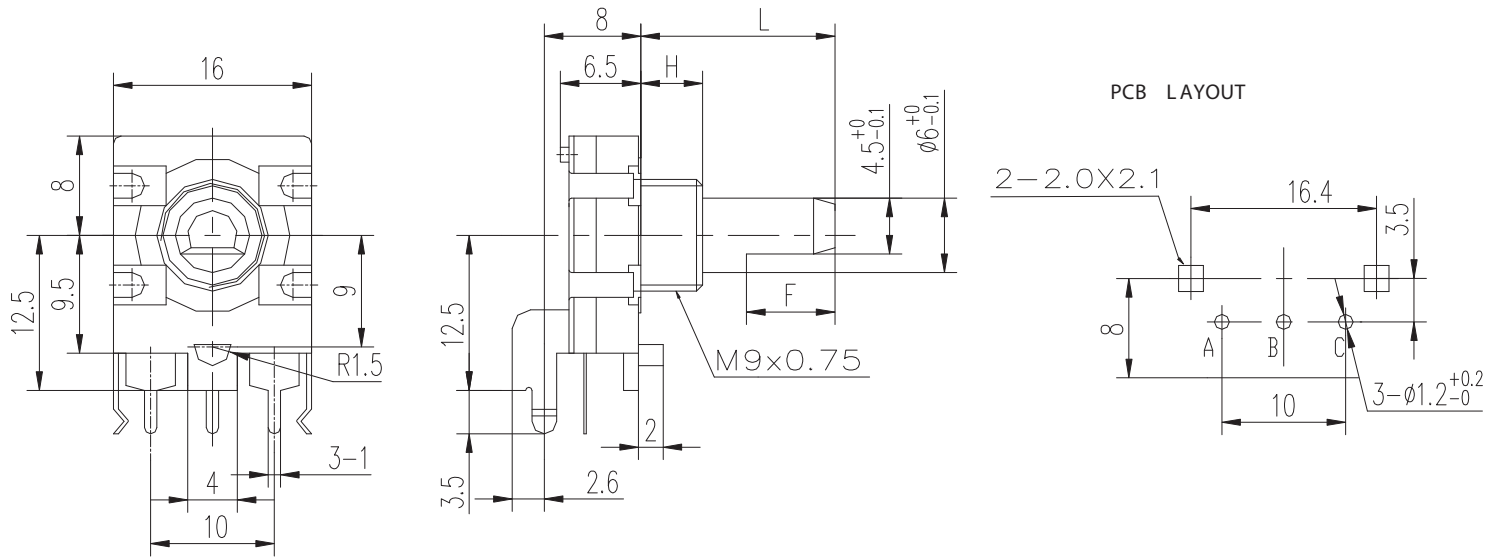
**SLIDING NOISE**
 $t =$  Masking time to avoid chatter (5mS)  $V_1 = V_2 = 1V$  max.


Tested at 60 rpm

**SUGGESTED FILTER**

 $R1, R2, R3, R4 = 10k\Omega$   
 $C1, C2 = 0.01\mu F$

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**MECHANICAL DRAWING (horizontal)**

**MECHANICAL DRAWING (vertical)**
