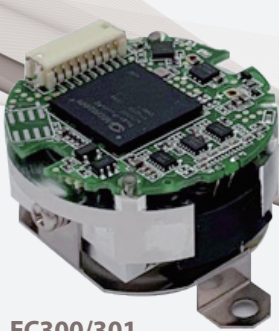
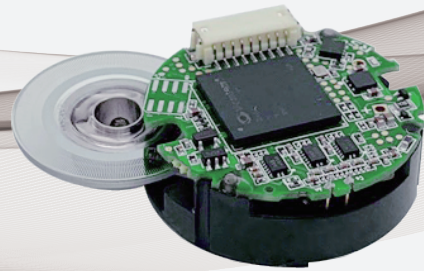


E300 Series

Full Absolute Rotary Encoder



EC300/301
(Blind Hollow Shaft type with Integral Bearing)



EM300
(Mount type without Integral Bearing)

- Full-Absolute Type Encoder
- High Resolution (22Bit Single-turn)
- Low Battery Consumption (10 μ A Max.)
- Applicable to Actuators and Servo Motors
- Support of Multi-Protocol
- Compact Size (36mm)

• Cable Connection Table

For BiSS Protocol		
Pin	Signal	Description
1	VB	External Battery Power (3.6VDC)
2	VDD	Voltage Supply (5VDC)
3	GND	Signal Ground
4	N.C	-
5	N.C	-
6	MA+	BiSS-C Master Clock +
7	MA-	BiSS-C Master Clock -
8	SL+	BiSS-C Serial Data +
9	SL-	BiSS-C Serial Data -
10	SHELD	Cable Shield (Frame Ground)

For T-Format (Tamagawa Protocol)		
Pin	Signal	Description
1	VB	External Battery Power (3.6VDC)
2	VDD	Voltage Supply (5VDC)
3	GND	Signal Ground
4	SD+	T-Format Serial Data +
5	SD-	T-Format Serial Data -
6	N.C	-
7	N.C	-
8	N.C	-
9	N.C	-
10	SHELD	Cable Shield (Frame Ground)

* N.C.(Not Connected)

E300 Series

Specifications

Angular Performance Specification		EC300	EC301	EM300
One Revolution (Single-turn)	Resolution	22 Bit		
	System Accuracy	±72 arc-sec		±36~108 arc-sec
Multi-turn	Counting Range	16 Bit		
Mechanical Specification		EC300	EC301	EM300
Structure		Hollow Shaft (with Bearing)		Mount (w/o Bearing)
Housing Diameters		Φ35.5	Φ45	Φ35.5
Housing Height		25.7 mm	26.3 mm	19 mm(w/ spacer) 16 mm(w/o spacer)
Operating Temperature		-20 ~ 85°C		
Vibration Resistance		5~54 Hz, Double Amplitude of 1.7mm, 54~2,000 Hz, 98m/s ² (IEC 60068-2-6)		
Shock Resistance		1960 m/s ² (6ms) (IEC 60068-2-27)		

Electrical Specification		EC300	EC301	EM300
Sensing Method		Optical(Transmissive)		
Voltage Supply		5.0 Vdc ± 5%		
Current Consumption w/o load		170 mA Typ.		
Maximum Rotational Speed		6,000 rpm		
External Battery	Voltage Supply	3.6 V		
	Current Consumption	10 μA Max.		
Output Method		Serial		
Serial Comm.	Protocol	BiSS-C, Tamagawa Protocol		
	Serial Interface	RS422(BiSS), RS485(Tamagawa)		
	Connectivity	Point to Point		
	Communication Rate	10 Mbps Max.(BiSS) / 2.5 Mbps(Tamagawa)		
EEPROM Memory Capacity		2 Kbyte		

Dimensions (Unit : mm)

EC300

2-M3 Set-Screw for Motor Mount

2-Φ3.2 Hole, PCD 40 for Motor Mount

Recommended Motor Shaft Dimensions

EC301

2-M3 Set-Screw for Motor Mount

1. Φ8.0 : Default
2. Φ6.0 : Option

2-Φ3.2 Slot, PCD50 for Motor Mount

Motor Shaft Diameter Option			
No.	A	B	Remark
1	Φ8	Φ7.5	Default
2	Φ6	Φ5.5	

Recommended Motor Shaft Dimensions

EM300

Spacer(3.0T)

2-Φ3.0 Hole, PCD29 for Motor Mount

Recommended Motor Shaft Dimensions

RS Automation Co., Ltd.

RS Automation Building, 38, Jinwisandanro, Jinwi-myeon, Pyeongtaek-si, Gyeonggi-do, Korea, zip code : 17709
T. +82.31.685.9300 F. +82.31.685.9500

www.rsautomation.biz