

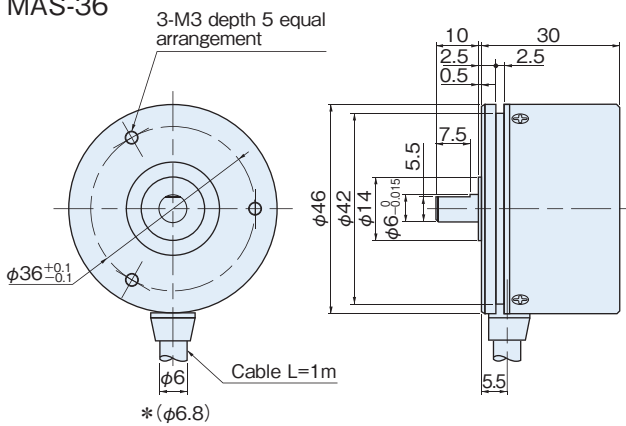
MA-36 series

[Absolute]

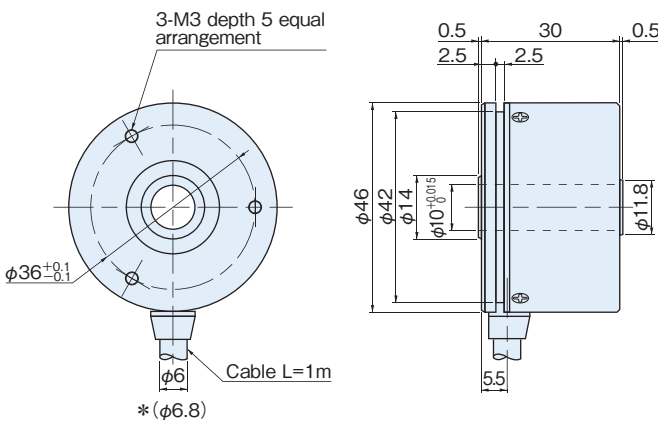


Outside dimensions

MAS-36

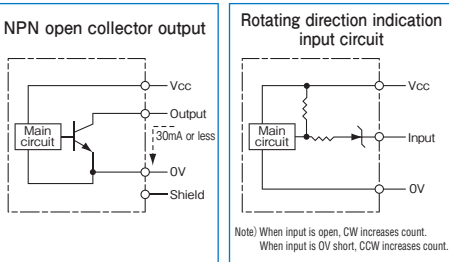


MAH-36



*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	1024P or less:100mA or less (under no load) 2048P or more: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	256 720 4,096 360 1,024 8,192 512 2,048 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 AWG28 Insulated shield cable (length 1m)		
Mass	300g or less (excluding cable)		

*Specifications for 2,048 or more pulses

Connection (1,024 pulse or less)

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

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

Connection (2,048 pulse or more)

Cable color	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)	0V

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