

**SERIES:** ACZ11 | **DESCRIPTION:** MECHANICAL INCREMENTAL ENCODER**ELECTRICAL SPECIFICATIONS**

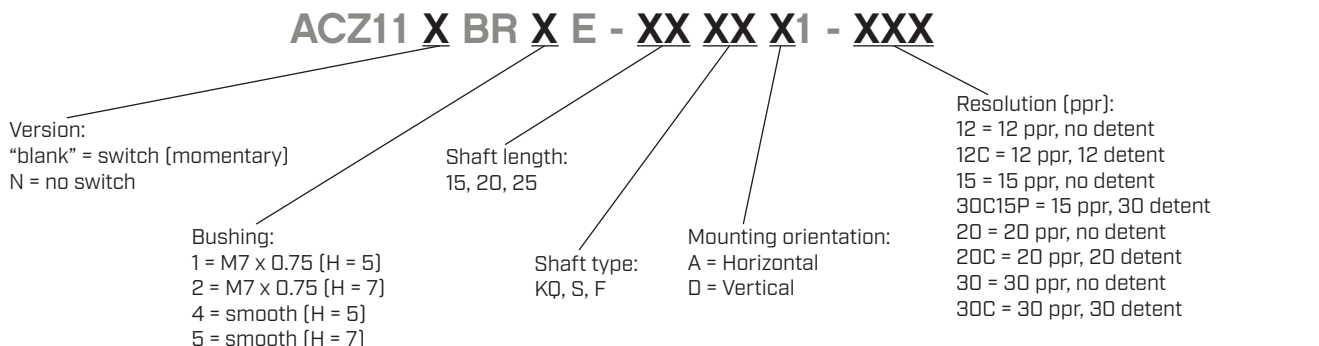
parameter	conditions/description	min	typ	max	units
output waveform	square wave				
output signals	A, B phase				
current consumption	10 mA				
output phase difference	T1, T2, T3, T4 $\geq$ 3.5 ms @ 60 rpm (see output waveform)				
supply voltage	5 V dc max.				
output resolution	12, 15, 20, 30 ppr				
switch rating	12 V dc, 50 mA (ACZ11BRXE models only)				
insulation resistance	300 V dc, 100 M Ω				
withstand voltage	300 V ac				

MECHANICAL SPECIFICATIONS

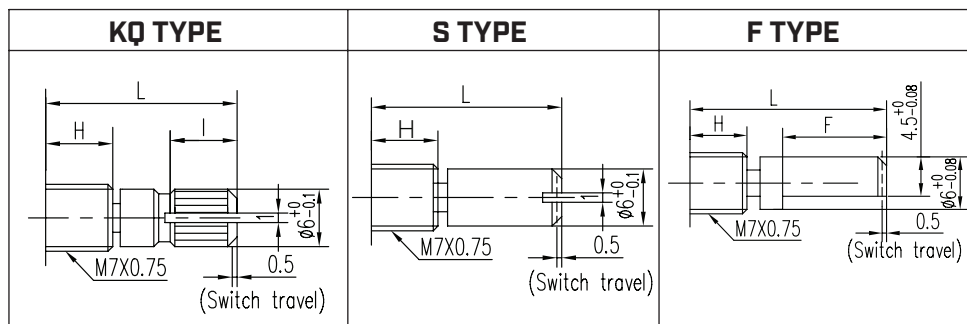
parameter	conditions/description	min	typ	max	units
shaft load	axial			8	kgf
rotational torque	with detent click	60	140	220	gf•cm
	without detent click	30	80	100	gf•cm
push switch operational force	(ACZ11BRXE models only)	300		900	gf•cm
push switch life	(ACZ11BRXE models only)			50,000	cycles
rotational life				30,000	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 $\pm$ 1 seconds	255	260	265	°C

PART NUMBER KEY

SHAFT OPTIONS (VERSIONS WITH SWITCH)



H=5

	15KQ	20KQ	25KQ
L	15	20	25
I	6	10	12

H=5

	15S	20S	25S
L	15	20	25

H=5

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

H=7

	15KQ	20KQ	25KQ
L	15	20	25
I	5	8.5	10

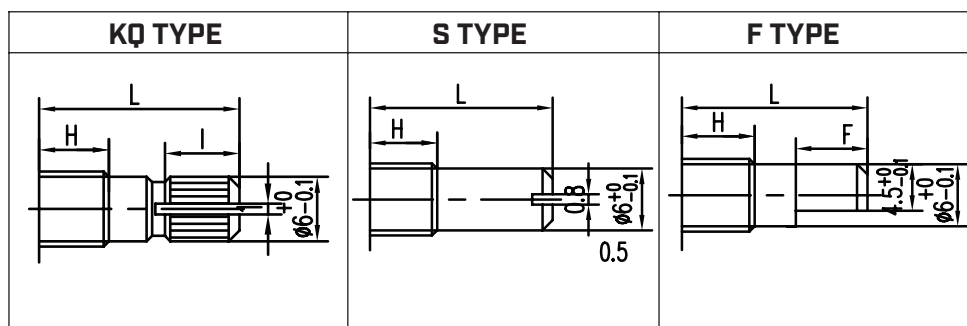
H=7

	15S	20S	25S
L	15	20	25

H=7

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

SHAFT OPTIONS (VERSIONS WITHOUT SWITCH)



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L	15	20	25
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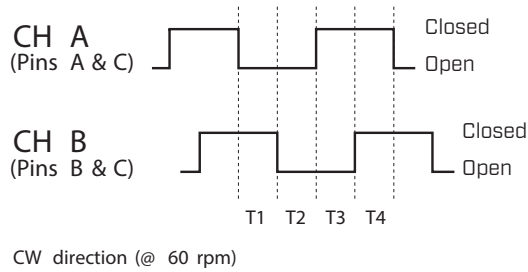
H=7

	15S	20S	25S
L	15	20	25

H=7

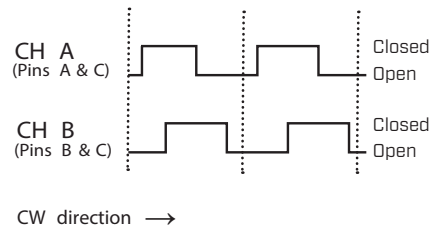
	15F	20F	25F
L	15	20	25
F	8	10	12

OUTPUT WAVEFORM

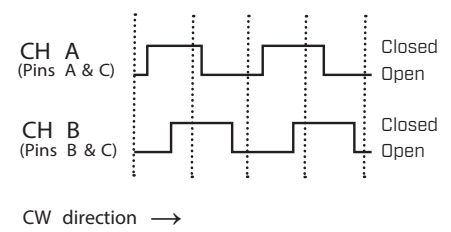


DETENT POSITIONS

Model 12C & 20C

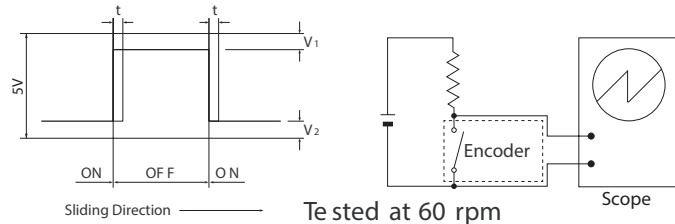


Model 15P30C

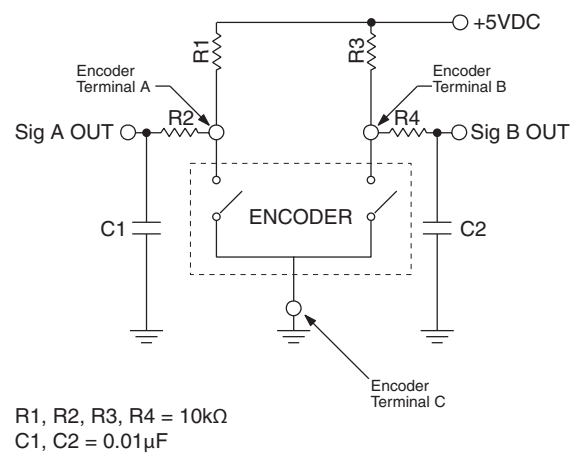


SLIDING NOISE

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



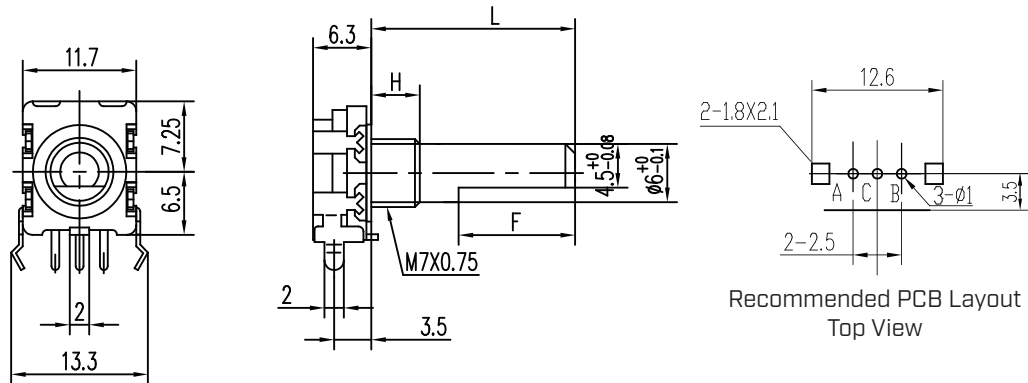
SUGGESTED FILTER



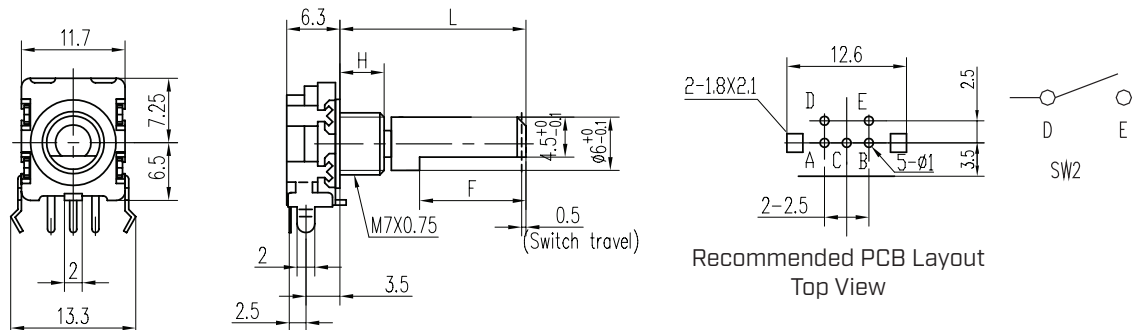
MECHANICAL DRAWING (HORIZONTAL)

units: mm
tolerance:
 $X \leq 10$: ± 0.3 mm
 $10 < X \leq 30$: ± 0.5 mm
Unless otherwise noted

ACZ11NBRXE



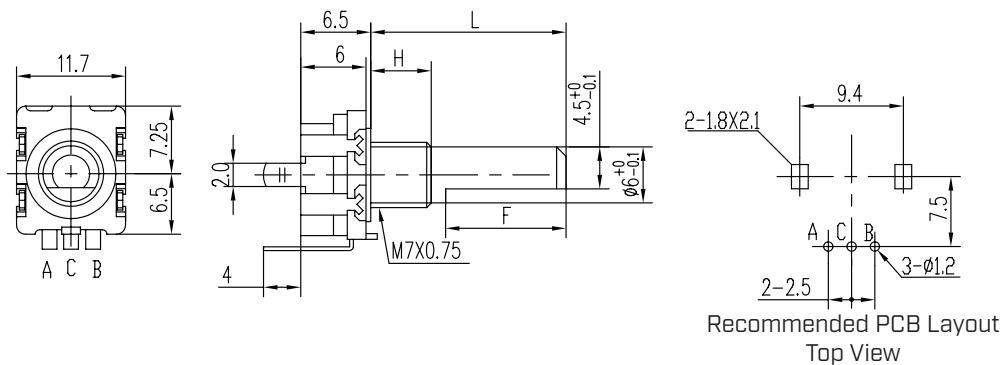
ACZ11BRXE



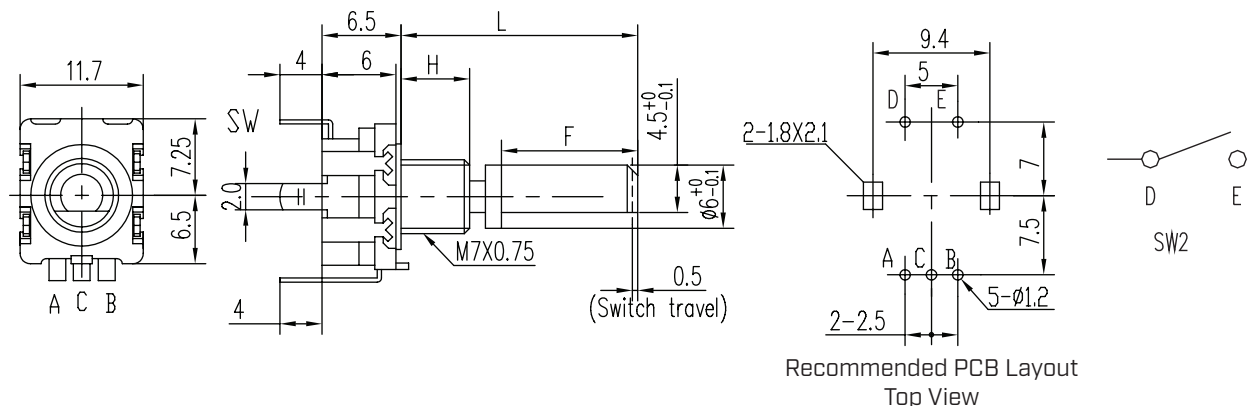
MECHANICAL DRAWING (VERTICAL)

units: mm
tolerance:
 $X \leq 10$: ± 0.3 mm
 $10 < X \leq 30$: ± 0.5 mm
Unless otherwise noted

ACZ11NBRXE



ACZ11BRXE



REVISION HISTORY

rev.	description	date
1.0	initial release	10/30/2009
1.01	brand update	10/04/2019
1.02	updated datasheet	06/15/2020
1.03	updated drawings; logo, datasheet style update	09/08/2022
1.04	CUI Devices rebranded to Same Sky	09/12/2024
1.05	added soldering details	04/04/2025
1.06	updated shaft option table	05/08/2025

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.

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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.

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