HOLLOW TYPE

38HG Model

Small & Short delivery Model

- Compact Sized Encoder with OD38mm x L33mm.

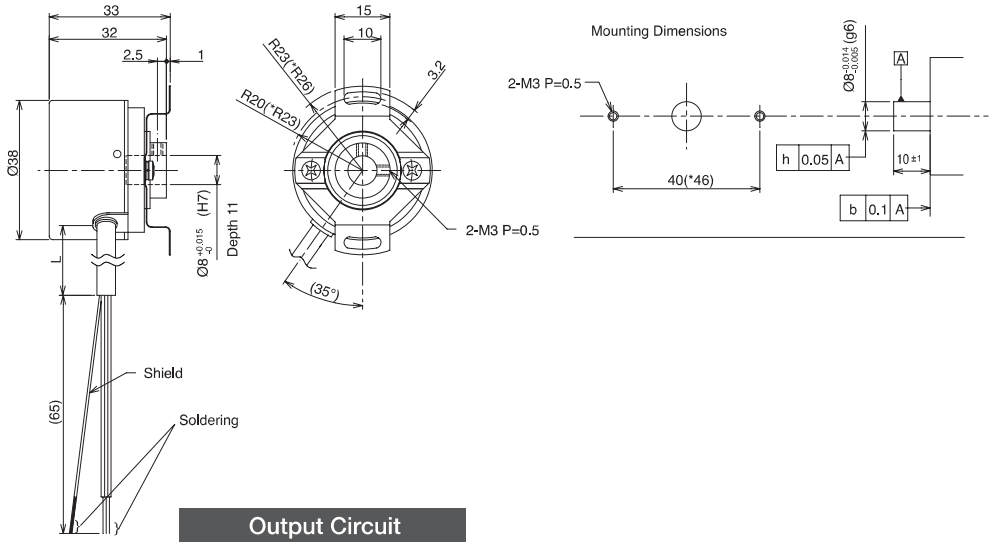
Model

38HG-□□-□□□-8-50-N□□E

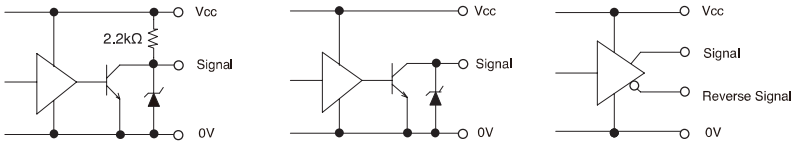
- Resolution
- Signals: 2 : Signal A,B / 2M : Signal A,B,Z
- Output Mode: V : Voltage Output / C : Open Collector Output / D : Line Driver Output
- Hollow Shaft Diameter: 8 : φ8
- Cable Length: 50 : 500mm
- Mounting: 00: PCD40mm / 01: PCD46mm
- Complying with RoHS

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



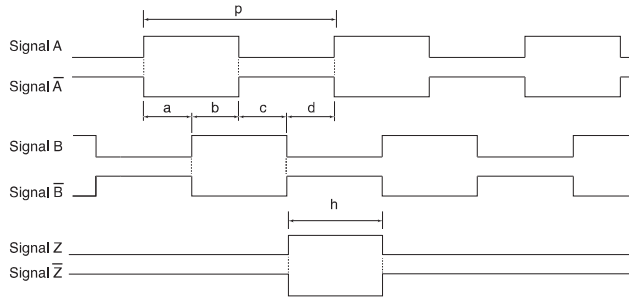
Voltage | Open Collector | Line Driver

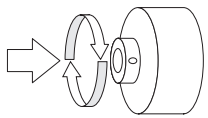
Electrical Spec

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 3.35V 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

CW → Rotating Toward Clockwise Viewed from an Arrow

※ P = 1 / Resolution

Line driver output is available for only $\overline{A}$, $\overline{B}$, $\overline{Z}$ 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 $\overline{A}$
Yellow	Sig Z	White	Sig B
Shield	N.C	Gray	Sig $\overline{B}$
		Yellow	Sig Z
		Orange	Sig $\overline{Z}$
		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	9.8N
	Radial	29.4N
Moment of Inertia		1×10^{-6}kg・m^2
Maximum Permissible Speed		6000min^{-1}
Net Weight		120g Max (Without Cable)

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/s^2,11ms X, Y, Z Each 3 times
Ingress Protection	IP50