

**Motortronics®**

**ROTARY ENCODERS**

# FA-CODER®



OIH35

**SmartAbs®**



# INCREMENTAL

## APPLICATION

Measuring Instruments

## FEATURES

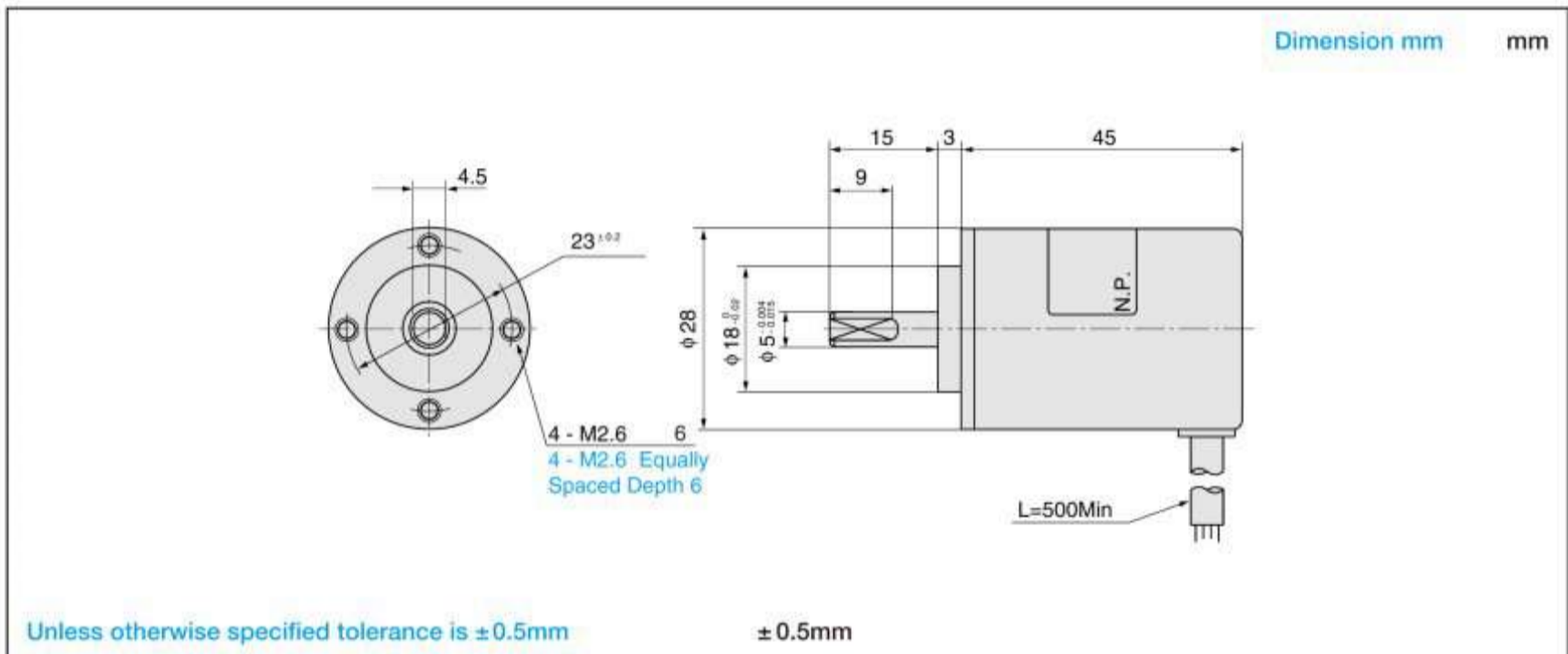
Small Size

Rigid Bearing

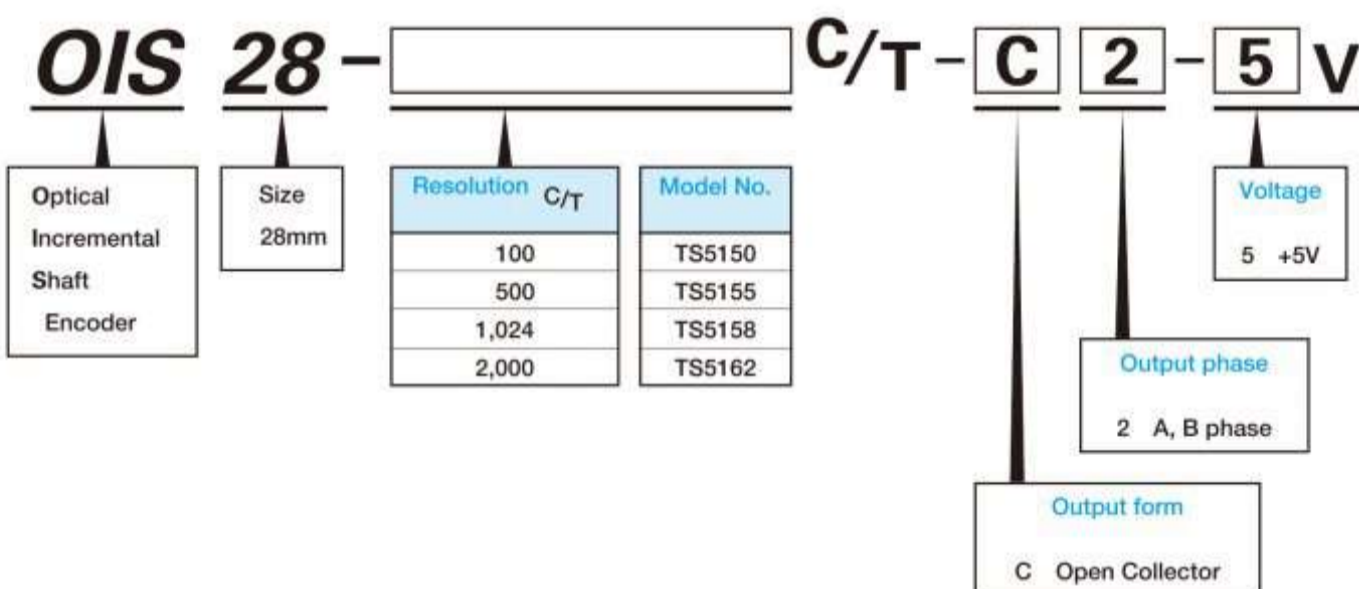


TS5150

# OIS28Series



## DESIGNATE THE NAME OF FUNCTION WHEN ORDERING



For special cases, please consult us.



# SPECIFICATIONS

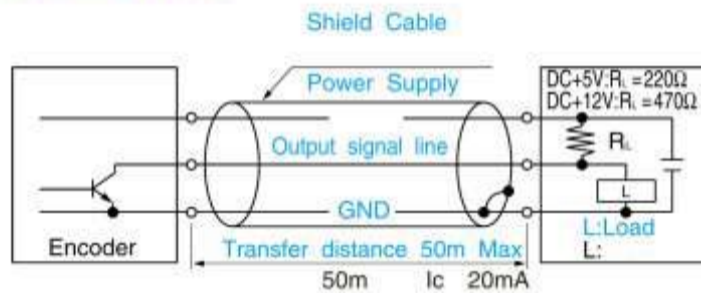
Electrical Spec.	
Resolution	100 2,500 C/T
Supply Voltage	DC +5V - 5% DC +12V + 5% DC +5V ± 5%
Consumption Current	100mA Max
Output Form	Open Collector Maximum Allowable Output Voltage 40V Maximum Allowable Sink Current 30mA
	Line Driver Source Current 20mA Max Sink Current 20mA Max
Maximum Response Frequency	200kHz
Rise time, Fall time	Line Driver 200nsec

Mechanical Spec.	
Starting Torque	$4.4 \times 10^{-3} \text{ N} \cdot \text{m}$ 45gf · cm Max
Moment of Inertia	$1.5 \times 10^{-6} \text{ kg} \cdot \text{m}^2$ 15g · cm <sup>2</sup> Max
Maximum Rotating Speed	$5,000 \text{ min}^{-1}$ 5,000rpm
Allowable Shaft Load	Radial 21.6N 2.2kgf Max
	Axial 10.8N 1.1kgf Max
Operating Temp. Range	O.C -10 +70°C
	L.D 0 +75°C
Storage Temp. Range	-20 +85°C
Protective Construction	IP = 50
Vibration	$49 \text{ m/s}^2$ 5G
Shock	$490 \text{ m/s}^2$ 50G
Mass	0.15kg Max

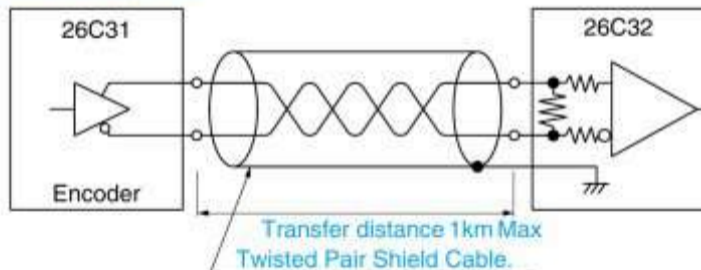
INCREMENTAL

## CIRCUIT AT OUTPUT STAGE (EXAMPLE)

### Open Collector Output



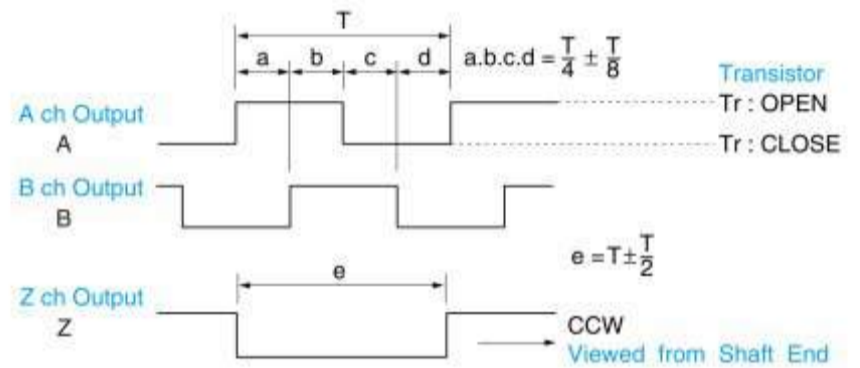
### Line Driver Output



Note that transfer distance depends much on ambient condition.

Use transmission cable after verifying effects of impedance characteristics, etc.

## OUTPUT PHASE SHIFT



Note For open collector output, above voltage wave form shall be obtained by loading a  $R_L$  shown in the left figure.

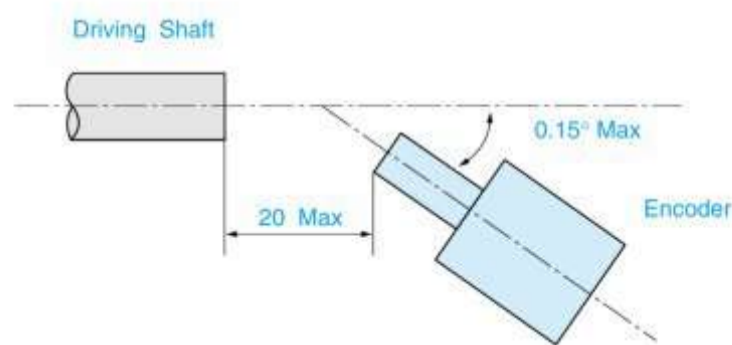
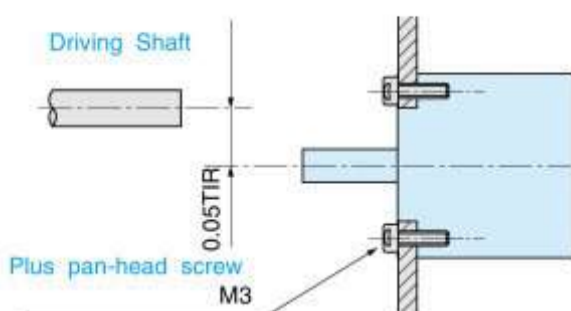
## CONNECTION TABLE

Lead color	Open Collector Output	Line driver Output
RED	DC+5 +12V	DC+5V
BLACK	GND	GND
YELLOW	Z ch Output	A ch Output
WHITE	GND	A ch Output
BLUE	A ch Output	B ch Output
GREEN	B ch Output	B ch Output
BROWN		Z ch Output
ORANGE		Z ch Output

## ATTACHING WAY (EXAMPLE)

Note that attaching alignment can be changed by the couplings when coupled to the driving shaft.

Dimension mm mm





ROTARY ENCODERS

# FA-CODER®

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Digital techniques in business industry have been greatly advanced. Among these, necessity for converting analog like rotating value, shaft angle position, etc. to digital has been increased as measurement for physical value and automation for control system are advanced. Encoders, at present, have been widely used for factory automations, measurements, office automation devices, medical equipment, aviations and universal fields.

Various kinds of encoders (FA-CODER® as trade mark) from small to high resolution are available to meet all of the requirements. High performance encoders supported by these high disk producing techniques are available.

