

**Motortronics®**

**ROTARY ENCODERS**

# FA-CODER®



OIH35

**SmartAbs®**



# INCREMENTAL

## APPLICATION

Iron Steel Line  
Machine Tools  
Paper Producing Line

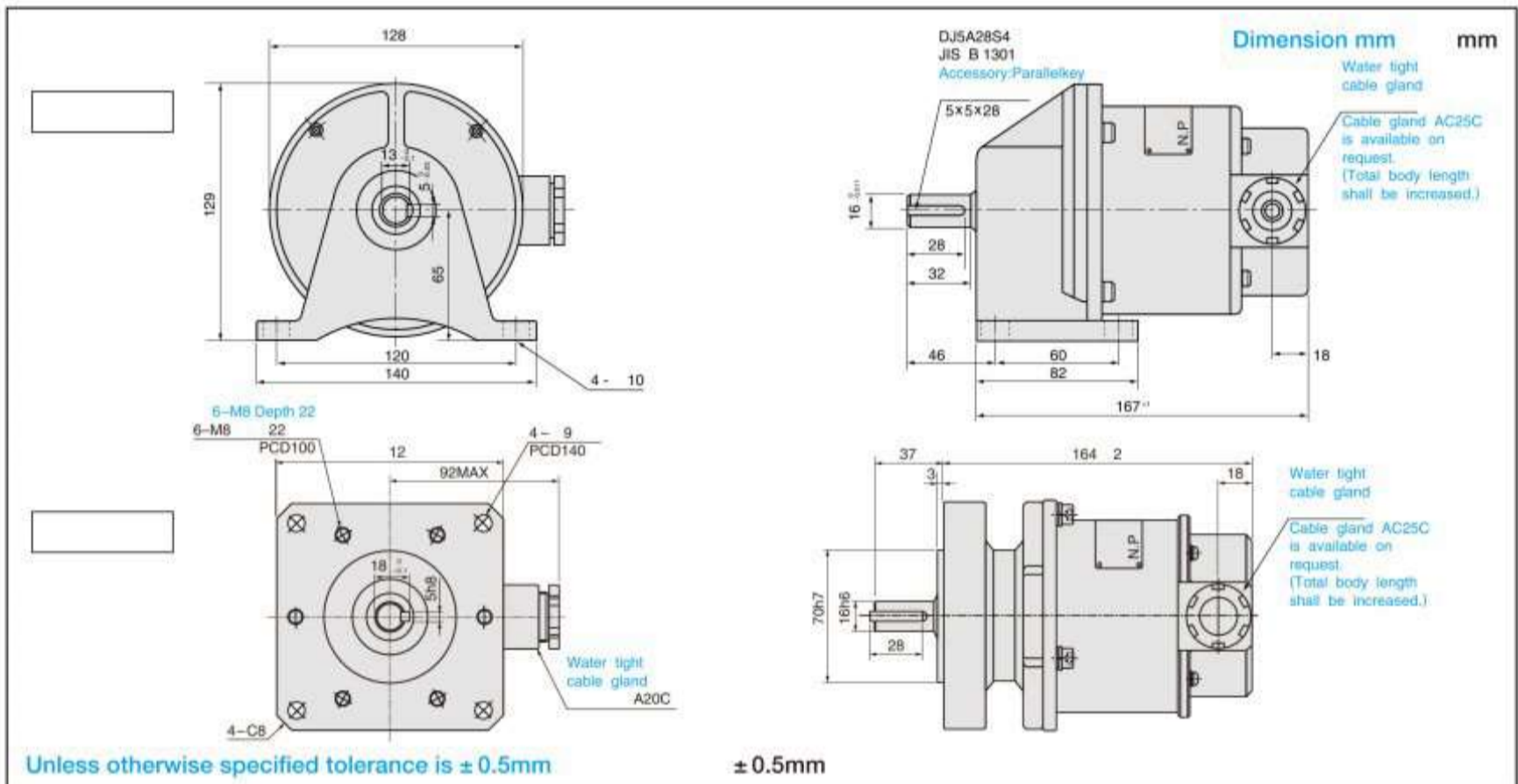
## FEATURES

Ultra Rugged Type  
Water-Proof IP 57



TS5080

# OIS128 Series



## DESIGNATE THE NAME OF FUNCTION WHEN ORDERING

**OIS 128** - [ ] **C/T** - [ ] **2** - **24V**

Resolution	C/T	Model No.
25		TS5080
200		TS5081
300		TS5082
600		TS5083
900		TS5084
1,200		TS5085
1,500		TS5086
2,500		TS5088
5,000		TS5090

Optical Incremental Shaft Encoder

Size 128mm

Voltage 24 +24V

Output phase 2 A, B phase

Output form  
T Voltage Output  
P Complementary Output

## STANDARD ITEM

Description	Size	Resolution	Output form	Output Phase	Voltage	N-number N
OIS	128	[ ] C/T	T	2	24V	N10
			P	2		N100
	120	[ ] C/T	T	2		N310
			P	2		N300

For special cases, please consult us.

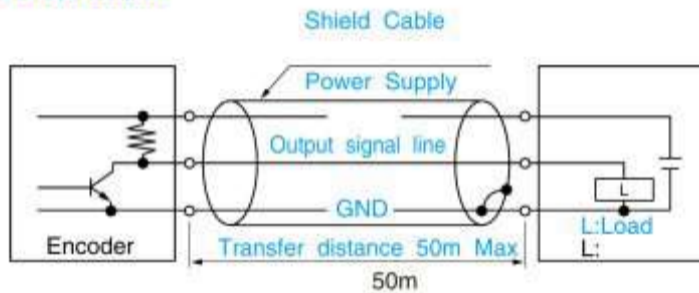
# SPECIFICATIONS

Electrical Spec.	
Resolution	25C/T 5,000C/T
Supply Voltage	DC + 24V ± 20%
Consumption Current	300mA Max
Output Form	Voltage Output H DC + 24V ± 20% L DC + 0.5V Max
	Complementary Output H DC + 24V ± 20% L DC + 1.1V Max
Maximum Response Frequency	25kHz
Rise time, Fall time	5 μ sec Max

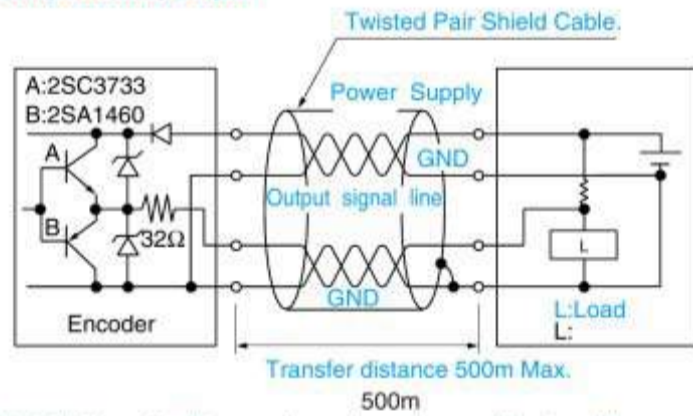
Mechanical Spec.	
Starting Torque	0.2 N · m 2kgf · cm Max
Moment of Inertia	$5.0 \times 10^{-5} \text{ kg} \cdot \text{m}^2$ 500g · cm <sup>2</sup> Max
Maximum Rotating Speed	$2,500 \text{ min}^{-1}$ 2,500rpm
Allowable Shaft Load	Radial 392N 40kgf Max
	Axial 49N 5kgf Max
Operating Temp. Range	0 +50°C
Storage Temp. Range	-20 +85°C
Protective Construction	IP = 57
Vibration	98m/s <sup>2</sup> 10G
Shock	980m/s <sup>2</sup> 100G
Mass	7kg Max      8kg Max

## CIRCUIT AT OUTPUT STAGE (EXAMPLE)

### Voltage Output



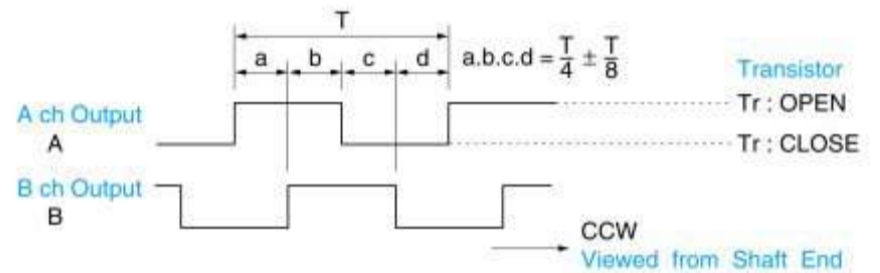
### Complementary Output



Note that transfer distance depends much on ambient condition.

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

## OUTPUT PHASE SHIFT



## CONNECTION TABLE

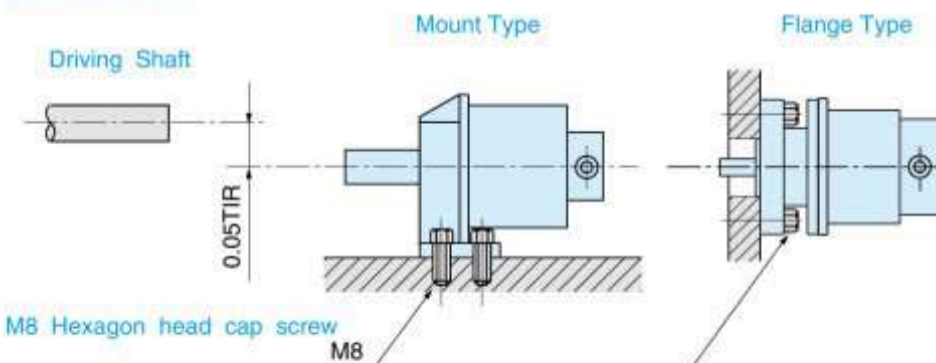
PIN	Function	
	Voltage Output	Complementary Output
1	DC+24V	DC+24V
2	GND	GND
3	GND	Ach Output
4	Ach Output	GND
5	Bch Output	Bch Output
6		GND

Output cable is available upon request.

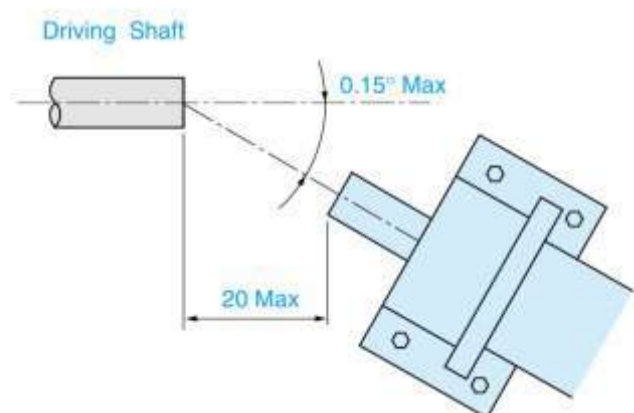
Wire connection to terminal block: Please remove the cover by detaching the 4 pcs. M4 hexagon socket head bolts. When assembling the cover, insert the O-ring securely, and screw the bolts by a torque 44kgf · cm.

## ATTACHING WAY (EXAMPLE)

Dimension mm      mm



44kg · cm



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

# OPTIONS

## COUPLING

Allowable displacement for attaching.

Parallel displacement 0.1mm.

0.1mm

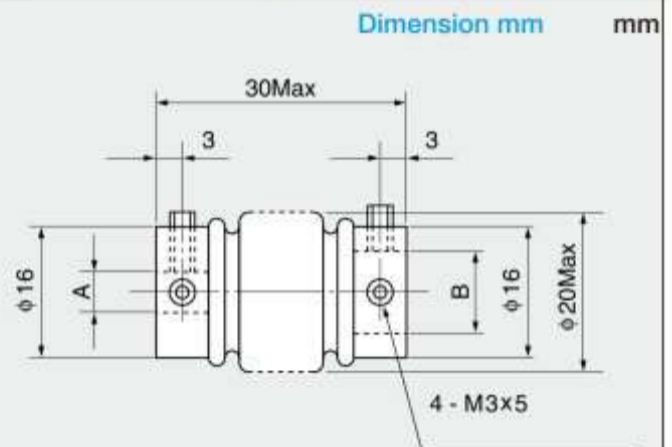
Angle displacement 0.5deg.

0.5deg

### Bellows Coupling

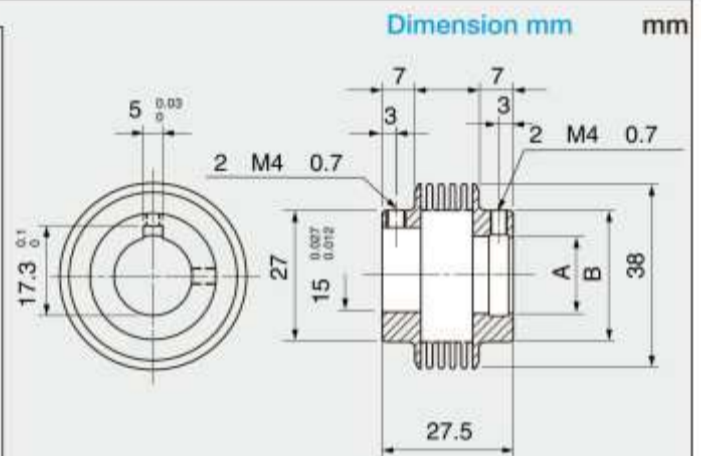
Model	A	B
MU939N2	$6.345^{+0.015}_0$	$6^{+0.015}_0$
MU939N3	$6.345^{+0.015}_0$	$10^{+0.018}_0$

Twisted torque  $9.8 \cdot 10^{-1} \text{ N} \cdot \text{m/deg}$   
10kgf · cm



Model	A	B
MU1568N1	$12^{+0.027}_{0.012}$	23
MU1568N2	$8^{+0.022}_{0.007}$	18
MU1568N3	$16^{+0.027}_0$	27

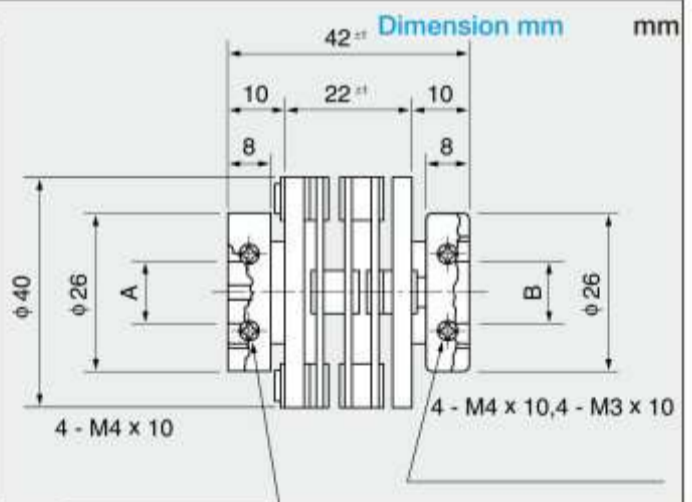
Twisted torque 3.3 N · m  
4kgf · cm



### Diafram Coupling

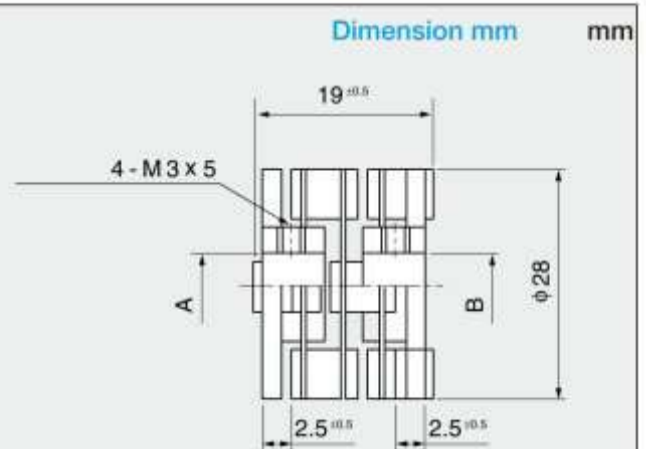
Model	A	B
MU714	$10^{+0.02}_0$	$10^{+0.02}_0$
MU714N4	$10^{+0.02}_0$	$6^{+0.02}_0$

Twisted torque 1.75 N · m/deg  
16kgf · cm



Model	A	B
MU1396N1	$6^{+0.01}_0$	$6^{+0.01}_0$
MU1396N2	$6^{+0.01}_0$	$8^{+0.01}_0$
MU1396N3	$6^{+0.01}_0$	$4^{+0.01}_0$

Twisted torque  $3.92 \cdot 10^{-1} \text{ N} \cdot \text{m/deg}$   
4kgf · cm



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.

