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Rotary Encoders

The passion of people for the future
www.kwangwo.co.kr

KWANGWOO CO.,LTD

KWANGWOO.CO.,LTD.

INTRODUCTION

1992 11	Establishment of KWANGWOO CO., LTD
12	Development of 5 models of Encoder for NC machine
1993 07	Started mass production of Encoder
1995 11	Nominated for Encoder development work of Korean CNC development project
1998 05	Acquired CE certification for all Encoders
1999 01	Started business relationship with Doosan infracore
2002 11	Gained ISO9001 Certification
2004 04	Designated as a CLEAN business site
2006 05	Register Research Institute in Korea Industrial Technology Association
2008 11	Acquired "R"(Reliability) Mark – Position coder, M.P.G
2011 05	Nominated for encoder development work for Defense Agency for Technology and Quality
05	Joined Seoul National Defense Venture Centure
2012 11	Started mass production of K-55A1 VMS (Vehicle Motion Sensor) to SAMSUNG TECHWIN
2014 08	Establishment of KWANGWOO factory at Changwon-city, Gyeongsangnam-do
2014 09	Started mass production of Opearing Panel for CNC machine (changwon factory)

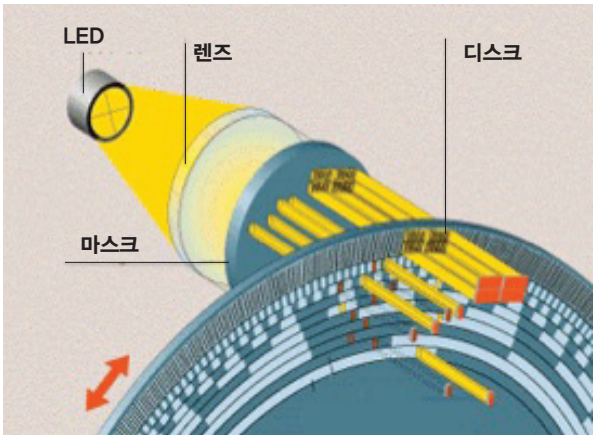
CERTIFICATION

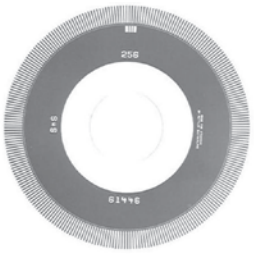
Encoder / Structure / Ordering Code

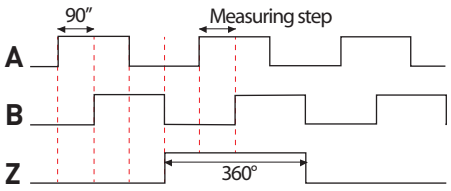
Encoder

Rotary Encoder is a sensor that converts mechanical movement into electrical signal (pulse)

Structure







▶ Signal in CW on the view from the mounting

Ordering Code

Incremental

R	I	□	–	□	□	–	□	□	□	□	□	□	□
Series	Code	Shaft type		Out Diameter			Resolution				Output Signal	Output Circuit	Customized Spec

Shaft type

A	Hollow shaft
B	Solid shaft
M	Manual Pulse Generator

Out Diameter

20:20~29mm	30:30~39mm
40:40~49mm	50:50~59mm
60:60~69mm	70:70~79mm
80:80~89mm	90:90~99mm

Resolution

2	20
50	60
100	120
160	200
256	300
360	400
500	512
600	1000
1024	2000
2048	2500

Output Signal

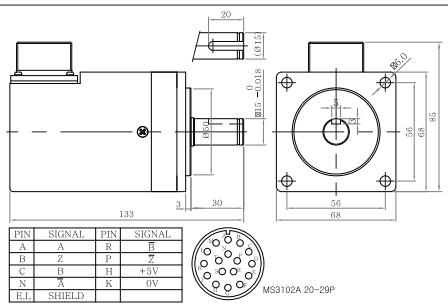
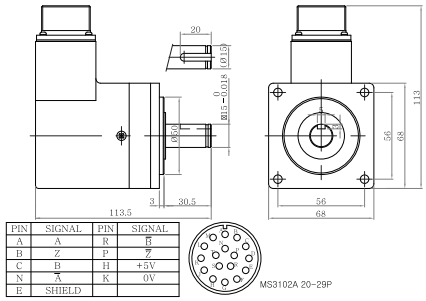
A	A
B	A, B
Z	A, B, Z
U	A, $\overline{A}$, B, $\overline{B}$
V	A, $\overline{A}$, B, $\overline{B}$, Z, $\overline{Z}$

Output Circuit

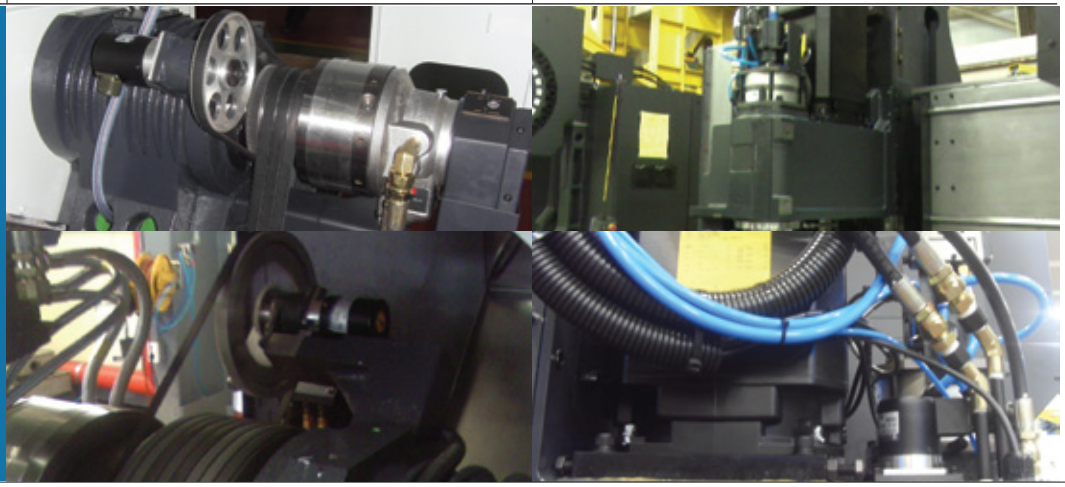
L	Line driver
O	Open collector
V	Voltage
C	Complementary
T	Totempole

For CNC Machine (TC / MCT)

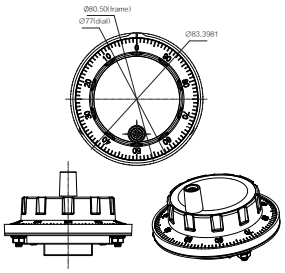
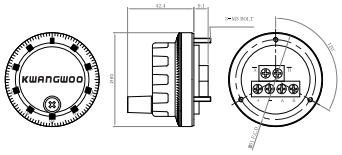
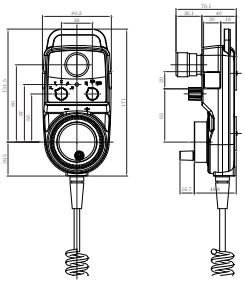
Position coder

Model	RIB-60-1024VLG-A / VLI	RIB-60-1024VLF-A
Style		
Outer Dimension		
Electrical Spec.		
Resolution	1024P/R	1024P/R
Output Circuit	Line driver	Line driver
Supply Voltage	DC+5V	DC+5V
Current Consumption	150mA Max.	150mA Max.
Response Frequency	136kHz Max.	204kHz Max.
Rising / Falling Time	0.2㎲	0.2㎲
Mechanical Spec.		
Max Rotating Speed	8,000rpm	12,000rpm
Starting Torque	400gf.㎝ Max.	800gf.㎝ Max.
Moment of Inertia	250gf.㎠ Max.	250gf.㎠ Max.
Allowable Shaft Load	Radial-5kg Max. Axial-5kg Max.	Radial-5kg Max. Axial-5kg Max.
Vibration Resistance	10~55Hz / 1.5㎜	10~55Hz / 1.5㎜
Shock Resistiance	50G / 11m sec.	50G / 11m sec.
Operating Temp.Range	-10C~+ 80C	-10C~+ 80C
Storage Temp.Range	-20C~+90C	-20C~+90C
Protection	IP50	IP65

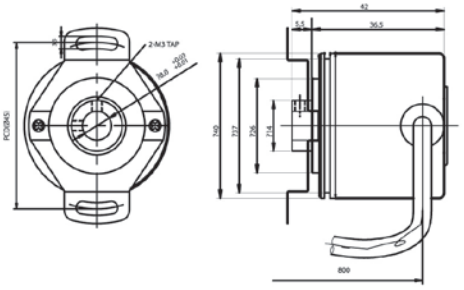
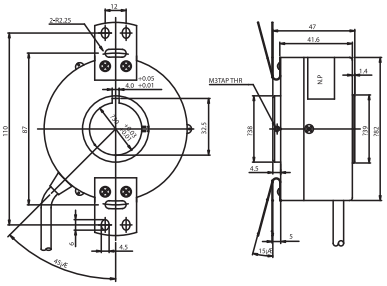
Example



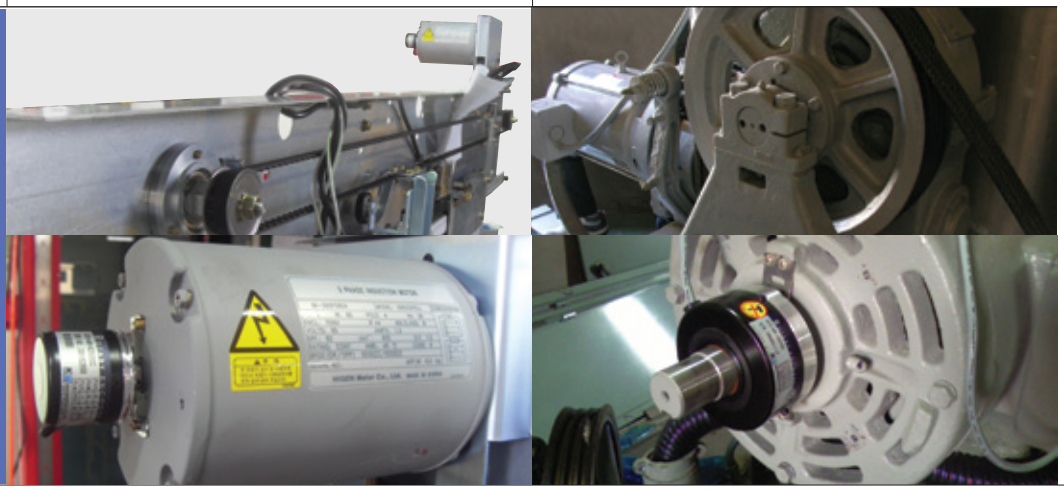
MPG

Model	RIM-80-0100BV/UL	RIM-60-0100BV/UL	APMA-RIM60-0100BV
Style			
Outer Dimension			
Electrical Spec.			
Resolution	100P/R	100P/R	100P/R
Output Circuit	Voltage, Open Collector / Line driver	Voltage / Line driver	Voltage
Supply Voltage	DC+5V,12~24V / DC+5V	DC+5V,24V / DC+5V	DC+5V
Current Consumption	60mA Max.	60mA Max.	150mA Max.
Response Frequency	5kHz Max.	5kHz Max.	136kHz Max.
Mechanical Spec.			
Max Rotating Speed	600rpm	600rpm	600rpm
Starting Torque	300gf.cm Max.	200gf.cm Max.	200gf.cm Max.
Allowable Shaft Load	Radial - 1kg Max. Axial - 2kg Max.	Radial - 1kg Max. Axial - 2kg Max.	Radial - 1kg Max. Axial - 2kg Max.
Vibration Resistance	10~55Hz / 1.5mm	10~55Hz / 1.5mm	10~55Hz / 1.5mm
Shock Resistiance	50G / 11m sec.	50G / 11m sec.	50G / 11m sec.
Operating Temp.Range	-10C~+70C	-10C~+70C	-10C~+70C
Storage Temp.Range	-20C~+80C	-20C~+80C	-20C~+80C
Protection	IP50	IP50	IP65
Rotary Switch			Contact Rating : 0.4VA Max.Voltage : 20V
EMG Switch			Contact point : 2C
Push Botton			Contact point : 2B Max.Voltage : 250VAC
Example			

For Elevator (Door / T.M)

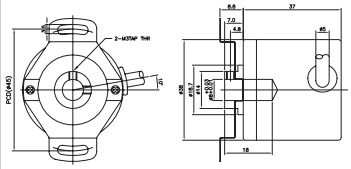
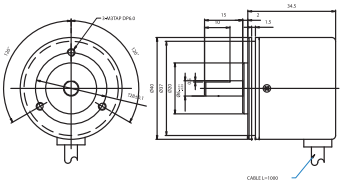
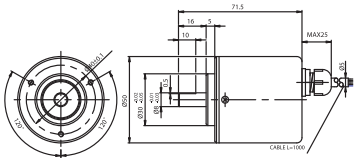
Model	RIA-40-XXXX-BO/UL	RIA-80-1024BC
Style		
Outer Dimension		
Electrical Spec.		
Resolution	256 / 500 / 1000 / 2500P/R	1024P/R
Output Circuit	Open Colletor / Line driver	Complementary
Supply Voltage	DC+5V~28V	DC+5V~28V
Current Consumption	150mA Max.	150mA Max.
Response Frequency	200kHz Max.	200kHz Max.
Rising / Falling Time	0.2㎲	0.2㎲
Mechanical Spec.		
Max Rotating Speed	7,000rpm	6,000rpm
Starting Torque	200gf.㎝ Max.	300gf.㎝ Max.
Moment of Inertia	250gf.㎠ Max.	250gf.㎠ Max.
Allowable Shaft Load	Radial-5kg Max. Axial-5kg Max.	Radial-5kg Max. Axial-5kg Max.
Vibration Resistance	10~55Hz / 1.5㎜	10~55Hz / 1.5㎜
Shock Resistiance	50G / 11m sec.	50G / 11m sec.
Operating Temp.Range	-10C~+70C	-10C~+70C
Storage Temp.Range	-20C~+80C	-20C~+80C
Protection	IP50	IP50

Example



For Embroidery Machine

For Industrial use

Model	RIA-38-1000-ZO/ZV	RIB-40 Series	RIB-50 Series
Style			
Outer Dimension			
Electrical Spec.			
Resolution	1000P/R (Z=15T / 20T)	2, 20, 50, 60, 100, 120, 160, 200, 250, 256, 300, 360, 500, 512, 600, 1000, 1024, 2000, 2048, 2500P/R	
Output Circuit	Voltage / Open Colletor	Voltage, Open collector, Totemple, Line driver	
Supply Voltage	DC+5V~28V	DC+5V~28V / DC+5V (Line driver)	
Current Consumption	150mA Max.	150mA Max.	
Response Frequency	200kHz Max.	200kHz Max.	
Rising / Falling Time	0.2㎲	0.2㎲	
Mechanical Spec.			
Max Rotating Speed	7,000rpm	6,000rpm	
Starting Torque	200gf.㎝ Max.	300gf.㎝ Max.	
Moment of Inertia	250gf.㎠ Max.	200gf.㎠ Max.	
Allowable Shaft Load	Radial-5kg Max. Axial-5kg Max.	Radial-5kg Max. Axial-5kg Max.	
Vibration Resistance	10~55Hz / 1.5㎜	10~55Hz / 1.5㎜	
Shock Resistiance	50G / 11m sec.	50G / 11m sec.	
Operating Temp.Range	-10C~+70C	-10C~+70C	
Storage Temp.Range	-20C~+80C	-20C~+80C	
Protection	IP50	IP50	IP64
Example