

SHAFT TYPE

38SG Model



Small & Short delivery Model

- Compact Sized Encoder with OD38mm x L30mm.

Model



38SG- - - -6-50-N 00E

Resolution

Signals

Output

Outer diameter
shaft

Cable Length

Complying
with
RoHS

— 6 : φ6

— 50 : 500mm

V : Voltage Output

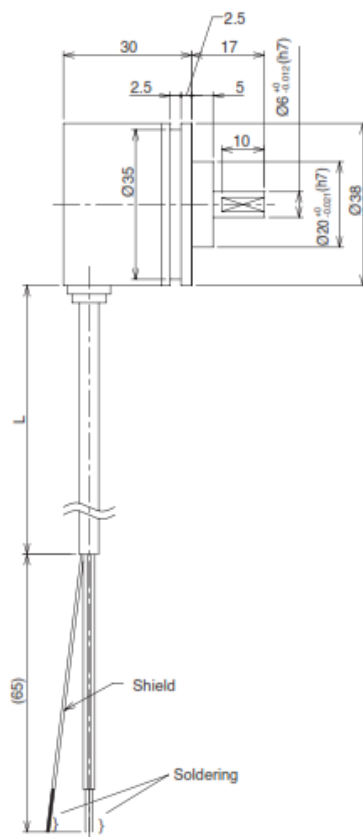
C : Open Collector Output

D : Line Driver Output

2 : Signal A,B
2M : Signal A,B,Z

Signal A,B,Z	500	500P/R	1000	1000P/R	1024	1024P/R	1800	1800P/R	2000	2000P/R	2048	2048P/R
Signal A,B	100	100P/R	200	200P/R	300	300P/R	360	360P/R	400	400P/R	600	600P/R

External Dimension



3-M3 P=0.5
Depth4 P.C.D30

Equally divided along
circumference.

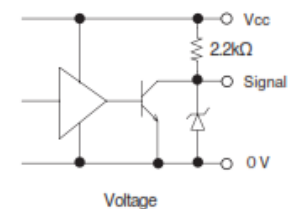
3-M3 P=0.5
Depth5 P.C.D28

Equally divided along
circumference.

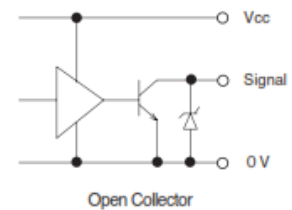
4-M3 P=0.5
Depth5 P.C.D30

Equally divided along
circumference.

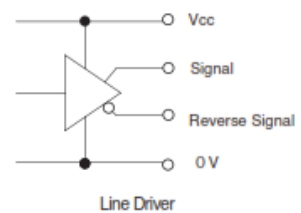
Output Circuit



Voltage



Open Collector



Line Driver

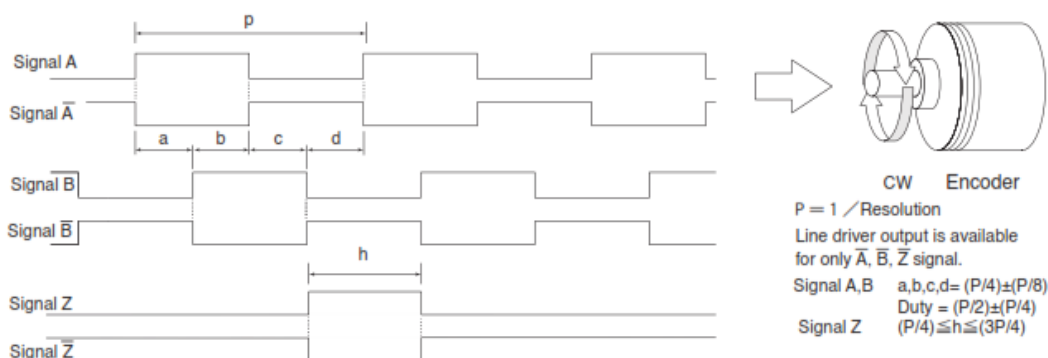
38SG

Electrical Spec

TYPE		2V 2MV	2C 2MC	2D 2MD
Power Supply(Vcc)		DC 3.35V to 13.2V (Ripple 3% or less (P-P))	DC 3.35V to 34.5V (Ripple 3% or less (P-P))	DC 3.35 to 5.25V (Ripple 3% or Less(P-P))
Current Consumption		400mA Max		
Output Voltage	"H"	Vcc-1V Min	-	2.5V Min
	"L" *1	0.4V Max		0.5V Max
Maximum Sink Current		20mA	35mA	20mA
Maximum Frequency Response		120kHz		
Rise & Fall Time		1μs Max (sink current 10mA / cable length 2m)	1μs Max (load 1kΩ / cable length 2m)	100ns Max (current ±20mA)

*1) at Maximum Sink Current

Wave Form



Electrical Connections

Voltage/Open Collector		Line Driver	
Red	Vcc	Red	Vcc
Black	0 V	Black	0 V
Blue	Sig A	Green	Sig A
White	Sig B	Blue	Sig $\bar{A}$
Yellow	Sig Z	White	Sig B
Shield	N.C	Gray	Sig $\bar{B}$
		Yellow	Sig Z
		Orange	Sig $\bar{Z}$
		Shield	N.C

Mechanical Spec

Starting Torque		$0.98 \times 10^{-3} \text{ N} \cdot \text{m}$ Max
Shaft Loading	Thrust	19.6N
	Radial	29.4N
Moment of Inertia		$1 \times 10^{-6} \text{ kg} \cdot \text{m}^2$
Maximum Permissible Speed		6000 min^{-1}

Environmental Spec

Operating Temperature	$-10^{\circ}\text{C} \sim +85^{\circ}\text{C}$
Storage Temperature	$-30^{\circ}\text{C} \sim +85^{\circ}\text{C}$
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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