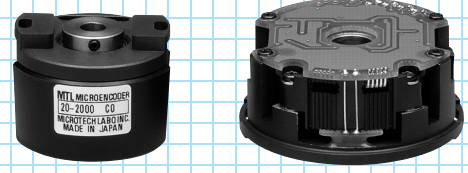


MGH series

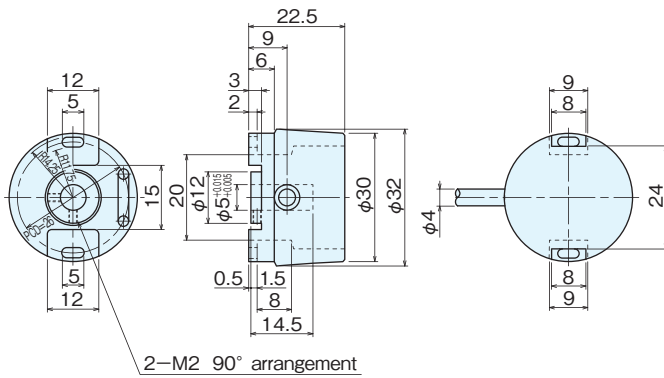
[Square Wave/Incremental]



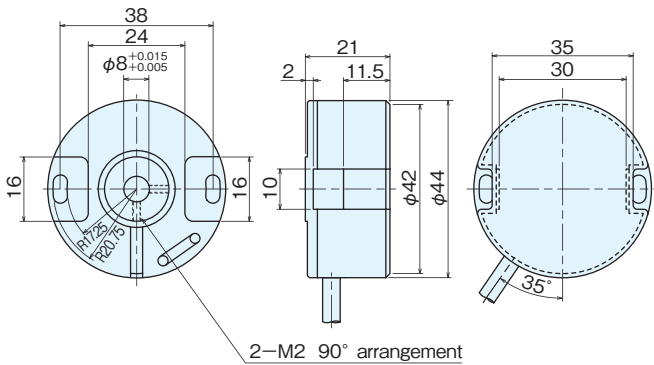
MGH-20, MGH-30

Outside dimensions

MGH-20



MGH-30



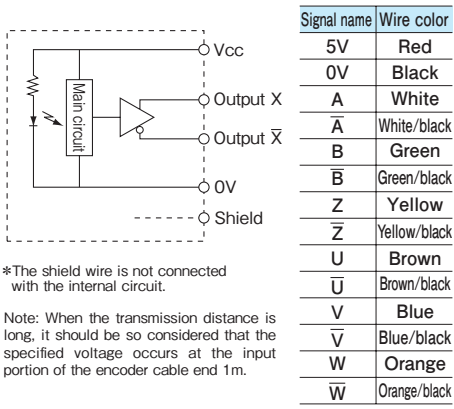
Specifications

Type name	MGH-20-□-E□	MGH-30-□-E□		
Item	Pulse number CS signal ●No entry=nil ●CS=available	Pulse number CS signal ●No entry=nil ●CS=available		
Supply voltage	DC+5V±10%			
Current consumption	60mA or less (under no load)			
Detection system	Incremental			
Output pulse number (Standard) (Pulse number/rotation)	40 50 60 100 125 200 250	600 800 1,000 ※1,000 1,200	450 500 60 100 200 300 360 400	1,024 ※1,024 1,200 1,500 1,800 2,000 ※2,000 1,000 ※1,000
Output phase	A, \bar{A} , B, \bar{B} , Z, Z phase*with CS signal U, \bar{U} , V, \bar{V} , W, \bar{W} phase			
Output form	Square wave Line driver output			
Output capacity	$V_{OL}=0.5V_{max}$ $V_{OH}=2.5V_{min}$ $I_o=\pm 20mA$			
Maximum response frequency (response pulse number)	150kHz			
Output phase difference	A, B phase difference $90^\circ \pm 45^\circ$ (T/4±T/8) Z phase T±T/2 With CS signal (U, V, W) 4 poles, 60° phase difference 3 signals			
Waveform rise/fall time	2μs or less			
Maximum allowable revolutions (mechanical)	6,000r/min			
Working ambient temperature/ humidity	-10°C~80°C RH35%~90% no dewing			
Storing ambient temperature	-20°C~80°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 $\phi 4.2$ ($\phi 6.8$) 8-core(19-core) vinyl wire Insulated shield cable length 1m (length 0.5m)			
Mass	60g	100g		

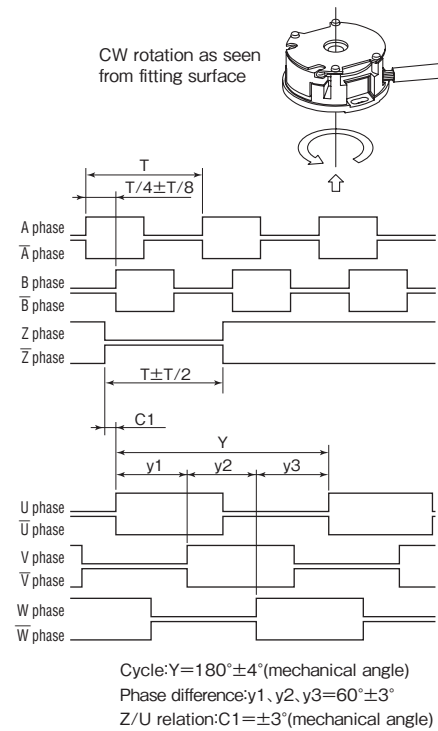
Allowable change amount of fitting shaft

MGH-20	Pulse number	100~200	250~600	800~1,200
MGH-30	Pulse number	100~300	360~1,024	1,200~2,000
Allowable eccentricity	Radial	±0.02mm		±0.01mm
	Thrust	±0.1mm	±0.05mm	±0.02mm

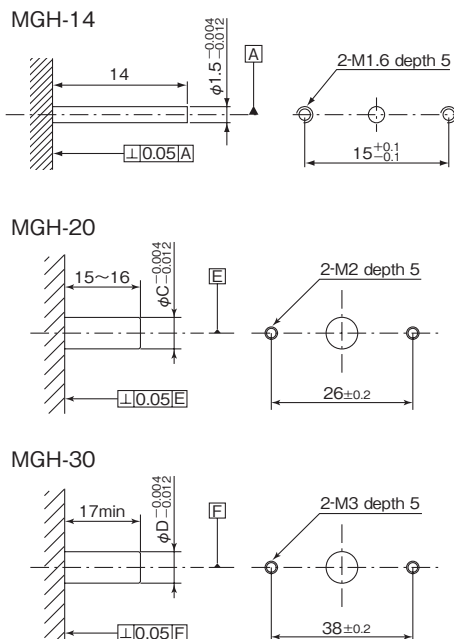
Output circuit diagram



Output waveforms



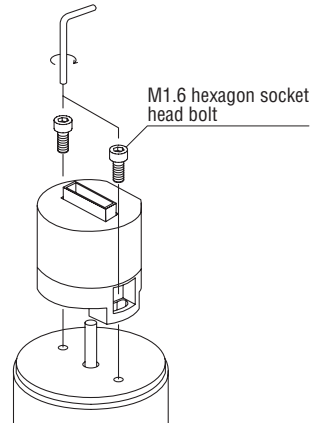
Fitting shaft dimensions



Assembling image of MGH series

MGH-14

1. Fix the encoder to the base of rotating shaft.

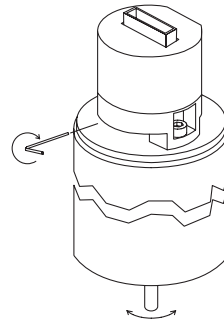


- **Tools to be used**
0.71mm hexagon wrench
1.5mm hexagon wrench

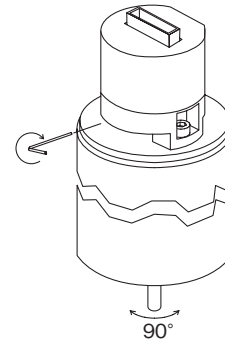
- **Attachment**
Hexel stopping screw (M1.6) 2pcs

2. Phase U, output of moter rises at the same moment with of encoder.

3-1. Search for a screw by turning the rotating shaft and fix it.

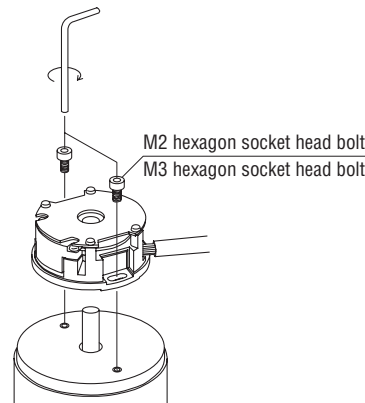


3-2. Turn the shaft 90° right or left and fix the other screw.



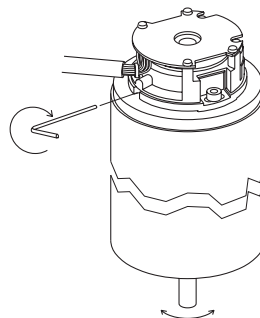
MGH-20, 30

1. Fix the encoder to the base of rotating shaft.



- **Tools to be used**
0.89mm hexagon wrench
1.5mm hexagon wrench (MGH-20)
2.5mm hexagon wrench (MGH-30)

2-1. Search for a screw by turning the rotating shaft and fix it.



2-2. Turn the shaft 90° right or left and fix the other screw.

