

**PART NUMBER:** NSC**DESCRIPTION:** incremental shaft type encoder**ELECTRICAL SPECIFICATIONS**

output waveform		square wave
output signals		A, B, Z phase, inverse A, B, Z phase
current consumption		≤80 mA (voltage output), ≤60 mA (open collector), ≤150 mA (line driver output)
frequency response		≤150 KHz
supply voltage		4.5 V ~ 5.5 V dc, 10.8 V ~ 13.2 V dc (voltage output, open collector) 21.6 V ~ 26.4 V dc (open collector 24 V) 4.75 V ~ 5.25 V dc (line driver)
output current		≤20 mA
output voltage	“H”	VCC-1V (voltage output) 2.5V or more (line driver)
	“L” ¹	0.5V max
output resolution (ppr)		36, 50, 60, 100, 150, 200, 250, 300, 360, 400, 500, 512, 600, 800, 1000, 1024, 1500
waveform rise/fall time		1μ or less, 200 ns or max (line driver only)

MECHANICAL SPECIFICATIONS

max shaft load,	radial:	9.8N
	axial:	4.9N
starting torque		9.8 x 10 ⁻⁴ N·m max
angular acceleration		1x10 ⁵ rad/s ²
moment of inertia		2x10 ⁻⁷ kg·m ²
max rotational speed		6000 RPM
shock resistance		294 m/s ² , 11 ms, 3 times each on XYZ
vibration proof		10 ~ 50 Hz, double amplitude 1.5mm
weight		60g max

ENVIRONMENTAL SPECIFICATIONS

operating temp	-10° to +70° C
storage temp	-30° to +80° C
humidity	RH 85% max, non-collecting
degree of protection	IP50

NOTE:

- at maximum output current

ELECTRICAL CONNECTIONS2M
2MC

Color of Lead Wire	Description
Red	Power Source
Black	0V Common
Green or Blue	Signal A
White	Signal B
Yellow	Signal Z
Shielding Braid	NC

2MD

Color of Lead Wire	Description	Color of Lead Wire	Description
Red	Power Source	White	Signal B ₋
Black	0V Common	Gray	Signal B ₊
Green	Signal A ₋	Yellow	Signal Z ₋
Blue	Signal A ₊	Orange	Signal Z ₊
Shielding Braid	NC		

PART NUMBER: NSC

DESCRIPTION: incremental shaft type encoder

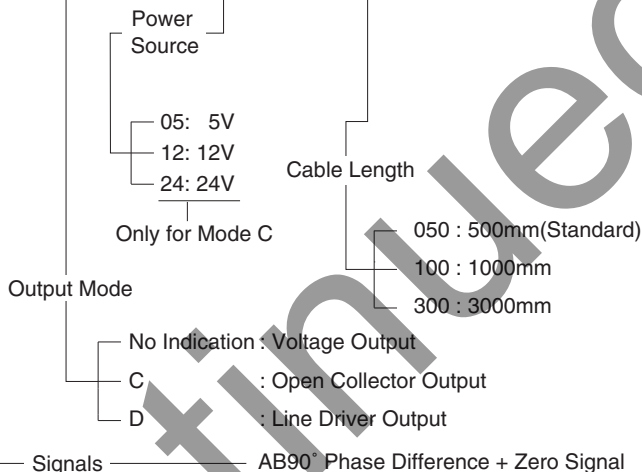
ORDERING INSTRUCTIONS

NSC - - 2M - - - 00

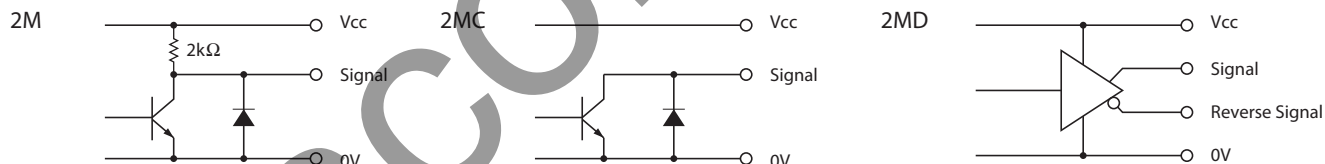
Resolution

0036	36P/R	04	400P/R
005	50P/R	05	500P/R
006	60P/R	0512	512P/R
01	100P/R	06	600P/R
015	150P/R	08	800P/R
02	200P/R	10	1000P/R
025	250P/R	1024	1024P/R
03	300P/R	15	1500P/R
036	360P/R		

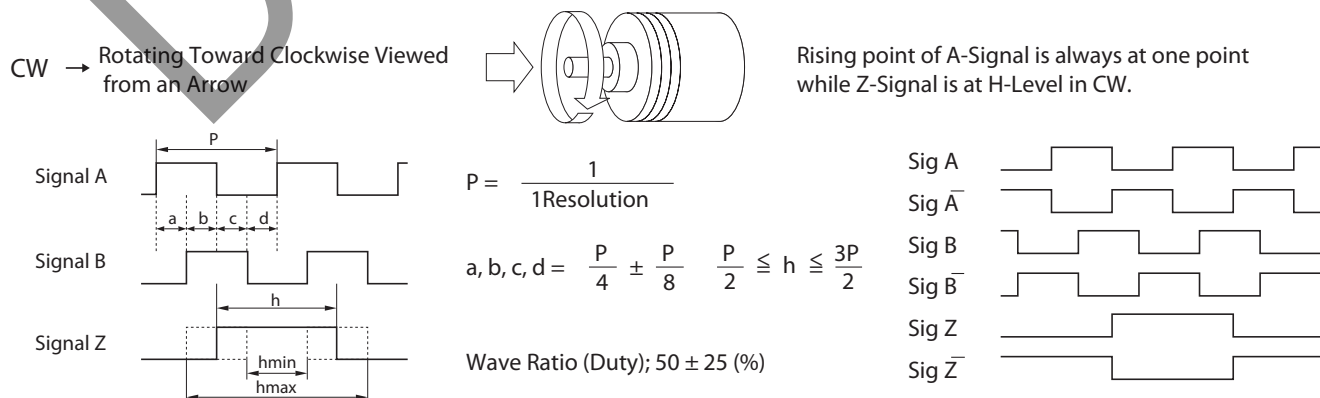
※ Except 24V mode
Please Ask for Alternative Specifications.



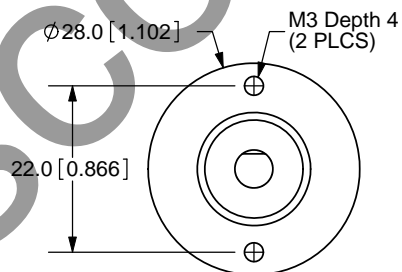
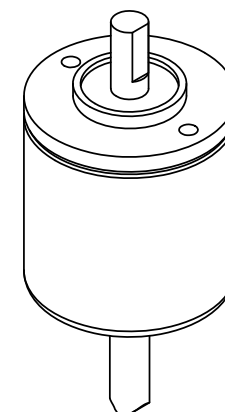
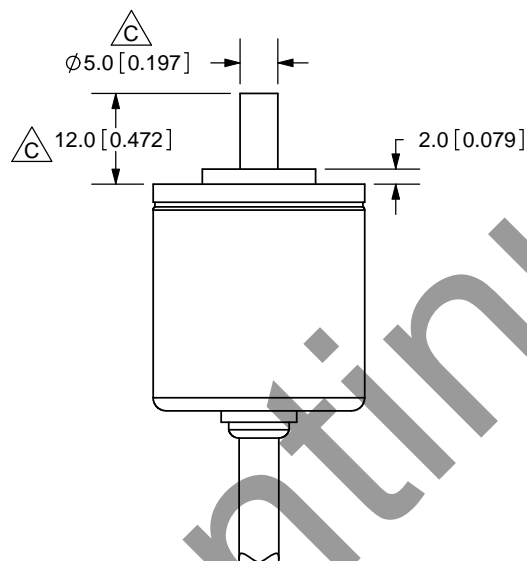
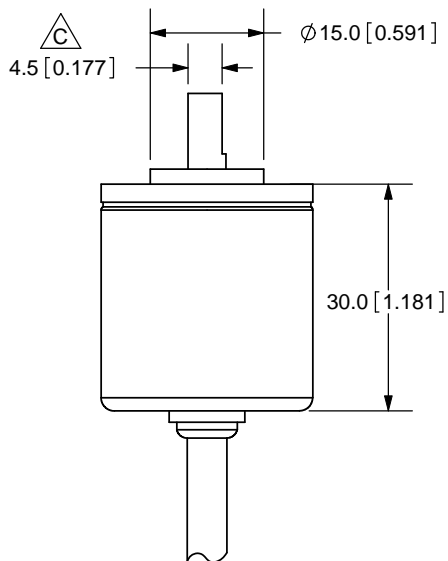
CIRCUIT CONNECTIONS



OUTPUT WAVEFORM



REV.	DESCRIPTION	DATE
A	NEW DRAWING	9/11/2007
B	updated dimensions	4/3/2009
C	added shaft dimension, dimension updates	11/11/2009



TOLERANCE:
±0.3mm UNLESS OTHERWISE
SPECIFIED



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TITLE: INCREMENTAL ENCODER		REV: C
PART NO. NSC		UNITS: MM [INCHES]
DRAWN BY: ZRJ		APPROVED BY:
		SCALE: 1:1

Cable Color	Red	Black	Green	Blue	Shielding Braid	White	Gray	Yellow
Output Type	Power	0V common	Signal A	Signal A̅	NC	Signal B	Signal B̅	Signal Z
Cable Color	Orange	-	-	-	-	-	-	-
Output Type	Signal Z	-	-	-	-	-	-	-

PC FILE NAME:
NSC

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