

**SERIES:** ACZ09 | **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				
supply voltage	5 V dc max.				
output resolution	10, 15, 20 ppr				
switch rating	12 V dc, 50 mA (ACZ09BRXE models only)				
insulation resistance	100 M Ω , 300 V dc, 1 min.				
withstand voltage	300 V ac, 1 minute; no arc, damage or dielectric breakdown				

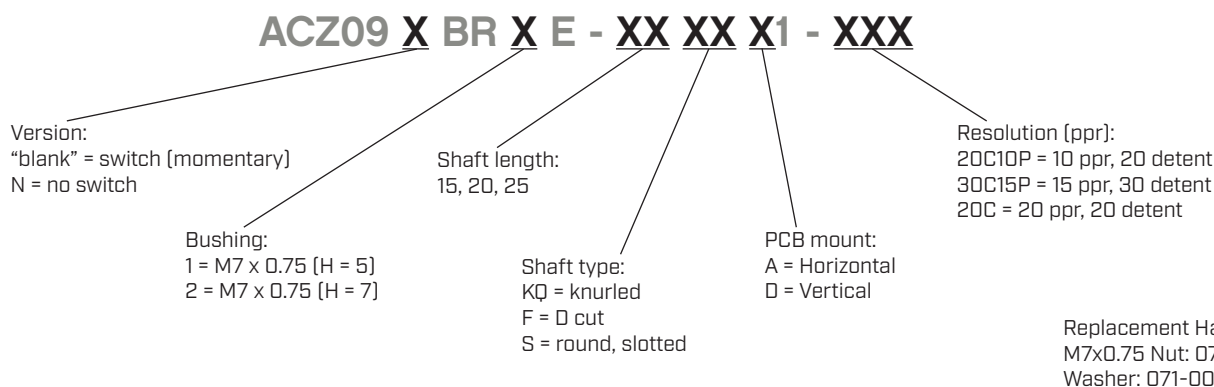
MECHANICAL SPECIFICATIONS

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	60	80	100	gf•cm
push switch operational force	(ACZ09BRXE models only)	300		1,500	gf•cm
push switch life	(ACZ09BRXE models only)			50,000	cycles
rotational life				30,000	cycles

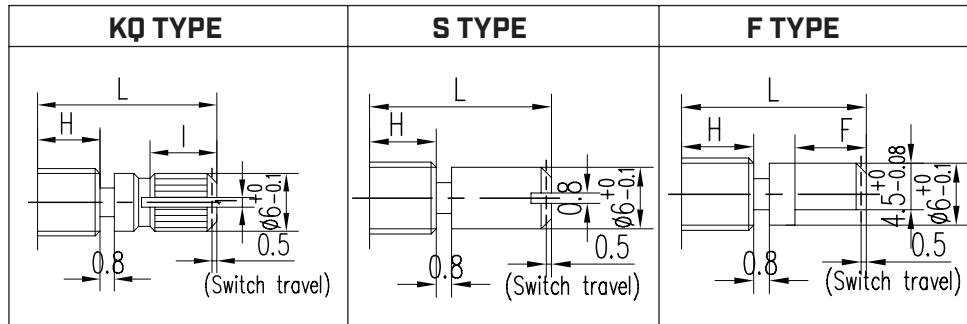
ENVIRONMENTAL SPECIFICATIONS

parameter	conditions/description	min	typ	max	units
operating temperature		-10		75	°C
storage temperature		-20		75	°C
humidity		0		95	% 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	7	8.5	12

H=5

	15S	20S	25S
L	15	20	25

H=5

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

H=7

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

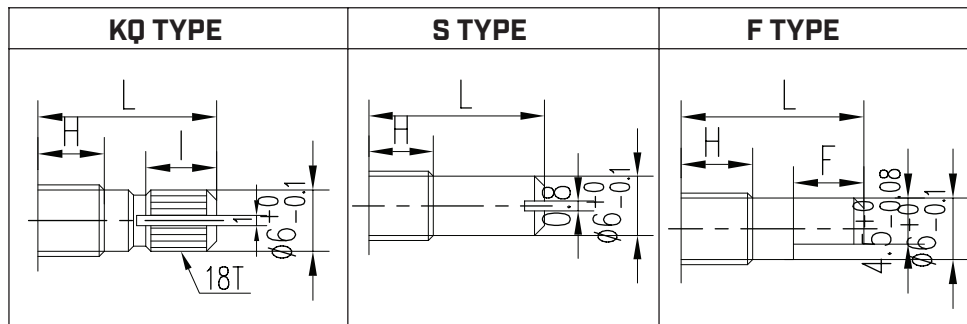
H=7

	15S	20S	25S
L	15	20	25

H=7

	15F	20F	25F
L	15	20	25
F	5	12	12

SHAFT OPTIONS (VERSIONS WITHOUT SWITCH)

**H=5**

	15KQ	20KQ	25KQ
L	15	20	25
I	7	8.5	12

H=5

	15S	20S	25S
L	15	20	25

H=5

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

H=7

	15KQ	20KQ	25KQ
L	15	20	25
I	7	8.5	10

H=7

	15S	20S	25S
L	15	20	25

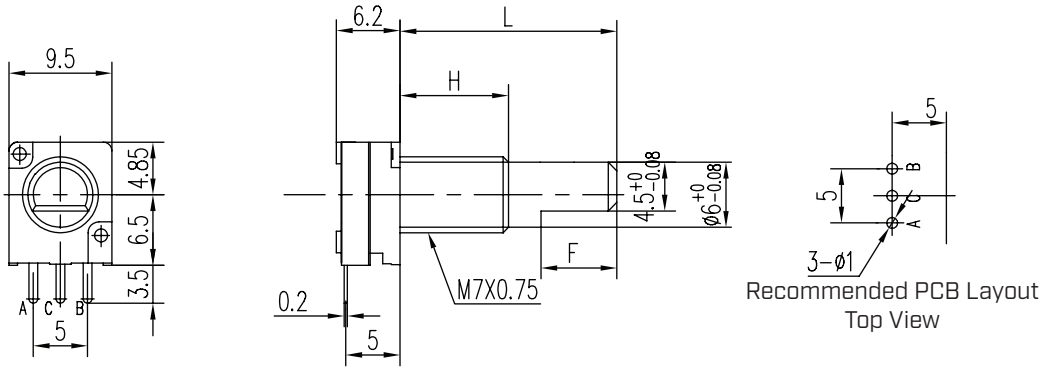
H=7

	15F	20F	25F
L	15	20	25
F	5	12	12

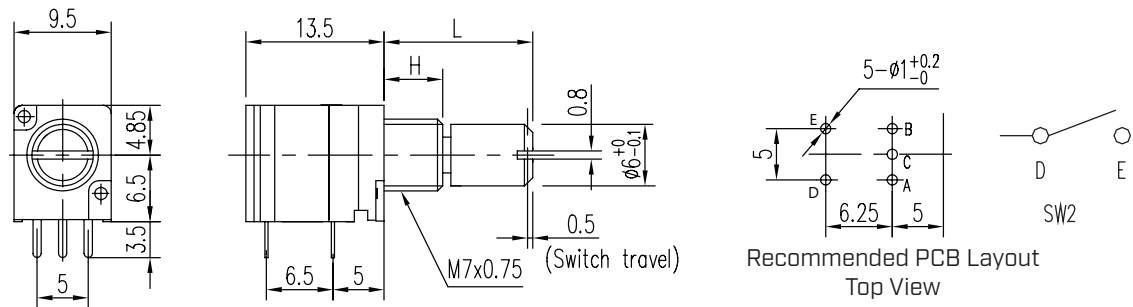
MECHANICAL DRAWING (HORIZONTAL)

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

ACZ09NBRXE



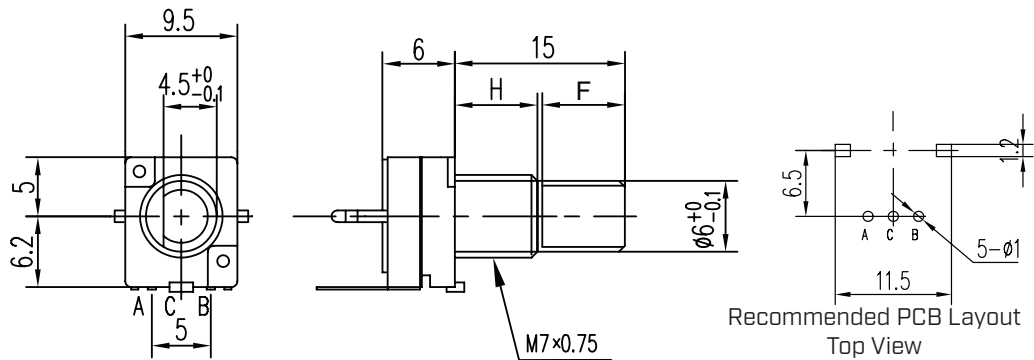
ACZ09BRXE



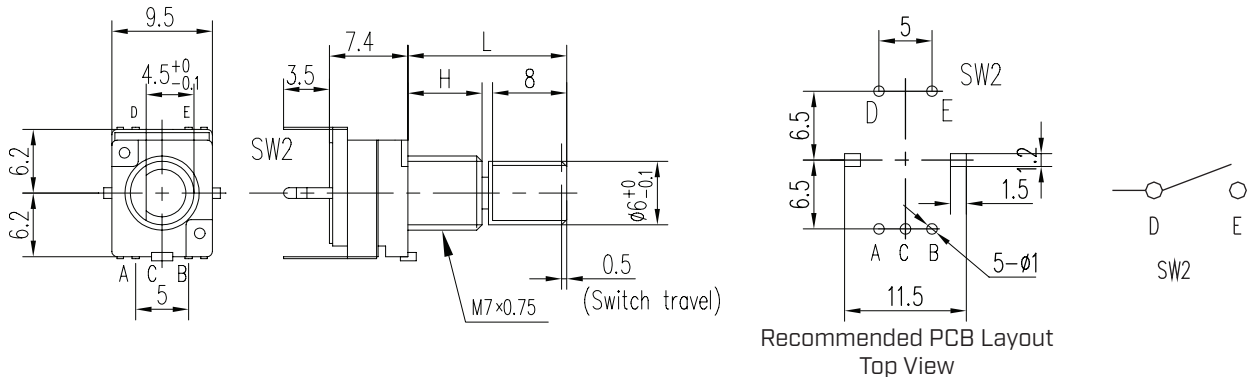
MECHANICAL DRAWING (VERTICAL)

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

ACZ09NBRXE



ACZ09BRXE



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 datasheet	08/10/2021
1.04	logo, datasheet style update	09/08/2022
1.05	CUI Devices rebranded to Same Sky	09/12/2024
1.06	added soldering details	04/04/2025
1.07	adjusted pin cutout on the switch base	07/24/2025

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.

sameskydevices.com