

**SERIES:** RING23 | **DESCRIPTION:** HOLLOW SHAFT MECHANICAL ENCODER**FEATURES**

- low profile
- haptic detent feedback
- 30K rotational life cycles

**ELECTRICAL**

parameter	conditions/description	min	typ	max	units
power supply			5		V
current consumption				10	mA
output	2-bit quadrature, channel A leads channel B by 90° with counter-clockwise rotation				
output resolution	10, 20 PPR				
insulation resistance	at 250 Vdc	100			MΩ
dielectric strength	for 1 minute at sea level		300		Vac
electrical travel	continuous				
contact bounce	at 15 RPM			2	ms

MECHANICAL

parameter	conditions/description	min	typ	max	units
operating speed				60	RPM
rotational angle	continuous		360		°
detent step angle	20 detents		18		°
rotational torque		30		150	gf•cm
rotational life			30,000		cycles

ENVIRONMENTAL

parameter	conditions/description	min	typ	max	units
operating temperature		-30		80	°C
storage temperature		-40		85	°C
RoHS	yes				

SOLDERABILITY

parameter	conditions/description	min	typ	max	units
hand soldering	for maximum 3 seconds		300		°C
wave soldering	for maximum 3 seconds		260		°C

PART NUMBER KEY

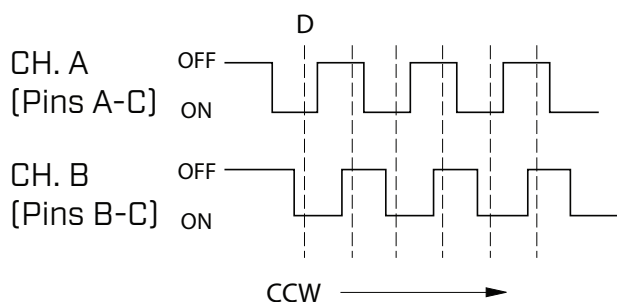
RING23 - 9 XXXX 5 - TH

Base Number

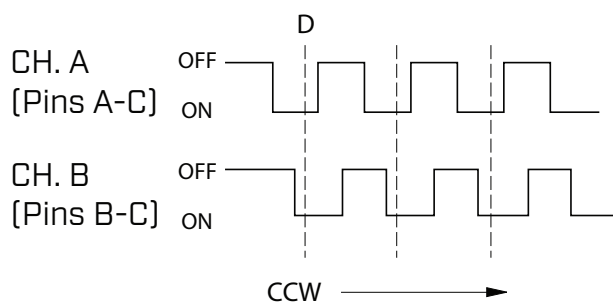
Resolution, Detent:
1020 = 10 PPR, 20 detents
2020 = 20 PPR, 20 detents

OUTPUT WAVEFORM

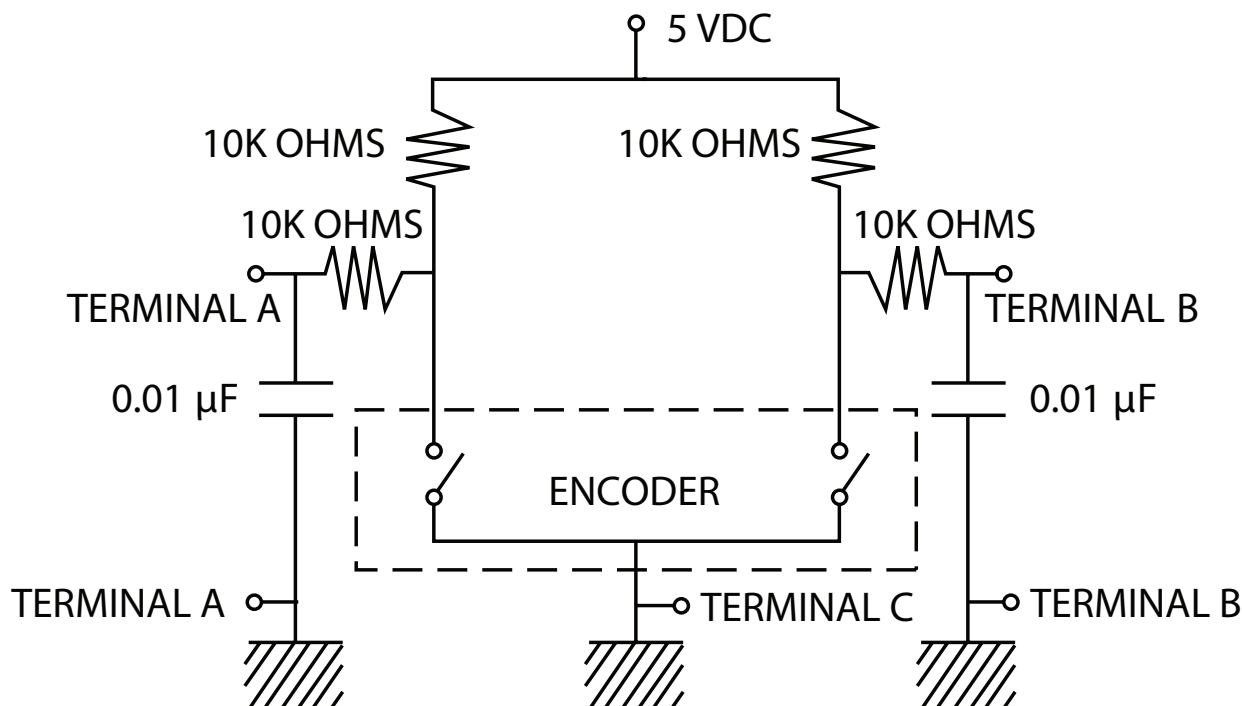
10 PPR, 20 Detent Model



20 PPR, 20 Detent Model



RECOMMENDED FILTER



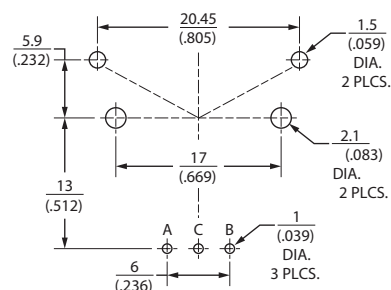
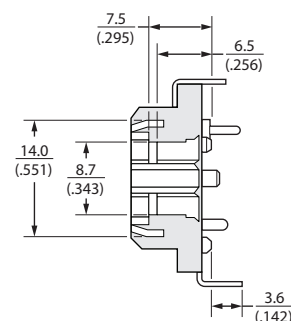
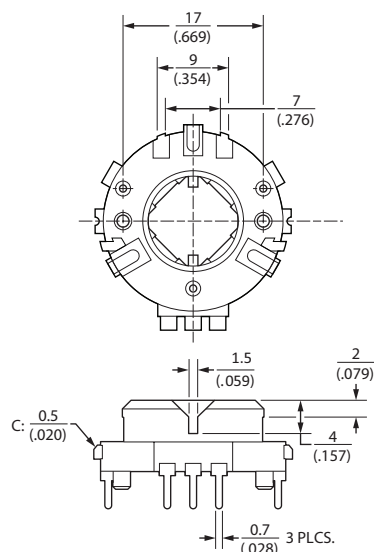
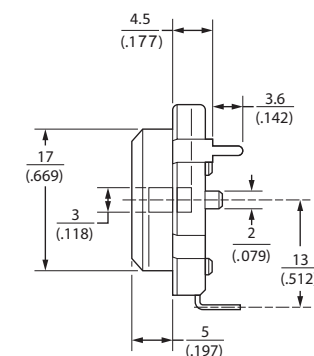
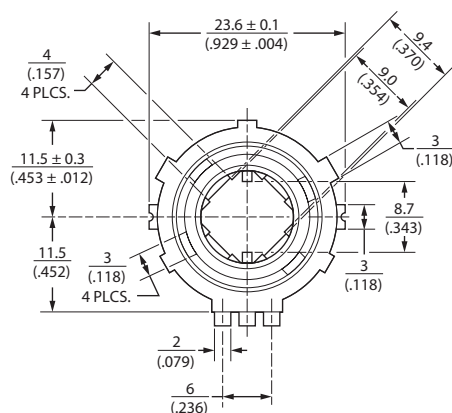
MECHANICAL DRAWING

units: mm [inches]

tolerance:

 $X \leq 10.00$: ± 0.30 mm $10.00 < X \leq 30.00$: ± 0.50 mm $30.00 < X \leq 100.00$: ± 1.00 mm

unless otherwise noted



Recommended PCB Layout
Top View

DESCRIPTION	MATERIAL	PLATING/COLOR
rotor	PC (UL94V-2)	black
wiper	C5210	silver
base	PBT (UL94V-2)	black
terminals	C2680	silver
positioning piece	SUS301	---
bracket	cold rolled steel	tin

REVISION HISTORY

rev.	description	date
1.0	initial release	12/16/2024

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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