



**PART NUMBER:** MAS42

**DESCRIPTION:** absolute encoder

**ELECTRICAL SPECIFICATIONS**

output signals	G: gray code, N: pure binary code, B: BCD code
output circuit	NPN open collector
logic	negative logic (H=0, L=1)
current consumption	100mA or less (under no load)
frequency response	10 KHz
supply voltage	1: 5 V dc $\pm$ 10%; 5: 12Vdc $\pm$ 10% ~ 24Vdc $\pm$ 15%
output resolution (ppr)	256, 360, 512, 720, 1000*, 1024, 2048, 3600*, 4096
max ouput current	sink current each bit 30mA

\*BCD code only

**MECHANICAL SPECIFICATIONS**

max shaft loading load,	radial:	19.6N (2kgf)
	thrust:	9.8N (1kgf)
starting torque		20 X 10 <sup>-2</sup> N·m max (200gf·cm) or less (no oil seal)
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		300 g or less (excluding cable)
cable		outside diameter (G, N: f6, 16 cores/ B: f6.8, 19 cores) vinyl wire insulated shield cable (length 1m)

**ENVIRONMENTAL SPECIFICATIONS**

operating temp	-10° to +70° C
storage temp	-25° to +85° C
humidity	RH 96% or less, non-collecting

**ORDERING INSTRUCTIONS**

MAS42 - XXXX - XX

Resolution (PPR):  
 256 = 256 PPR  
 360 = 360 PPR  
 512 = 512 PPR  
 720 = 720 PPR  
 1000 = 1000 PPR\*  
 1024 = 1024 PPR  
 2048 = 2048 PPR  
 3600 = 3600 PPR\*  
 4096 = 4096 PPR

\*BCD code only

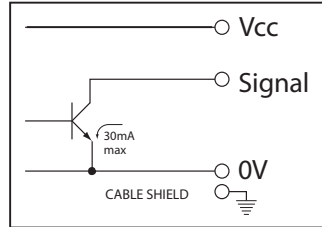
Input Voltage:  
 1: 5VDC  $\pm$  10%  
 5: 12VDC  $\pm$ 10% ~ 24VDC  $\pm$  15%

Output Type:  
 G = Gray Code  
 N = Natural Binary  
 B = BCD Code

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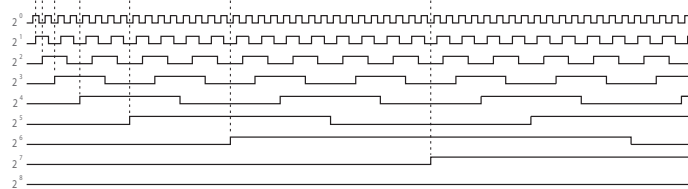
**DESCRIPTION:** absolute encoder

### CIRCUIT CONNECTIONS

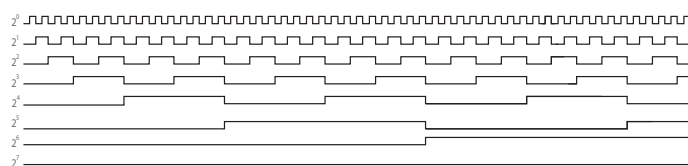


### OUTPUT WAVEFORM

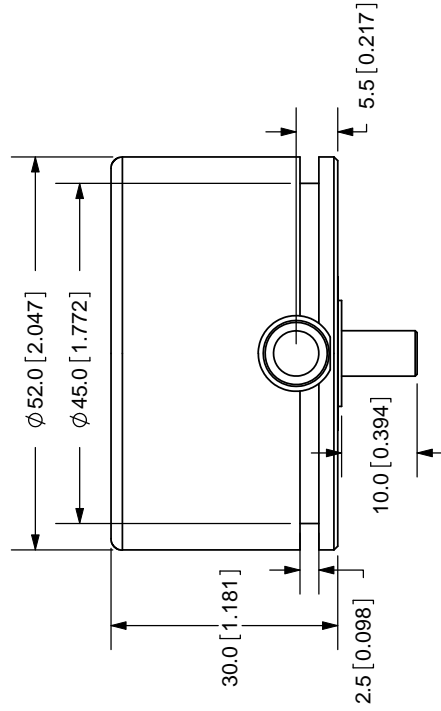
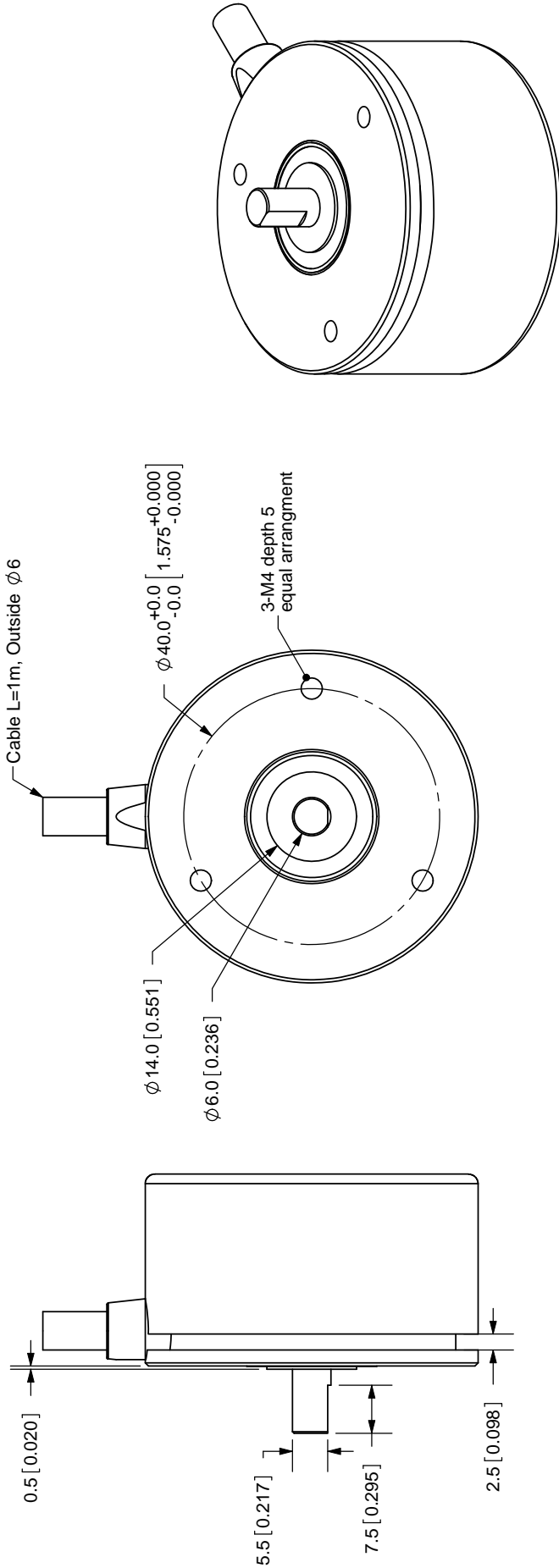
MAS42P-256G



MAS42P-256N



REV.	DESCRIPTION	DATE
A	NEW DRAWING	8/3/2007



TOLERANCE:  
±0.3mm UNLESS OTHERWISE  
SPECIFIED



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TITLE:	Incremental Encoder	REV:	A
PART NO.	MAS42	UNITS:	MM [INCHES]
DRAWN BY:	JMS	APPROVED BY:	
		SCALE:	1:1

Cable Color	Brown	Brown/Black	Orange	Orange/Black	Yellow	Yellow/Black	Green	Green/Black
Output Type	2 <sup>0</sup>	2 <sup>1</sup>	2 <sup>2</sup>	2 <sup>3</sup>	2 <sup>4</sup>	2 <sup>5</sup>	2 <sup>6</sup>	2 <sup>7</sup>
Cable Color	Blue	Blue/Black	Purple	Purple/Black	Red	Black	Black	White
Output Type	2 <sup>8</sup>	2 <sup>9</sup>	2 <sup>10</sup>	2 <sup>11</sup>	Supply Power	0V	0V	-

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PC FILE NAME:  
MAS42