

HOLLOW SHAFT

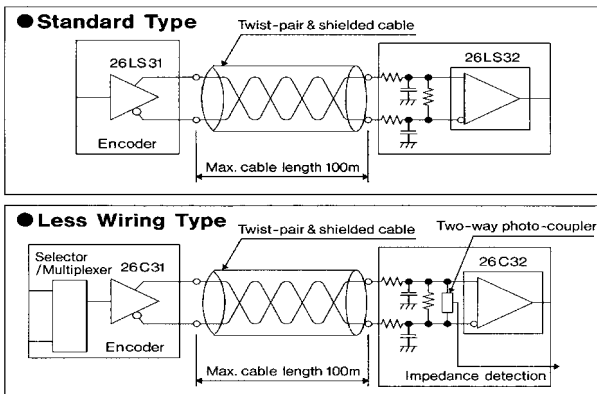
Encoder

OIH48 Series

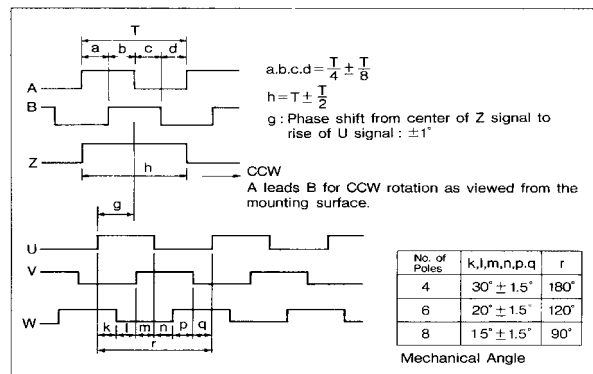
- Outer Diameter : 48mm
- Resolution : 1000 - 6000 C/T with U, V, W commutation signals
- High Frequency Response : 200 kHz Max.
- -20° C to +100° C Operating Temperatures
- Standard line driver output provides greater noise immunity and longer cable capability (1km Max.)
- Typical Application : AC Servo Motor Feed-back Device
- Two types available : Standard Type with 14 wires & Less Wiring Type with 8 wires



RECOMMENDED OUTPUT CIRCUITRY



OUTPUT PHASE SHIFT



ELECTRICAL SPECIFICATIONS

Resolution	100 ~ 6000 C/T
Power Supply	DC +5V \pm 5%, 200mA Max
Output Circuit	Line Driver 26LS31 (26C31) Source Current : 20 mA Max. Sink Current : 20mA Max.
Frequency Response	200kHz Max. (UP TO 85° C) 100kHz Max. (UP TO 100° C)
Rise and Fall Time	100 nsec. Max.

* Open collector output (supply voltage 5V or 12V) is available on request.

MECHANICAL SPECIFICATIONS

Friction Torque	9.8 X 10 ⁻³ N.m Max.	
Rotor Moment of Inertia	6.5 X 10 ⁻⁶ kg.m ² Max. (65g - cm ² Max.)	
Max. Speed	100 s ⁻¹ (6000 rpm)	
Allowable Misalignment on Mounting	Radial	0.05mm TIR Max.
	Axial	0.2mm Max.
	Angular	0.1° Max.
Operating Temp.	-20° C ~ + 100° C	
Storage Temp.	-25° C ~ + 100° C	
Environ. Protection	IP40	
Vibration (test data)	49m / s ² (5G) 10 ~ 500 Hz	
Shock (test data)	490m / s ² (50G) 11msec	
Weight	0.3 kg Max.	

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

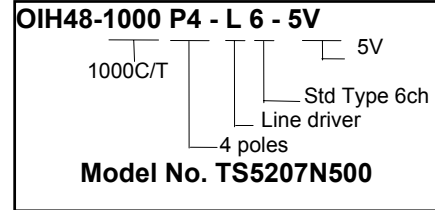
Function Name **OIH48-** **-L** **-5V**

Resolution	Core No.
1000 C/T	TS5207
1024 C/T	TS5208
1500 C/T	TS5210
2000 C/T	TS5212
2048 C/T	TS5213
2500 C/T	TS5214
3000 C/T	TS5231
4096 C/T	TS5216
5000 C/T	TS5217
6000 C/T	TS5233

Motor Pole Numbers (U,V,W signals)	Suffix No.	
	Standard Type	Less Wiring Type
P4: 4 poles (2C/T)	N500	
P6: 6 poles (3C/T)	N510	N5XX
P8: 8 poles (4C/T)	N530	

No.	Function
6	Standard Type 6ch
3	Less wire Type 3ch

Example



ELECTRICAL CONNECTION

• Standard Type

Leadwire Colour	Signal
Red	DC +5V
Black	GND
Blue	A ch Output
Blue/Black	A- ch Output
Green	B ch Output
Green/Black	B- ch Output
Yellow	Z ch Output
Yellow/Black	Z- ch Output
Brown	U ch Output
Brown/Black	U- ch Output
Grey	V ch Output
Grey/Black	V- ch Output
White	W ch Output
White/Black	W- ch Output

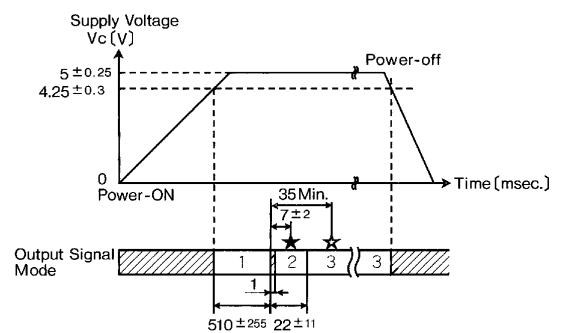
Twisted Pair Cable

• Less Wire Type

Leadwire Colour	Function (Mode)		
	1	2	3
Blue	HZ	U ch Output	A ch Output
Blue/Black	HZ	U- ch Output	A- ch Output
Green	HZ	V ch Output	B ch Output
Green/Black	HZ	V- ch Output	B- ch Output
Yellow	HZ	W ch Output	Z ch Output
Yellow/Black	HZ	W- ch Output	Z- ch Output
Red	DC +5V		
Black	GND		

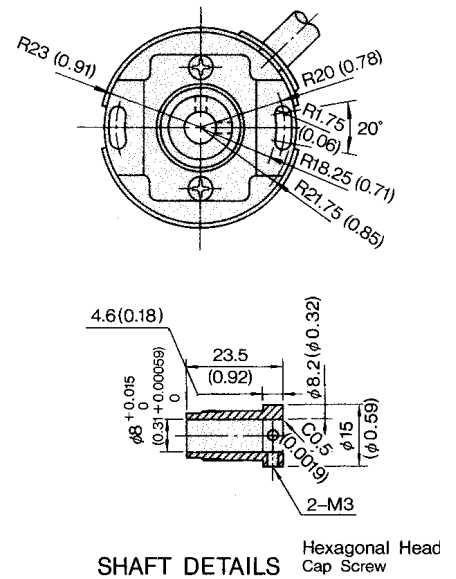
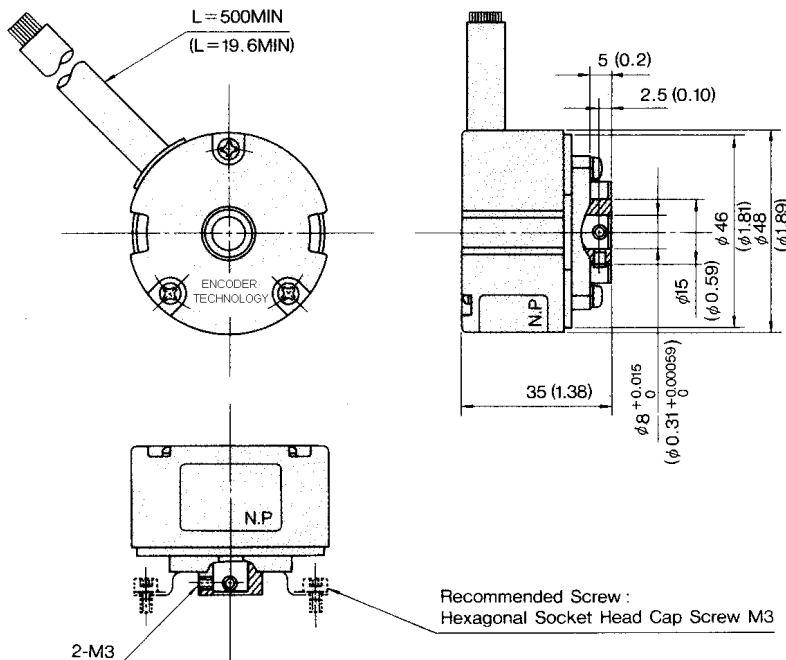
Twisted Pair Cable HZ : High Impedance

• Timing chart for Less Wire Type



Figures show No. of Function Mode.
 ★ : Recommended position for latching U, V & W Phases.
 ☆ : Recommended position to start counting A, B & Z Phases.
 : Non-using zones.

MECHANICAL DIMENSIONS



Tolerance is ±0.5mm unless specified.

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