CUI Devices is now Same Sky! Learn More

SERIES: ACZ16 | DESCRIPTION: MECHANICAL INCREMENTAL ENCODER

ELECTRICAL SPECIFICATIONS

parameter	conditions/description	min	typ	max	units
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

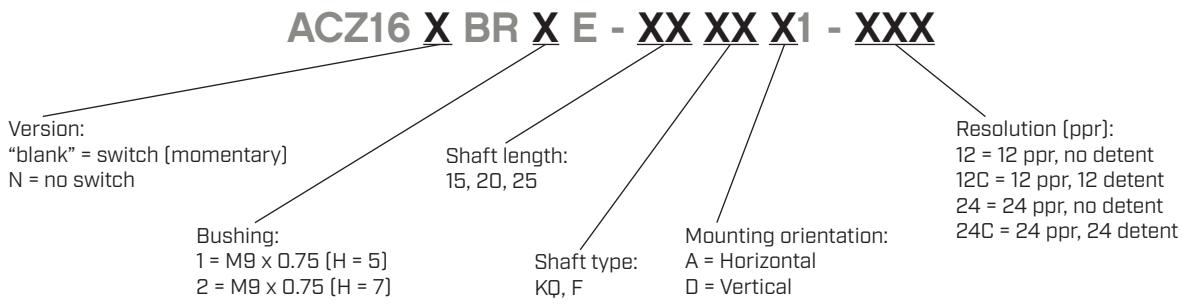
parameter	conditions/description	min	typ	max	units
shaft load	axial			7	kgf
rotational torque	with detent click without detent click	50 90		130 210	gf•cm gf•cm
rotational life				100,000	cycles

ENVIRONMENTAL SPECIFICATIONS

parameter	conditions/description	min	typ	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
hand soldering	for maximum 3 seconds			350	°C
wave soldering	for 5±1 seconds	255	260	265	°C

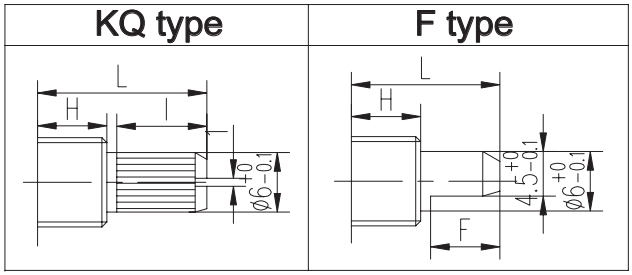
Notes:
1. It is recommended to use products within 6 months.
2. For storage conditions, it is recommended to keep away from direct sunlight, corrosive gas, or high humidity conditions.
3. Use the product as soon as possible once the plastic bag has been unsealed, and reseal the bag if product is not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

PART NUMBER KEY



Downloaded from Arrow.com.

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

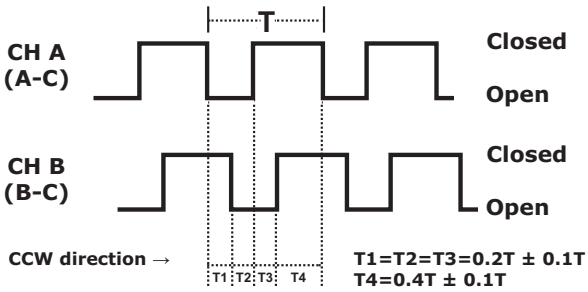
H=7

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

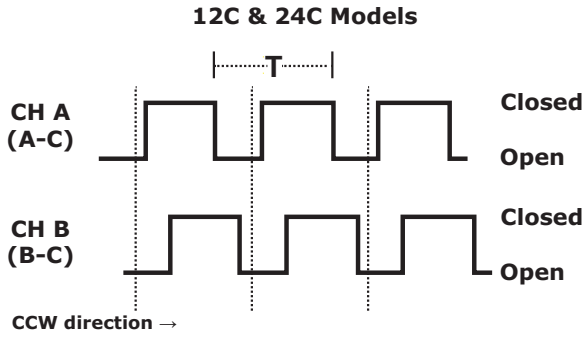
H=7

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

OUTPUT WAVEFORM

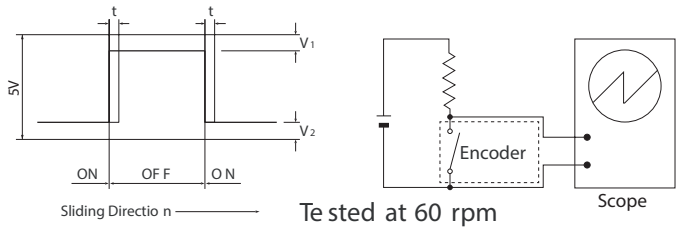


DETENT POSITIONS

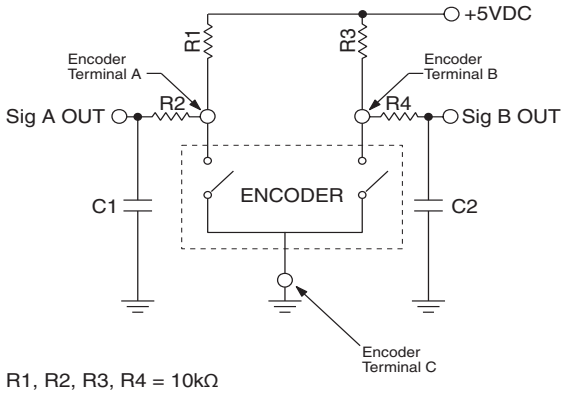


SLIDING NOISE

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



SUGGESTED FILTER

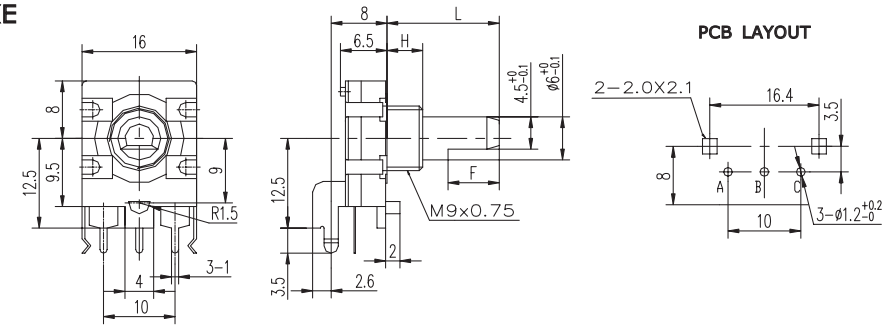


R1, R2, R3, R4 = 10kΩ
C1, C2 = 0.01µF

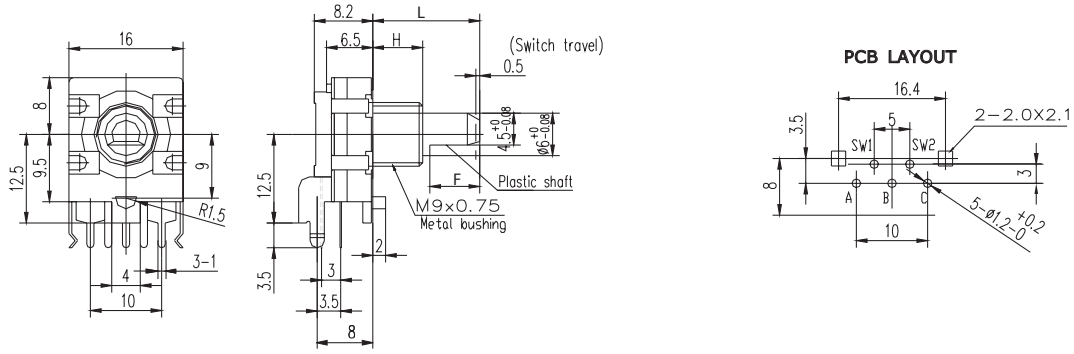
Downloaded from Arrow.com.

MECHANICAL DRAWING (HORIZONTAL)

ACZ16NBRXE

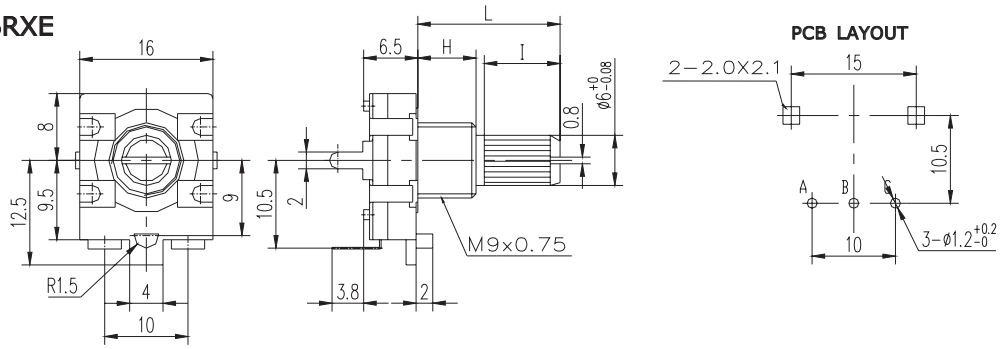


ACZ16BRXE

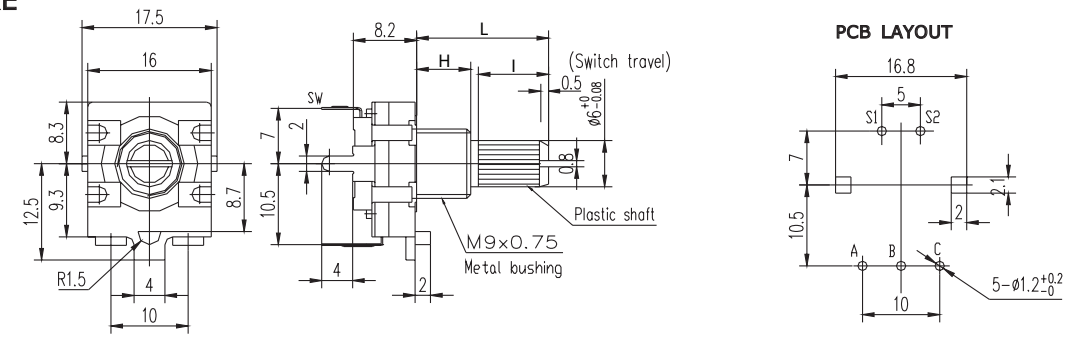


MECHANICAL DRAWING (VERTICAL)

ACZ16NBRXE



ACZ16BRXE



Downloaded from Arrow.com.

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
1.05	logo, datasheet style update	09/08/2022
1.06	CUI Devices rebranded to Same Sky	09/12/2024
1.07	added soldering details	04/04/2025

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

Same Sky offers a one (1) year limited warranty. Complete warranty information is listed on our website.

Same Sky reserves the right to make changes to the product at any time without notice. Information provided by Same Sky is believed to be accurate and reliable. However, no responsibility is assumed by Same Sky for its use, nor for any infringements of patents or other rights of third parties which may result from its use.

Same Sky products are not authorized or warranted for use as critical components in equipment that requires an extremely high level of reliability. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

Downloaded from Arrow.com.