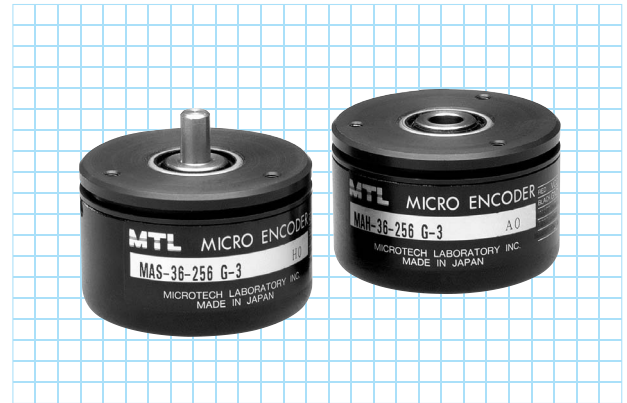


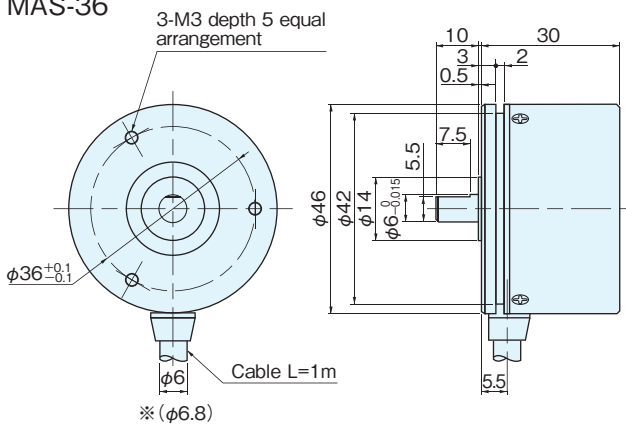
MA-36 series

[Absolute]

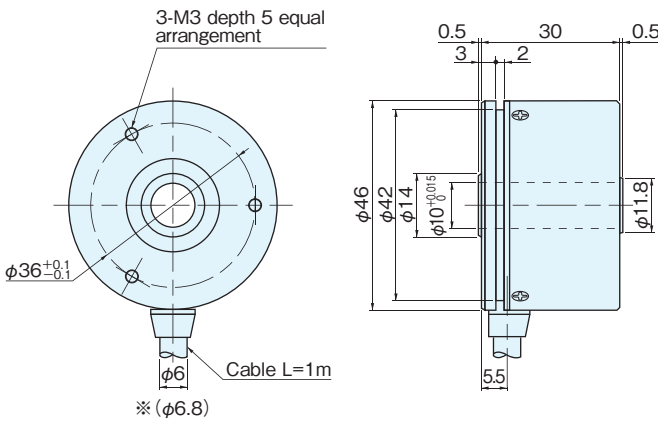


Outside dimensions

MAS-36

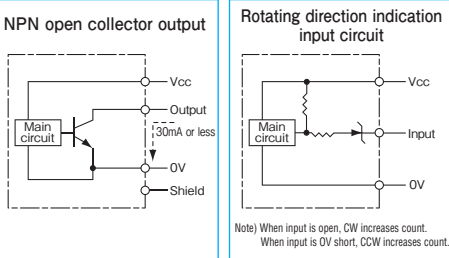


MAH-36



※ Specifications for 2,048 or more pulses

Output circuit diagram



Specifications

Type name		MA□-36-□□□□			
Item	Shaft shape: □ Pulse number: □ Output code: □ Supply voltage: □ ●S=single shaft ●G=gray code ●1=DC5V ●H=hollow shaft ●N=pure binary code ●5=DC12V~24V ●B=BCD code				
Supply voltage	1:DC5V±5% 5:DC12V-10%~24V+15%				
Current consumption	150mA or less (under no load)				
Output code	G: gray code N: pure binary code		B: BCD code		
Logic	Negative logic (H=0, L=1)				
Resolution	256 360 512	720 1,024 2,048	4,096 8,192 16,384	1,000	
Output circuit	NPN open collector				
Output capacity	Sink current each bit 30mA max, Output residual voltage:0.5V or less (Cable length 1m, Sink current: at 30mA)				
Allowable load of shaft (electrical)	Radial	19.6N (2kgf)			
	Thrust	9.8N (1kgf)			
Maximum revolutions (mechanical)	6,000r/min				
Maximum response frequency	10kHz (1,024 or less) 15kHz (2,048 pulse) 30kHz (4,096 pulse)		60kHz (8,192 pulse) 120kHz (16,384 pulse)		
Working temperature/humidity	-10°C~70°C/RH95% or less no dewing				
Storage temperature	-25°C~85°C * -20°C~85°C				
Vibration resistance	Durability 55Hz, double amplitude 1.5mm 2 hours each in X, Y, and Z directions				
Impact resistance	Durability 500m/s ² (about 50G) 3 times each in X, Y, and Z directions				
Cable	Outside diameter φ6.0 16-core vinyl wire Insulated shield cable (length 1m)				
Mass	300g or less (excluding cable)				

*Specifications for 2,048 or more pulses

Connection

Cable color	Type	Output signal		
		MA36-G	MA36-N	MA36-B
Brown	2 ⁰	2 ⁰	2 ⁰	2 ⁰
Brown / Black	2 ¹	2 ¹	2 ¹	2 ¹
Orange	2 ²	2 ²	2 ²	2 ²
Orange / Black	2 ³	2 ³	2 ³	2 ³
Yellow	2 ⁴	2 ⁴	2 ⁰ ×10	2 ⁴
Yellow / Black	2 ⁵	2 ⁵	2 ¹ ×10	2 ⁵
Green	2 ⁶	2 ⁶	2 ² ×10	2 ⁶
Green / Black	2 ⁷	2 ⁷	2 ³ ×10	2 ⁷
Blue	2 ⁸	2 ⁸	2 ⁰ ×100	2 ⁸
Blue / Black	2 ⁹	2 ⁹	2 ¹ ×100	2 ⁹
Purple	NC	NC	2 ² ×100	2 ¹⁰
Purple / Black	NC	NC	2 ³ ×100	2 ¹¹
Red / Black	NC	NC	Rotating direction indication input	2 ¹²
Red	Supply power			
Black	0V (COMMON)			
Black	0V (COMMON)			

Connection (2,048 pulse or more)

Cable color	Type	Output signal	
		MA36-□G1	MA36-□N1
Brown	Output 2 ⁰		
Brown / Black	Output 2 ¹		
Orange	Output 2 ²		
Orange / Black	Output 2 ³		
Yellow	Output 2 ⁴		
Yellow / Black	Output 2 ⁵		
Green	Output 2 ⁶		
Green / Black	Output 2 ⁷		
Blue	Output 2 ⁸		
Blue / Black	Output 2 ⁹		
Purple	Output 2 ¹⁰		
Purple / Black	Output 2 ¹¹		
Gray	Output 2 ¹²		
Gray / Black	Output 2 ¹³		
Red	Vcc		
Red / Black	N.C.		N.C.
Black	(*) Latch input (LE)		OV

Note: The shield is in the encoder and not connected. A capacitor (0.1mF) is connected between 0V and FG.

Resolution and code No.

Resolution	Code No.
256	0~255
360	76~435
512	0~511
720	152~871
1,000	0~999
1,024	0~1,023

Resolution	Code No.
2,048	0~2,047
4,096	0~4,095
8,192	0~8,191
16,384	0~16,383