SHAFT TYPE

38SG Model

Small & Short delivery Model

·Compact Sized Encoder with OD38mm x L30mm.

Model

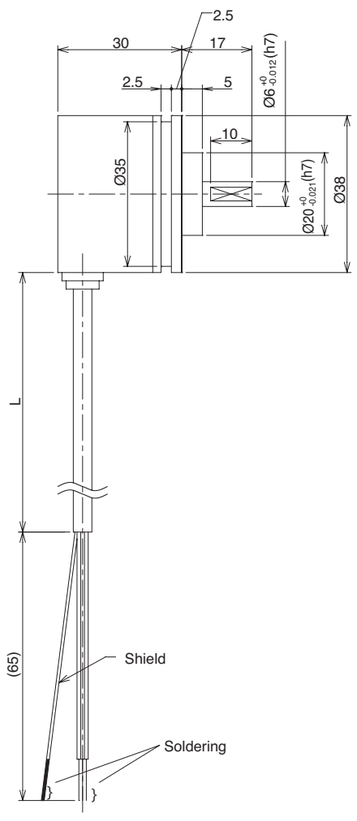
TÜV CE EN 50081-2 EN 50082-2

38SG-□□-□□□-6-50-N 00E

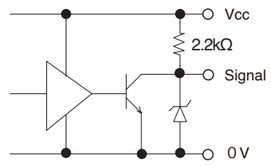
- Resolution
- Signals: 2 : Signal A,B; 2M : Signal A,B,Z
- Output Mode: V : Voltage Output; C : Open Collector Output; D : Line Driver Output
- Outer diameter shaft: 6 : φ6
- Cable Length: 50 : 500mm
- Complying with RoHS

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

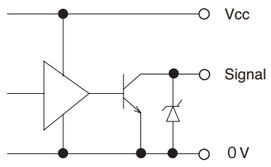
External Dimension



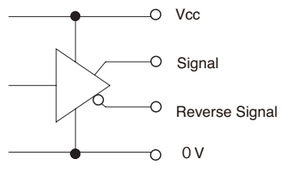
Output Circuit



Voltage



Open Collector



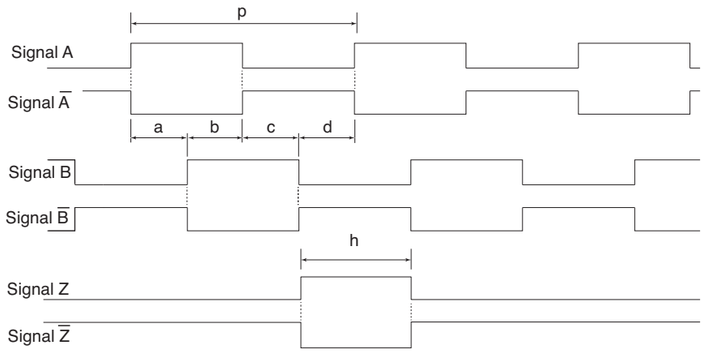
Line Driver

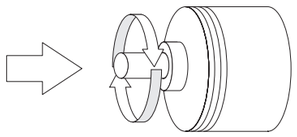
Electrical Spec

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





CW Encoder

P = 1 ／Resolution

Line driver output is available for only Ā, B̄, Z̄ signal.

Signal A,B	a,b,c,d= (P/4)±(P/8) Duty = (P/2)±(P/4)
Signal Z	(P/4)≦h≦(3P/4)

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 Ā
Yellow	Sig Z	White	Sig B
Shield	N.C	Gray	Sig B̄
		Yellow	Sig Z
		Orange	Sig Z̄
		Shield	N.C

Mechanical Spec

Starting Torque		0.98×10^{-3}N·m Max
Shaft Loading	Thrust	19.6N
	Radial	29.4N
Moment of Inertia		1×10^{-6} kg·m²
Maximum Permissible Speed		6000min⁻¹

Environmental Spec

Operating Temperature	–10℃ ~ +85℃
Storage Temperature	– 30℃ ~ +85℃
Humidity	RH 85% Max No Condensation
Vibration	10~55 Hz / 1.5mm X,Y,Z Each 2h
Shock	490m/s²,11ms X, Y, Z Each 3 times
Ingress Protection	IP50