



**PART NUMBER:** MAS17

**DESCRIPTION:** absolute encoder

**ELECTRICAL SPECIFICATIONS**

output signals	G: gray code, N: natural binary, B: BCD (1000ppr only)
output circuit	NPN open collector
logic	negative logic (H=0, L=1)
current consumption	70mA or less (under no load)
frequency response	20 KHz
supply voltage	5 V dc $\pm$ 5%
output resolution (ppr)	256 (8 bit), 512 (9 bit), 1000, 1024 (10 bit)
max ouput current	sink current each bit 4mA (output voltage resistance 7V)

**MECHANICAL SPECIFICATIONS**

max shaft loading, radial:	1.9N (200gf)
thrust:	1.9N (200gf)
max rotational speed	6000 RPM
shock resistance	500m/s <sup>2</sup> (50g), X, Y, Z each 3 times
vibration proof	55 Hz / 1.5mm 2h each X, Y, Z
weight	30g (with 300mm cable)
cable	256: outside diameter 3mm, 10-core vinyl wire insulated shield cable (length 1m) 1024: vinyl wire (AWG32) cable length 300mm

**ENVIRONMENTAL SPECIFICATIONS**

operating temp	-10° to +70° C
storage temp	-20° to +80° C
humidity	RH 35%~ 90%, non collecting

**ORDERING INSTRUCTIONS**

MAS17 - XXXX - X1

Resolution (PPR):

- 256 = 256 PPR
- 512 = 512 PPR
- 1000 = 1000 PPR
- 1024 = 1024 PPR

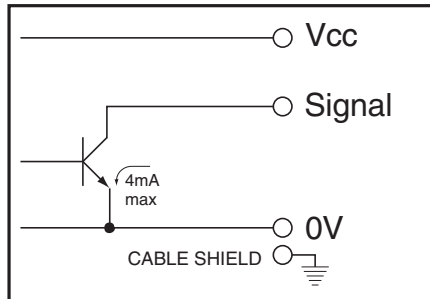
Output Type:

- G = Gray Code
- N = Natural Binary
- B = BCD (1000ppr only)

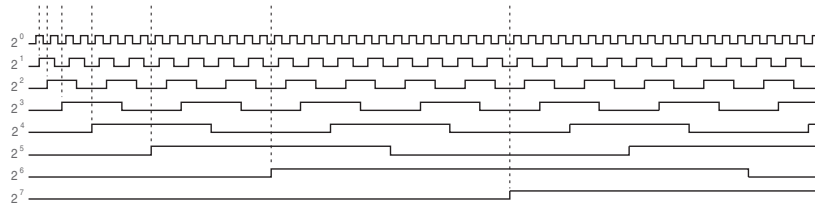
**PART NUMBER:** MAS17

**DESCRIPTION:** absolute encoder

### CIRCUIT CONNECTIONS



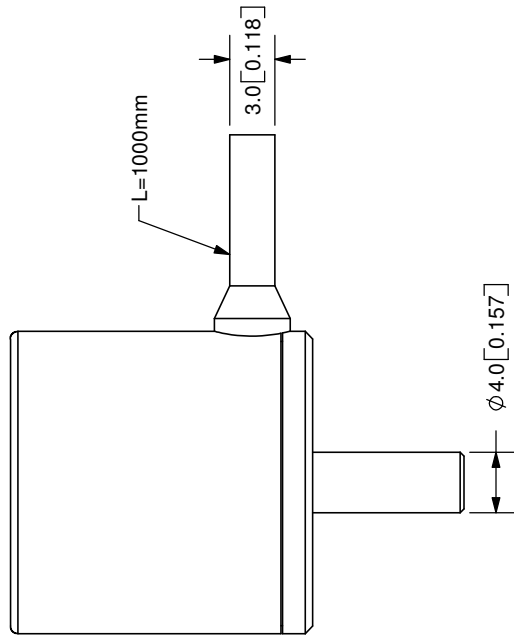
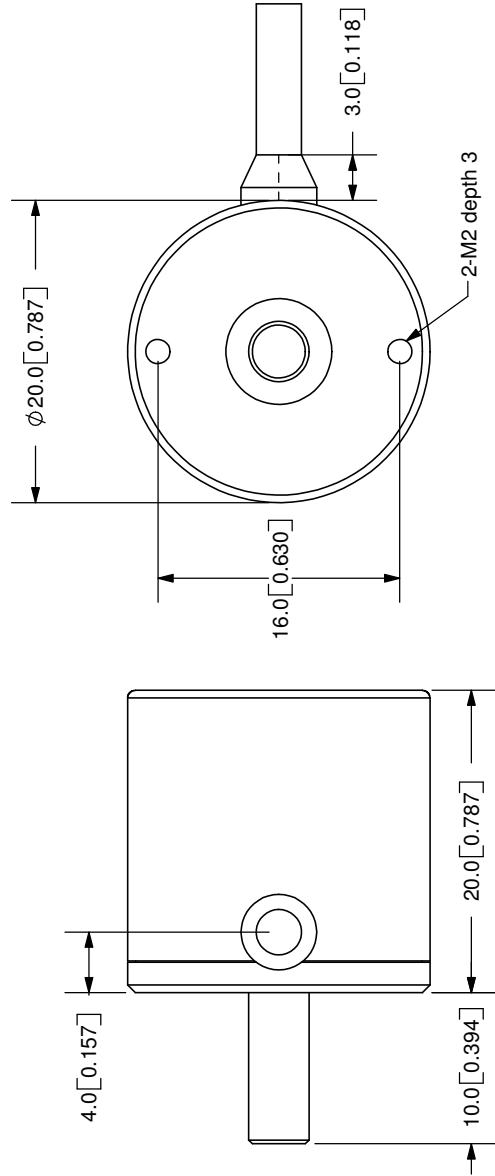
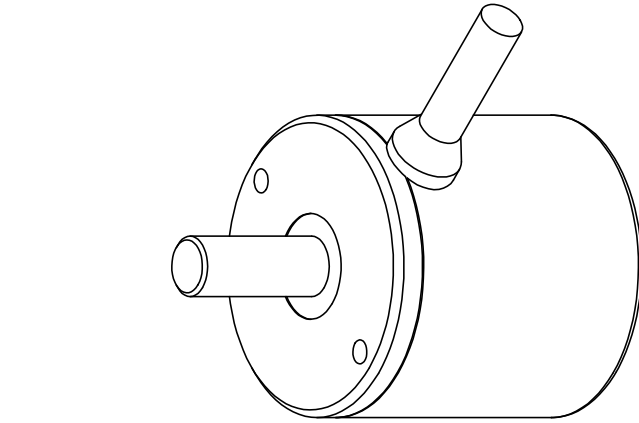
### OUTPUT WAVEFORM



Wiring Guide

Black ~ 0V(com)	Green ~ 2 <sup>3</sup>
Red ~ 5V +/- 5%	Blue ~ 2 <sup>4</sup>
Brown ~ 2 <sup>0</sup>	Purple ~ 2 <sup>5</sup>
Orange ~ 2 <sup>1</sup>	Gray ~ 2 <sup>6</sup>
Yellow ~ 2 <sup>2</sup>	White ~ 2 <sup>7</sup>

REV.	DESCRIPTION	DATE
A	NEW DRAWING	7/30/2007



TOLERANCE:  
±0.3mm UNLESS OTHERWISE  
SPECIFIED



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TITLE:	Incremental Encoder	REV:	A
PART NO.	MAS17	UNITS:	MM [INCHES]
DRAWN BY:	JMS	APPROVED BY:	
		SCALE:	2:1

Cable Color	Black	Red	Brown	Brown/Black	Orange	Orange/Black	Yellow	Yellow/Black
Output Type	0V	Power	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>2</sup>	2 <sup>3</sup>	2 <sup>4</sup>	2 <sup>5</sup>
Cable Color	Green	Green/Black	Blue	Blue/Black	-	-	-	-
Output Type	2 <sup>6</sup>	2 <sup>7</sup>	2 <sup>8</sup>	2 <sup>9</sup>	-	-	-	-

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PC FILE NAME:  
MAS17