CUI DEVICES

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 ≥ 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 MΩ
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

Notes:
1. It is recommended to use products within 6 months.
2. For storage conditions, it is recommended to keep away from direct sunlight, corrosive gas, or high humidity conditions.
3. Use the product as soon as possible once the plastic bag has been unsealed, and reseal the bag if product is not immediately used.
4. The products are packaged in sealed bags with anti humidity tablets.

PART NUMBER KEY

ACZ16 X BR X E- XX XX X1- XXX

Version:
"blank" = switch (momentary)
N = no switch

Bushing:
1 = M9 x 0.75 (H = 5)
2 = M9 x 0.75 (H = 7)

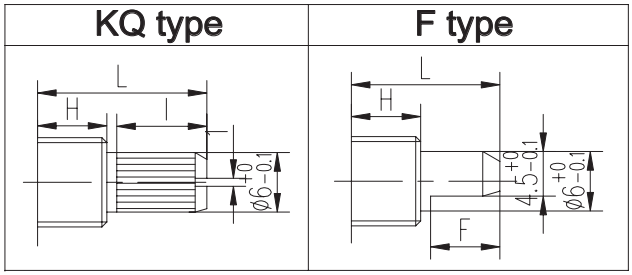
Shaft length:
15, 20, 25

Shaft type:
KQ, F

Mounting orientation:
A = Horizontal
D = Vertical

Resolution (ppr):
12 = 12 ppr, no detent
12C = 12 ppr, 12 detent
24 = 24 ppr, no detent
24C = 24 ppr, 24 detent

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

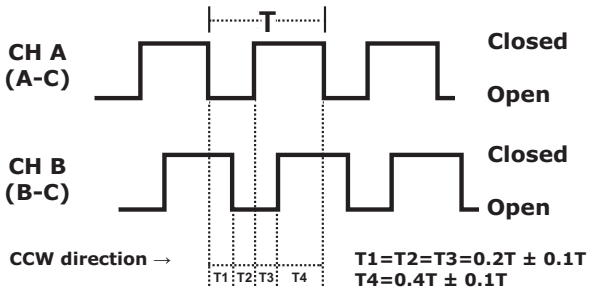
H=7

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

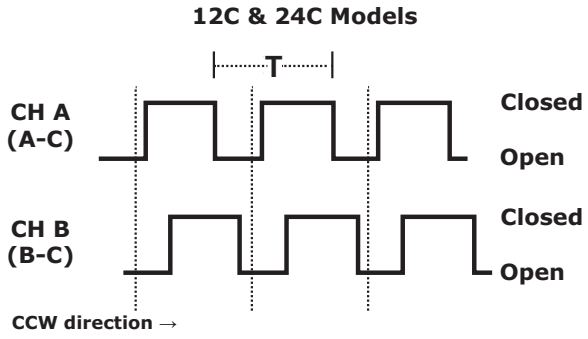
H=7

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

OUTPUT WAVEFORM

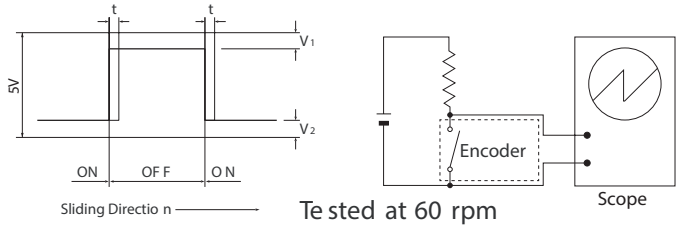


DETENT POSITIONS

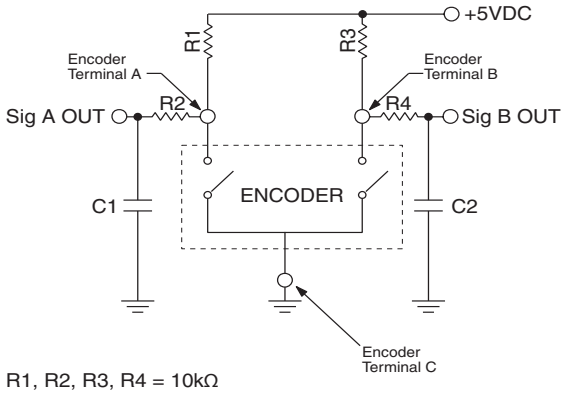


SLIDING NOISE

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



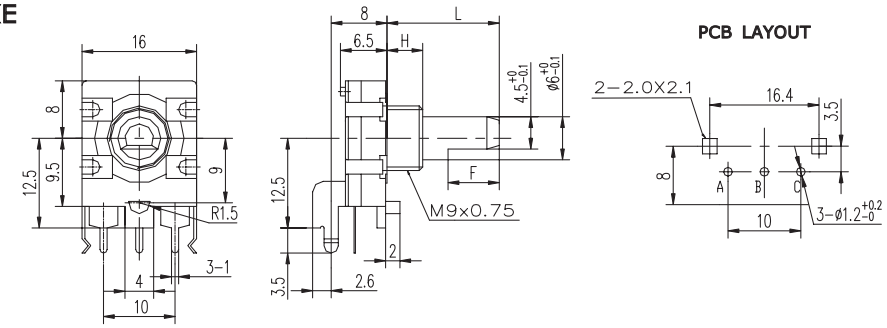
SUGGESTED FILTER



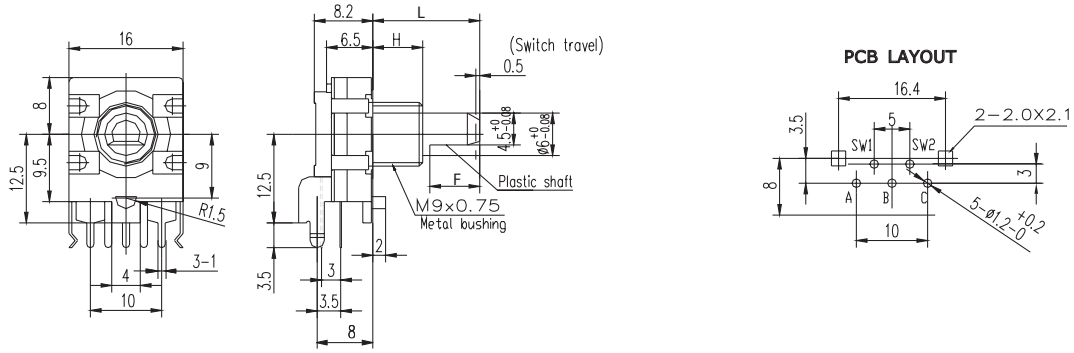
R1, R2, R3, R4 = 10kΩ
C1, C2 = 0.01µF

MECHANICAL DRAWING (horizontal)

ACZ16NBRXE

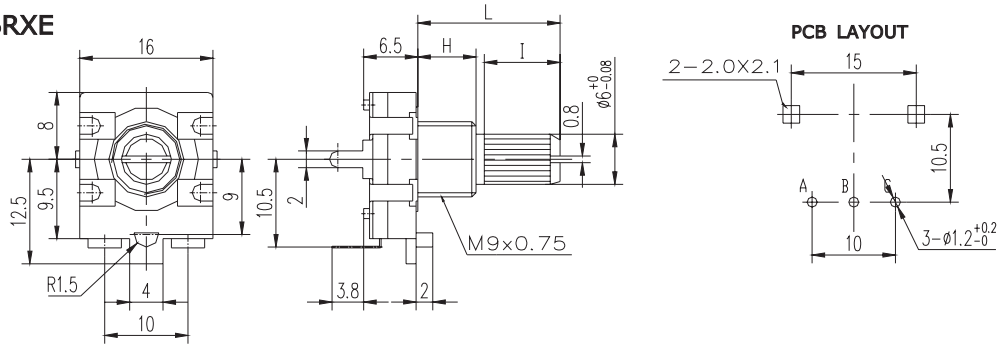


ACZ16BRXE

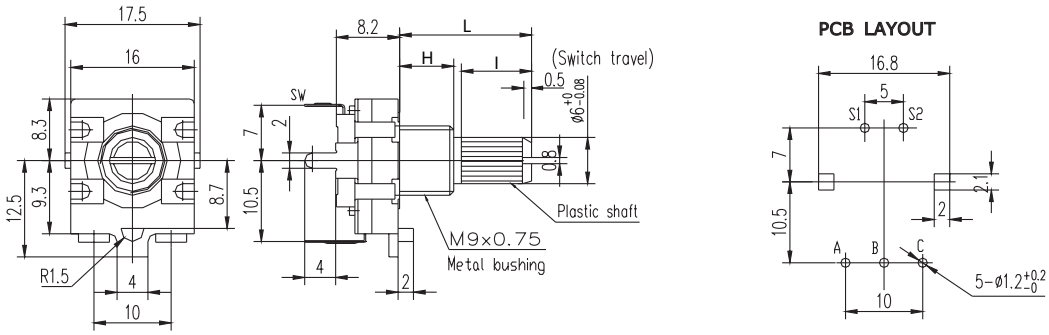


MECHANICAL DRAWING (vertical)

ACZ16NBRXE



ACZ16BRXE



REVISION HISTORY

rev.	description	date
1.0	initial release	10/30/2009
1.01	added storage details	12/04/2014
1.02	brand update	10/04/2019
1.03	updated datasheet	06/15/2020
1.04	updated drawings	07/14/2020

The revision history provided is for informational purposes only and is believed to be accurate.

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