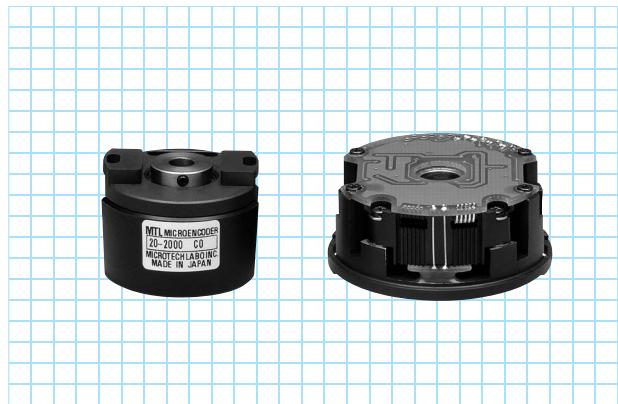


MGH series

[Square Wave/Incremental]

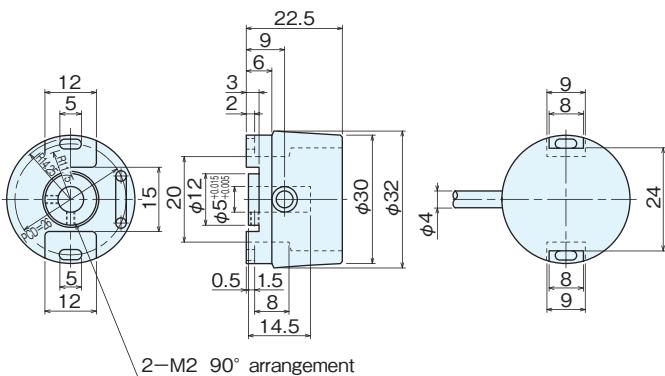
- Can be easily attached to DC motors, AC motors, and stepping motors.



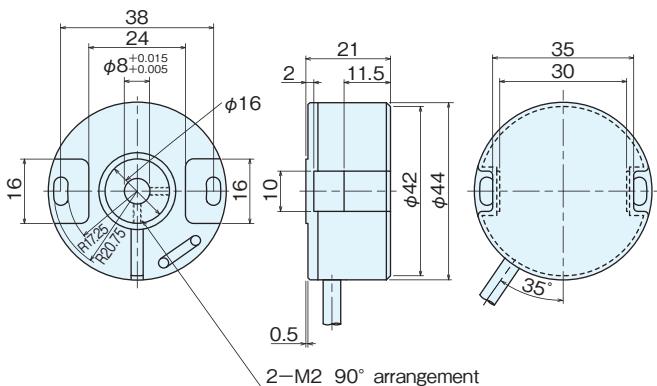
MGH-20, MGH-30

Outside dimensions

MGH-20



MGH-30



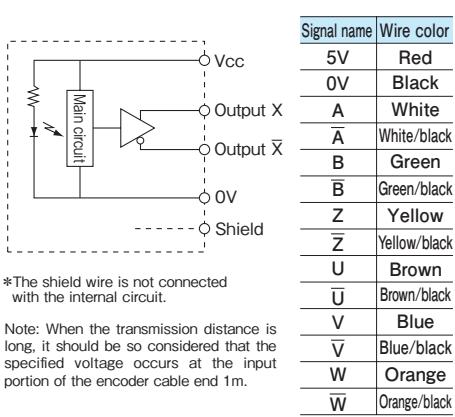
Specifications

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	DC5V±10%				
Current consumption	60mA or less (under no load)				
Detection system	Incremental				
Output pulse number (Standard)	40 50 60 100 125 200 250	600 800 1,000 ※1,000 ※1,024 1,200 1,200	40 50 60 100 200 250 300 400	450 500 512 600 720 800 900 1,000	1,024 1,024 1,200 1,500 1,800 2,000 2,000 1,000
(Pulse number/rotation)					
Output phase	A, \bar{A} , B, \bar{B} , Z, \bar{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)					100kHz
Output phase difference	A, B phase difference $90^\circ \pm 45^\circ$ ($T/4 \pm T/8$) Z phase $T \pm T/2$ With CS signal (U, V, W) 4 poles, 60° phase difference 3 signals				
Waveform rise/fall time	1μs or less (with 0.5m cable)				
Maximum allowable revolutions (mechanical)					6,000r/min
Working ambient temperature/ humidity					$-10^\circ C \sim 70^\circ C$ RH35%~90% no dewing
Storing ambient temperature					$-20^\circ C \sim 80^\circ C$
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 φ4.2 (φ6.8) 8-core(19-core) vinyl wire Insulated shield cable length 1m (length 0.5m)
Mass	60g	150g			

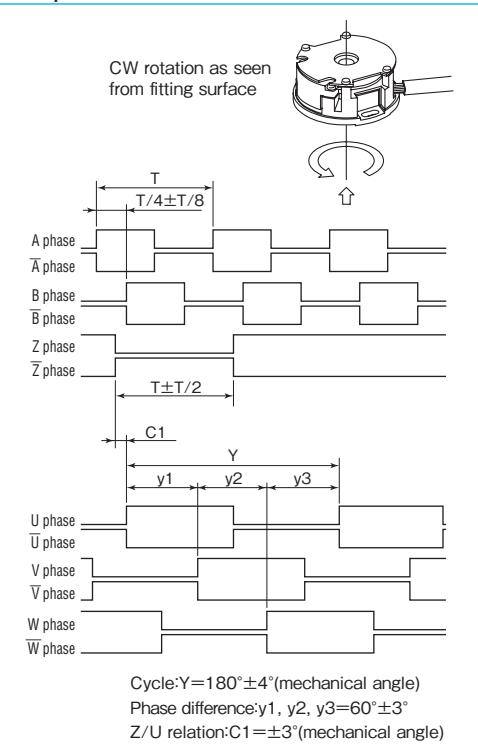
Allowable change amount of fitting shaft

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	$\pm 0.02mm$		$\pm 0.01mm$
	Thrust	$\pm 0.1mm$	$\pm 0.05mm$	$\pm 0.02mm$

Output circuit diagram

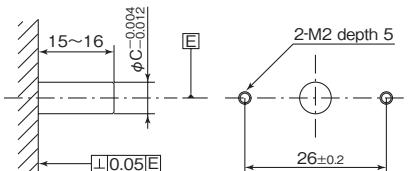


Output waveforms

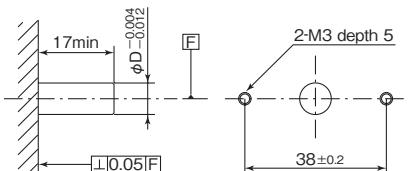


Fitting shaft dimensions

MGH-20



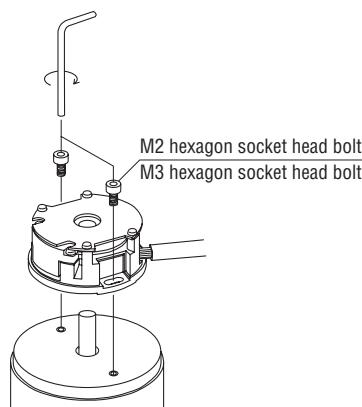
MGH-30



Assembling image of MGH series

MGH-20, 30

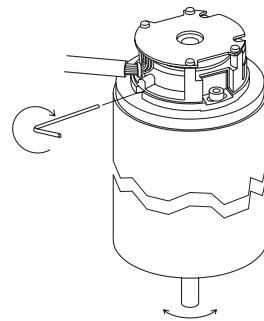
- Fix the encoder to the base of rotating shaft.



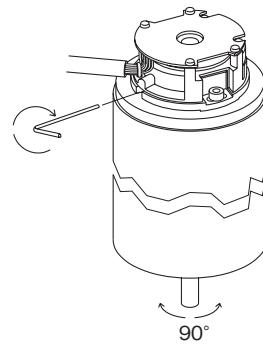
Tools to be used

- 0.89mm hexagon wrench
- 1.5mm hexagon wrench(MGH-20)
- 2.5mm hexagon wrench(MGH-30)

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



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



- Affix encoder to base of rotating axle.