

HOLLOW SHAFT

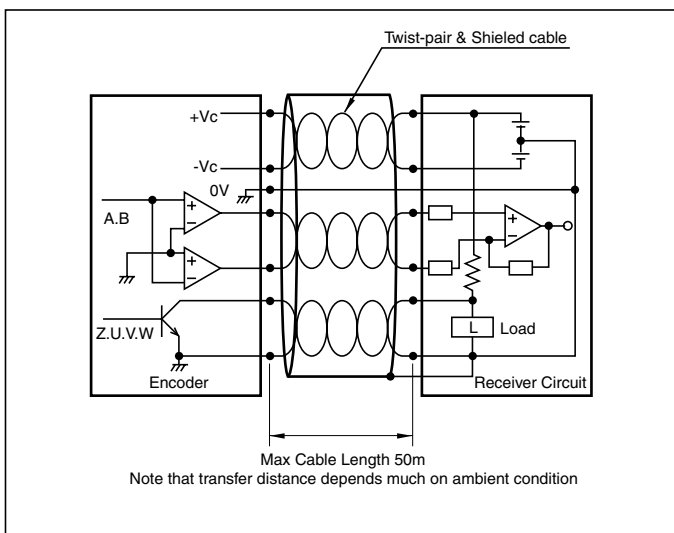
# Encoder

## OIH48 Series

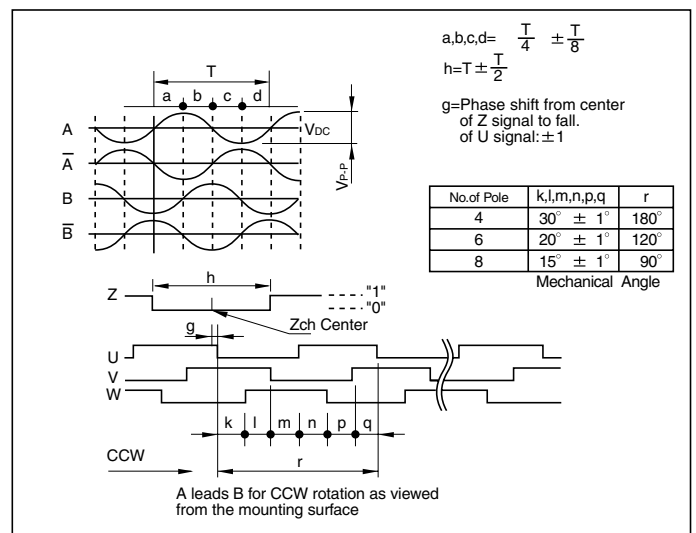
- Outer Diameter:  $\phi 48\text{mm}$
- Resolution: 1000~6000C/T  
with U,V,W commutation signals
- High Frequency Response: 150kHz Max
- Typical Application: AC Servo Motor  
Feed-back Device



### RECOMMENDED OUTPUT CIRCUITRY



### OUTPUT PHASE SHIFT



### ELECTRICAL SPECIFICATIONS

Resolution	1000~6000C/T		
Power Supply	DC $\pm 12\text{V} \pm 10\%$ 100mA Max		
Output Circuit	A, B	OP Amp	
	Z, U, V, W	Open Collector	
Frequency Response	150kHz Max		
Output Signal	A, B	V <sub>P-P</sub>	1V Min (3V typ)
		V <sub>bc</sub>	$0 \pm 0.5\text{V}$
	Z, U, V, W	"1"	Transistor off
		"0"	Transistor on

### MECHANICAL SPECIFICATIONS

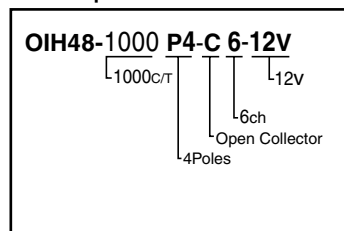
Friction Torque	$9.8 \times 10^{-3} \text{ N} \cdot \text{m}$ Max (100g-cm Max)	
Rotor Moment of Inertia	$6.5 \times 10^{-6} \text{ Kg} \cdot \text{m}^2$ Max (65g-cm <sup>2</sup> Max)	
Max Speed	100S <sup>-1</sup> (6000rpm)	
Allowable Misalignment on Mounting	Radial	0.05mm TIR Max
	Axial	0.2mm Max
	Angular	0.1° Max
Operating Temp. Range	$-20 \sim +75^\circ\text{C}$	
Storage Temp. Range	$-25 \sim +85^\circ\text{C}$	
Protection Index	IP=40	
Vibration (Test articles)	49m/S <sup>2</sup> (5G) 10~500Hz	
Shock (Test articles)	490m/S <sup>2</sup> (50G) 11msec	
Weight	0.3kg Max	

# Please designate Model Numbers using core numbers and suffix numbers according to the following scheme.

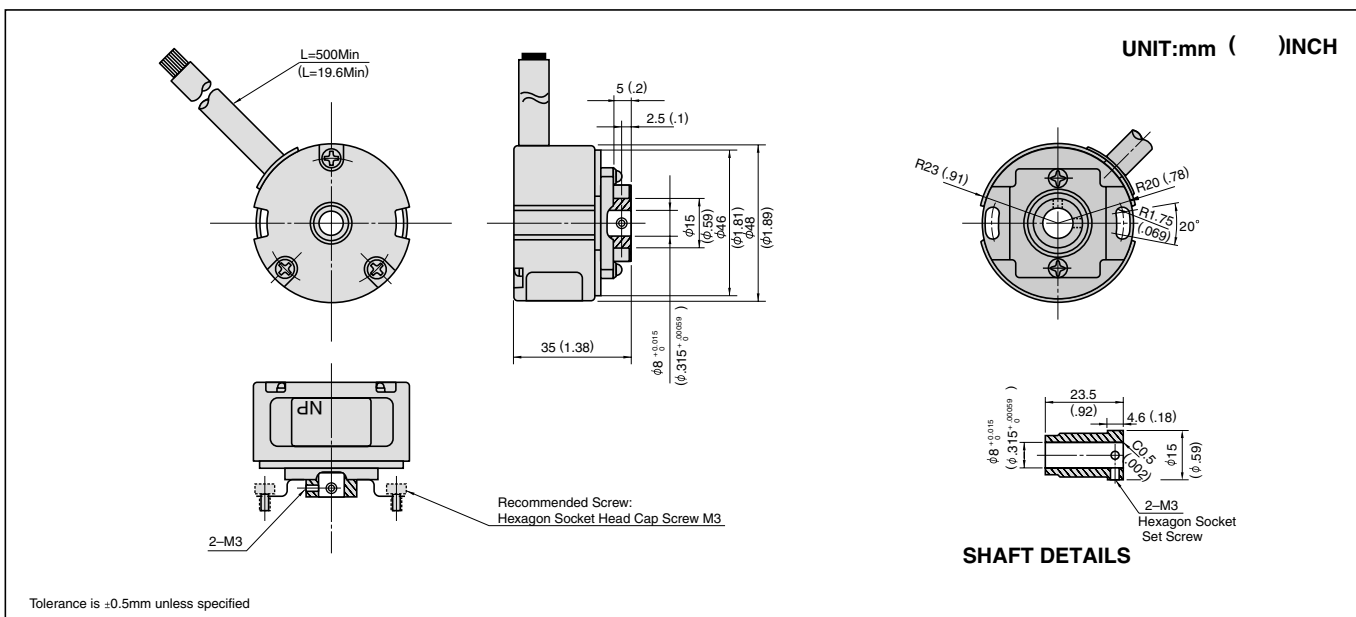
Function Name: **OIH48-**  **-C6-12V:SIN SIGNAL OUTPUT**

Resolution	Core No.	Motor Pole Numbers (U,V,W Signals)
1000C/T	TS5207	P4:4Poles(2C/T)
1024C/T	TS5208	P6:6Poles(3C/T)
1500C/T	TS5210	P8:8Poles(4C/T)
2000C/T	TS5212	
2048C/T	TS5213	
2500C/T	TS5214	
3000C/T	TS5231	
4096C/T	TS5216	
5000C/T	TS5217	
6000C/T	TS5233	

Example



## OUTLINE



## ELECTRICAL CONNECTIONS

Leadwire Color	Signal	Leadwire Color	Signal
Blue	Ach Output	Grey	NC
Blue/Black	Āch Output	Grey/Black	NC
Green	Bch Output	White	DC+12V
Green/Black	Āch Output	White/Black	DC-12V
Yellow	Zch Output	Black	GND(0V)
Yellow/Black	Ūch Output	Red	NC
Brown	Vch Output		
Brown/Black	Ūch Output		

Twisted Pair Cable



### WARRANTY.

Tamagawa Seiki warrants that this product is free from defects in material or workmanship under normal use and service for a period of one year from the date of shipment from its factory. This warranty, however, excludes incidental and consequential damages caused by careless use of the product by the user. Even after the warranty period, Tamagawa Seiki offers repair service, with charge, in order to maintain the quality of the product. The MTBF (mean time between failures) of our product is quite long; yet, the predictable failure rate is not zero. The user is advised, therefore, that multiple safety means be incorporated in your system or product so as to prevent any consequential troubles resulting from the failure of our product.

ISO 14001 Certificate on Head office

ISO 9001

**TAMAGAWA TRADING CO., LTD.**

**A COMPANY OF TAMAGAWA SEIKI CO., LTD.**

**HEAD OFFICE:**

1879 OHYASUMI, IIDA, NAGANO PREF, 395-8515 JAPAN

PHONE : 0265-21-1840

FAX : 0265-21-1864

URL <http://www.tamagawa-seiki.co.jp>

Specifications are subject to change without notice

'99.6

T12-1555N1 2,000 1999.6