

## ※ IHU4808 SERIES

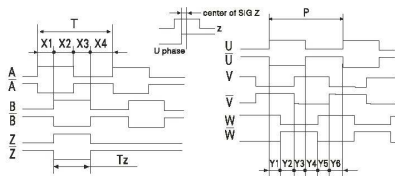
Hollow shaft encoder, axis inside diameter  $\Phi 8$  mm, housing diameter  $\Phi 48$  mm, with flex bracket flange, easy for installing, low price at high performance.

Extensive to use for servomechanism, especially for servomotor.



### ◆ Output waveform

90° Output phase difference, CW rotation (CW rotation as seen from fit surface)



Square-wave accuracy:  $X_1 + X_2 = 1/2T \pm 1/12T$   
 $X_3 + X_4 = 1/2T \pm 1/12T$

Pitch error of period:  $\pm 0.01T$

Pitch error of phase position:  $\leq 1/18T$

Z phase:  $T_z = 1/4T$  (1T, 1/2T, 1/4T...)

Period of pulses:  $T = 360^\circ / N$  (N : output pulses)

Signal accuracy:  $X_n = 1/4T + 1/12T$  (n=1, 2, 3, 4)

A leads B clockwise when viewing the encoder shaft end, The position of Z phase against A, B phase is not specified.

Period of UVW phase:  $P = 360^\circ / N$ ,  $\pm 1.5^\circ$  (N=2p, 3p, 4p...)

Phase difference:  $Y_n = P/6 \pm 1.5^\circ$  (n=1, 2, 3, 4, 5, 6)

Difference of phase Z and phase U:  $C \leq \pm 1^\circ$

Positional relationship of A&B phases and U, V&W phases are not specified.

### ◆ Terminal assignment

Signal	+5V	0V	SIG A	SIG A	SIG B	SIG B	SIG Z	SIG Z	SIG U	SIG U	SIG V	SIG V	SIG W	SIG W	Shield
Cable Color	Red	Bla	Gre	Bla/Gre	Whi	Bla/Whi	Yel	Bla/Yel	Bro	Bla/Bro	Gre	Bla/Gre	Ora	Bla/Ora	N.C

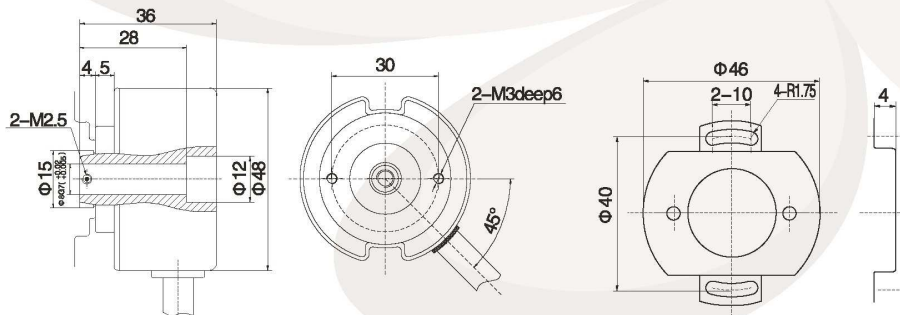
Note: Shield is attached to connector housing, 0.35 meter cable lengths (other cable lengths on order).

### ◆ Ordering code

IHU4808	—	001	G	2500	BZ1	—	6P	5	L
Series		Sequence Number	Connection	Number of Pulses	Output Signals		Period of UVW Phase	Supply Voltage	Output Circuit

Series: IHU4808, Radial cable: G, Number of pulses: 2500 p/r, Output signals: AABBZZUUUVWW,  $T_z = 1T$ , Period of UVW phase: 6P, Supply voltage: 5V DC, Output circuit: Line driver, Record: IHU4808-001G2500BZ1-6P5L

### ◆ Dimensions



### ◆ TECHNICAL SPECIFICATIONS

ELECTRICAL SPECIFICATIONS	
Output wave	Square wave
Output signals	A, B, Z, U, V, W, (Line driver output A, A, B, B, Z, Z, U, U, V, V, W, W phase)
Current consumption	$\leq 160\text{mA}$
Response Frequency	0~120KHz
Output phase difference	$90^\circ \pm 45^\circ$
Supply voltage	5V DC
Signal level	$V_H \geq 85\%V_{CC}$ , $V_L \leq 0.3V$
Number of pulses	1000, 1024, 2048(2P, 3P, 4P); 2000(2P, 3P, 4P, 6P); 2500(2P, 3P, 4P, 5P, 6P)(Other number of pulse available on request)
Output circuit	Line driver
MECHANICAL SPECIFICATIONS	
Speed without sealing	6000rpm
Rotor moment of inertia	Appr. $4.0 \times 10^{-6} \text{Kg} \cdot \text{m}^2$
Starting torque without sealing	$\leq 2.5 \times 10^{-3} \text{Nm}$ (+25°C)
Shock resistance	980m/s <sup>2</sup> , 6ms, 2 times each on XYZ
Vibration proof	50m/s <sup>2</sup> , 10~200Hz, 2 hours each on XYZ
Working life	MTBF $\geq 50000\text{h}$ (+25°C, 2000rpm)
Weight	Appr. 140g (with 0.35 meter cable)
ENVIRONMENTAL SPECIFICATIONS	
Working humidity	30~85% (No condensation)
Storage temperature	-40°C~110°C
Working temperature	-25°C~100°C
Protection class	IP54