

SHAFT TYPE

38S Model



Small Standard Model

•Wide Range of Resolution from 100 to 4096 P/R.

Model



38S - [] [] - [] [] - 6 - 50 - B00E

Resolution

Output Mode

Outer diameter shaft
6 : $\phi 6$

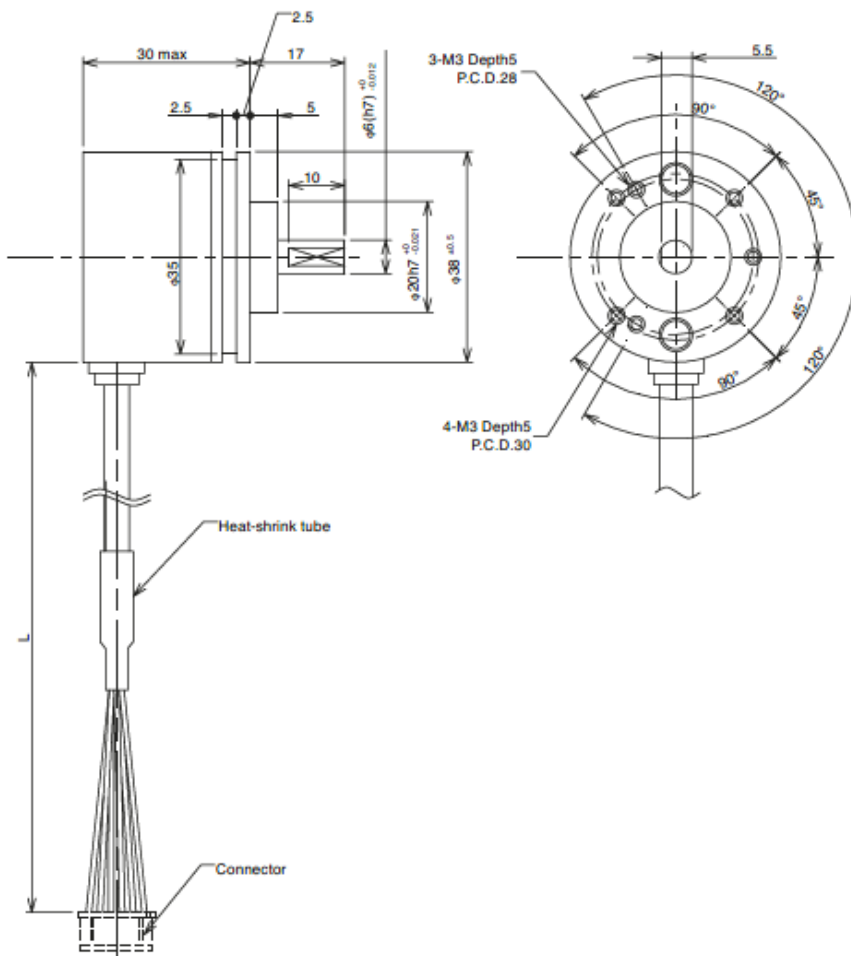
Cable Length
50 : 500mm

Complying with RoHS

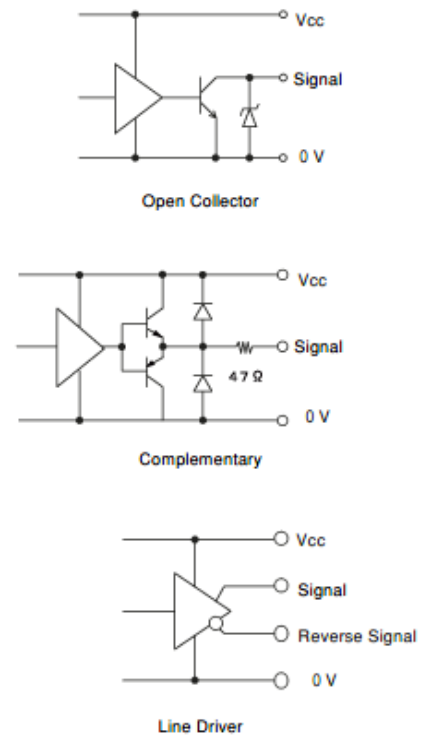
2MC : A, B, Z Open Collector Output
2MT : A, B, Z Complementary Output
2MD : A, B, Z Line Driver Output

100	100 P/R	360	360 P/R	600	600 P/R	2000	2000 P/R	4000	4000 P/R
200	200 P/R	400	400 P/R	800	800 P/R	2048	2048 P/R	4096	4096 P/R
250	250 P/R	500	500 P/R	1000	1000 P/R	2500	2500 P/R	-	-
300	300 P/R	512	512 P/R	1024	1024 P/R	3600	3600 P/R	-	-

External Dimension



Output Circuit

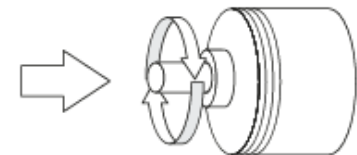
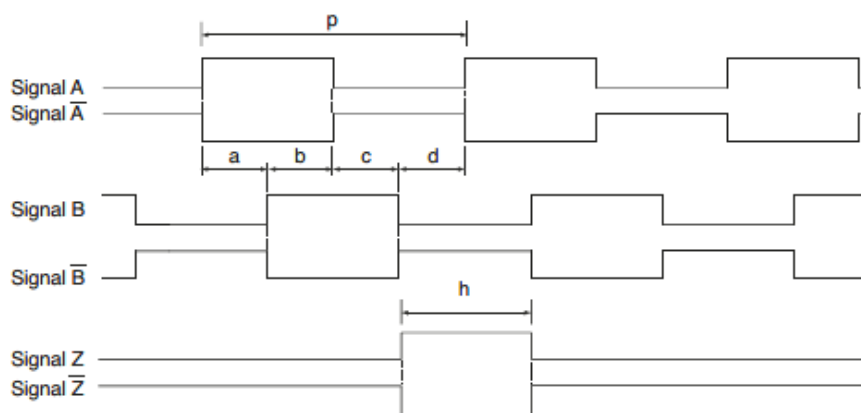


Electrical Spec

TYPE		2MC	2MT	2MD
Power Supply(Vcc)		DC 4.5 to 30V (Ripple 3% or less(P-P))		DC 4.5 to 13.2V (Ripple 3% or Less(P-P))
Current Consumption		30mA Max	60mA Max	30mA Max
Output Voltage	"H"	-	Vcc -3V Min	2.5V Min
	"L" *1	0.5V Max	3V Max	0.5V Max
Maximum Sink Current		40mA		20mA
Maximum Frequency Response	1024P/R or less	120kHz		
	2000P/R or more	240kHz		
Rise & Fall Time		1μs Max	200ns Max	100ns Max

*1) at Maximum Sink Current

Wave Form



$$P = 1 / \text{Resolution}$$

Line driver output is available for only \bar{A} , \bar{B} , \bar{Z} signal.

$$\text{Signal A,B} \quad a, b, c, d = (P/4) \pm (P/8)$$

$$\text{Duty} = (P/2) \pm (P/4)$$

$$\text{Signal Z} \quad (P/4) \leq h \leq (3P/4)$$

Electrical Connections

Connector Hirose Electric Co., Ltd. DF3-6S-2C

Open Collector · Complementary		
1	Red	Vcc
2	Black	0 V
3	Blue	Sig A
4	White	Sig B
5	Yellow	Sig Z
6	Shield	N.C

Connector Hirose Electric Co., Ltd. DF3-9S-2C

Line Driver		
1	Red	Vcc
2	Black	0 V
3	Green	Sig A
4	Blue	Sig \bar{A}
5	White	Sig B
6	Gray	Sig \bar{B}
7	Yellow	Sig Z
8	Orange	Sig \bar{Z}
9	Shield	N.C

Mechanical Spec

Starting Torque	0.98×10 ⁻³ N·m Max	
Angular Acceleration	1×10 ⁵ rad·s ²	
Shaft Loading	Thrust	19.6N
	Radial	29.4N
Moment of Inertia	8×10 ⁻⁷ kg·m ²	
Maximum Permissible Speed	6000min ⁻¹	
Net Weight	100g Max(Without Cable)	

Environmental Spec

Operating Temperature	-10°C~+85°C
Storage Temperature	-30°C~+85°C
Humidity	RH 85% Max No Condensation
Vibration	10~55 Hz / 1.5mm X, Y, Z Each 2h
Shock	490m/s ² , 11ms X, Y, Z Each 3 times
Ingress Protection	IP50

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