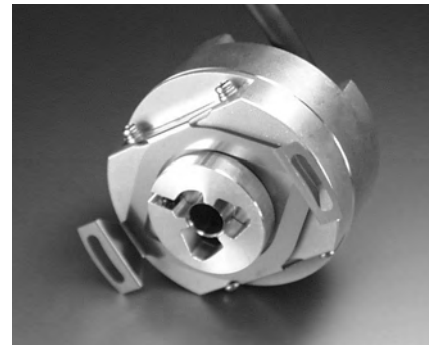


INCREMENTAL HOLLOW-SHAFT ENCODER

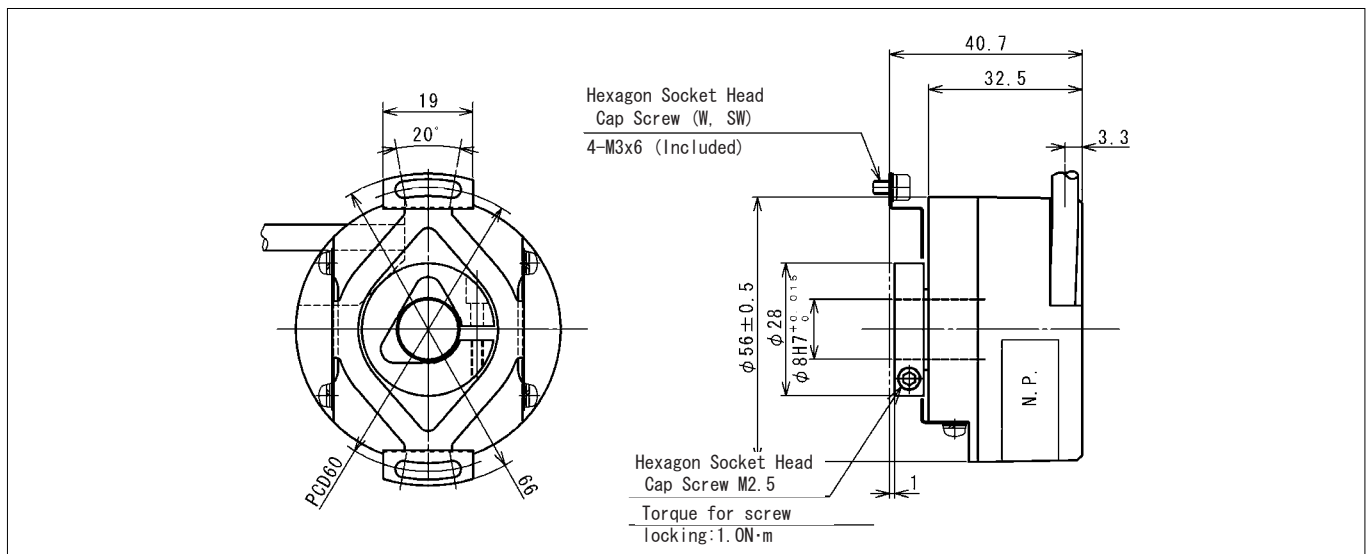
IRH5 Series

●Outer Diameter 56mm ●Length 40.7mm ●Shaft Diameter 8.0mm

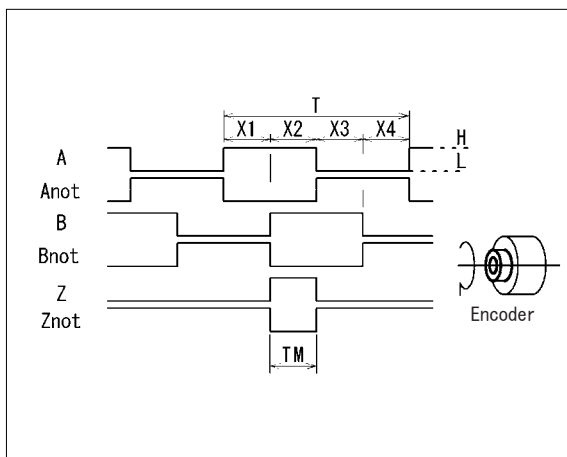


Model Name **IRH5X0** — **XXXX** — **XXX**
 Model Output Pulse (P/R) Function Number

Dimensions



Output Signals



Square-wave Accuracy

~5000P/R
 $X1+X2=0.5T \pm 0.1T$
 $X2+X3=0.5T \pm 0.1T$
 $Xn \geq 0.15T$ (n=1,2,3,4)
 $TM=0.25T \pm 0.1T$ (=X2)
 Position relationship of A&B channels and Z channel are as left.

5001~10000P/R (×2)
 $X1+X2=0.5P \pm 0.15P$
 $X2+X3=0.5P \pm 0.15P$
 $Xn \geq 0.1P$ (n=1,2,3,4)
 $TM=0.25P \pm 0.15P$ (=X2)
 Position relationship of A&B channels and Z channel are as left.
 $P=1.0T \pm 0.1T$

Signal Accuracy

~5000P/R
 Accumulative Angle Error : $\leq 0.2T$
 Pitch Error \square : $\pm 0.01T$
 Adjacent Pitch Error : $\pm 0.005T$

5001~10000P/R (×2)
 Accumulative Angle Error : $\leq 0.4T$
 Pitch Error : $\pm 0.1T$

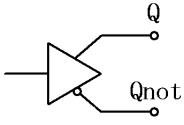
* $T=360^\circ / N$ (N:[P/R])

Wire Connection

Color	White	Black	Red	Pink	Olive	Blue	Yellow	Orange
IRH520	+5V	0V	A	Anot	B	Bnot	Z	Znot

※Shield=FG

Electrical Specifications

Item/Model	IRH520	
Output Pulse	500, 1000, 1024, 2000, 2048, 3000, 4096, 5000, 8192, 10000	
Supply Voltage (Vcc)	5V±0.5V	
Supply Current (No load)	≤70mA	
Output Type	Line Driver	
Output Circuit	 RS422A	
<input checked="" type="checkbox"/> Output Voltage <input checked="" type="checkbox"/>	H	≥2.4V
	L	≤0.5V
Output Current	±10mA	
Max. Applied Voltage	—	
Min. Load Resistance	—	
Rise Time	≤100ns	
Fall Time	≤100ns	
Response Frequency	0~300kHz	
Bypass Capacitor(0V-FG)	0.22 μF	
Bypass Capacitor (Vcc-FG)	0.22 μF	
Determinate Time of ABZ signals	Output signal is not stable in 30ms after the power is on.	

Mechanical Specifications

Mech. Perm. Speed	6000 <input checked="" type="checkbox"/>	r/min	
Starting Torque	≤0.008 <input checked="" type="checkbox"/>	N·m	at +25°C
Moment of Inertia	5×10 ⁻⁶ <input checked="" type="checkbox"/>	kg·m ²	
Mounting Shaft Spec.	Axial End Play	0.5 <input checked="" type="checkbox"/>	mm
	Shaft Runout	0.1 <input checked="" type="checkbox"/>	mm (T.I.R.)
	Perpendicularity	0.1 <input checked="" type="checkbox"/>	mm R30mm
Max. Accel. Speed	40000 <input checked="" type="checkbox"/>	rad/s ²	
Cable Length	1000 <input checked="" type="checkbox"/>	mm	Wire Thickness 0.18mm ² , Diameter 6.5mm, Twist Pair Shield Cable
Mass	Approx. 0.2 <input checked="" type="checkbox"/>	kg	Without Cable

Environmental Specifications

Operating Temperature	-20~+85 <input checked="" type="checkbox"/>	°C	Without Dewfall
Storage Temperature	-20~+85 <input checked="" type="checkbox"/>	°C	Without Dewfall
Vibration *1	100 <input checked="" type="checkbox"/>	m/s ²	25~500Hz, X·Y·Z Each Direction 2h
Shock *1	1000 <input checked="" type="checkbox"/>	m/s ²	6ms, Half Sin Pulse, X·Y·Z Each Direction 2 Times
Protection Grade *1	IP40 <input checked="" type="checkbox"/>	Equivalent	

*1 Test Conditions

Note Specifications subject to change without notice.

HEIDENHAIN

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