

**Motortronics®**

**ROTARY ENCODERS**

# FA-CODER®



OIH35

**SmartAbs®**



## APPLICATION

- Small Middle Wattage Motors
- Robots
- Injection Machines

## FEATURES

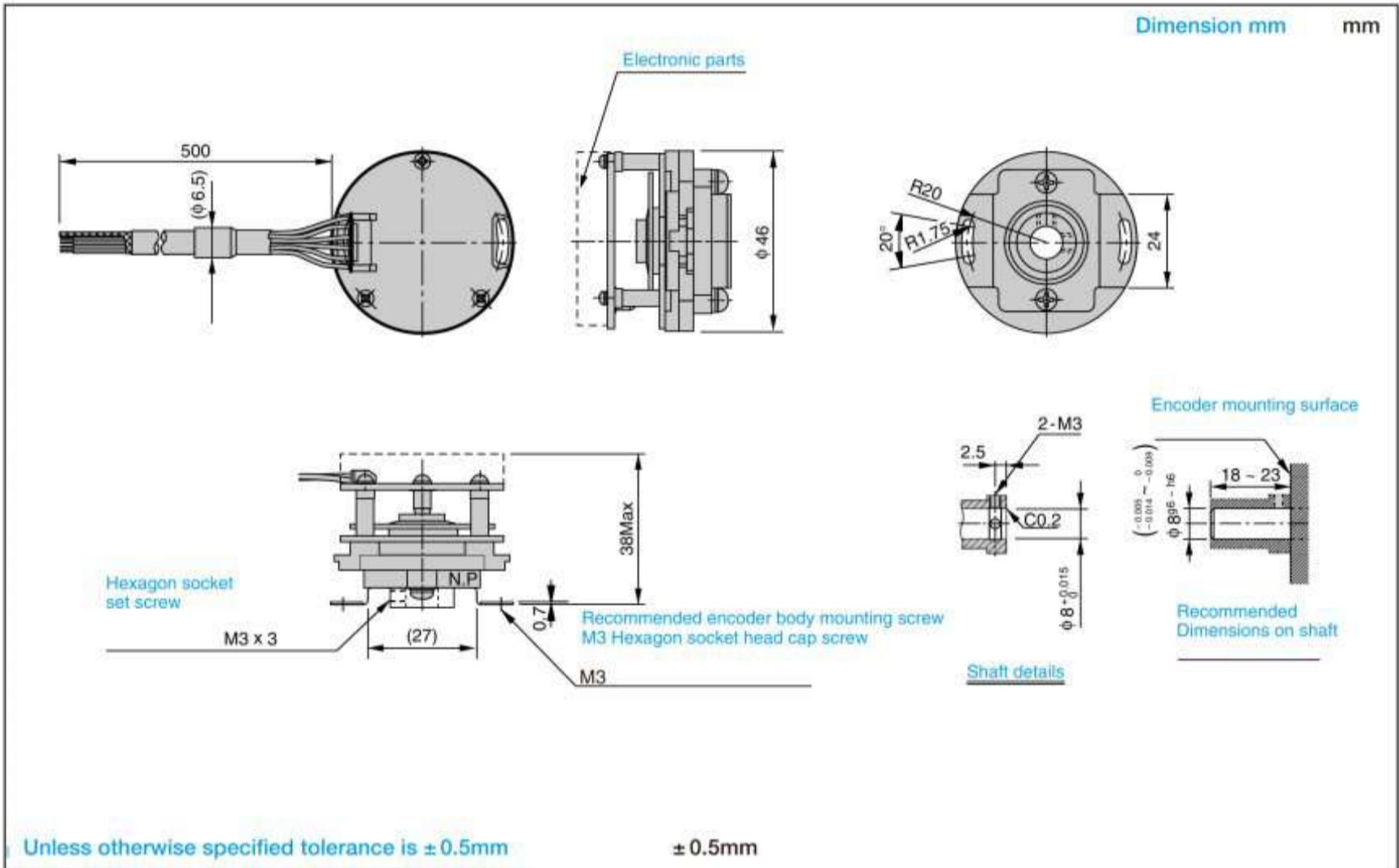
- Full Absolute Signal Output
- 17bit/Turn, 16bit Turns (At 6,000rpm Max)
- Bi-direction Serial Communication Type(NRZ)
- Fail-Check Operation
- Even during power outage, Multi-Turn data are backed up by external battery and built-in capacitor



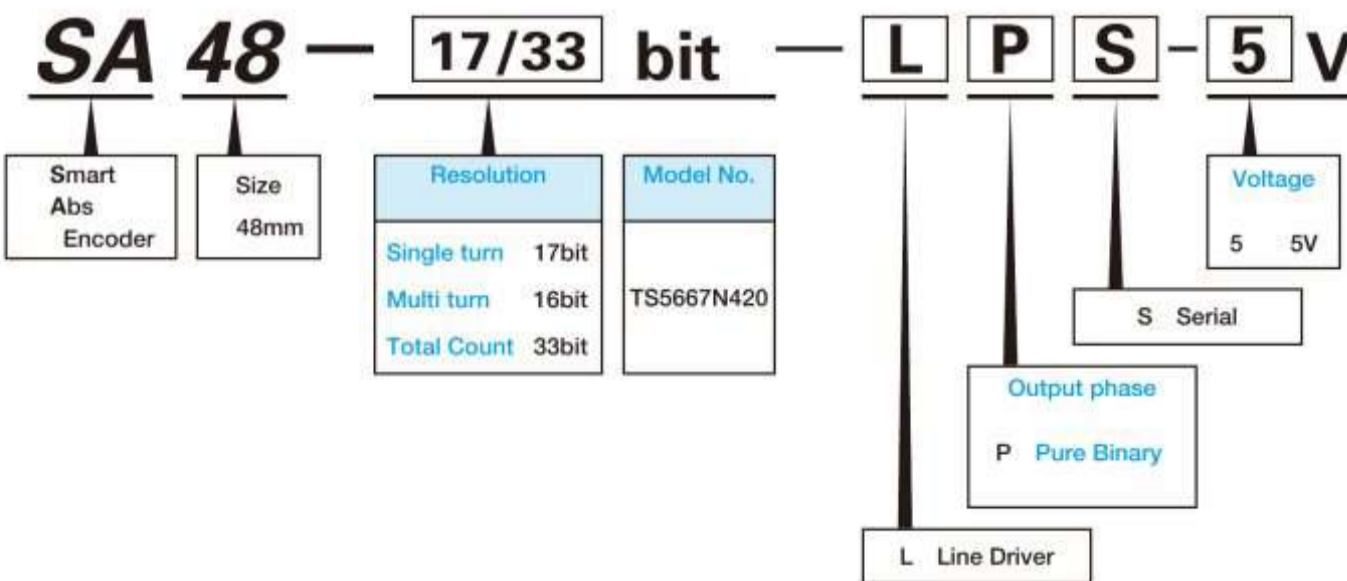
TS5667N420

# SA48Series

Dedicated serial signal receiver IC, AU5561N1 (Sold separately) is available.



## DESIGNATE THE NAME OF FUNCTION WHEN ORDERING



For special cases, please consult us.

# SPECIFICATIONS

Electrical Spec.		
Resolution	Absolute Signal	17bit/turn and 16bit multiturns Total 33bit 17bit 1 16bit 33bit
Output Phase		Pure Binary Code
Supply Voltage		DC + 5V ± 5%
Consumption Current		Typ Normal Operation 60mA Typ Battery Operation 100µA
Output Form	Line Driver	ADM 485 20mA
Max Response Frequency		Normal Operation 13MHz Battery Operation 13MHz
Serial Data Transfer Cycle		35µs 63µs Note Including time for a request.. Time depends on the ID Codes. 2.5Mbit/sec Start-Stop transmission. ID 2.5Mbit/sec.
Data Code		Base Band NRZ Bi-direction NRZ

Mechanical Spec.	
Starting Torque	9.8 x 10 <sup>-3</sup> N · m Max 100gf · cm
Moment of Inertia	6.5 x 10 <sup>-6</sup> kg · cm <sup>2</sup> Typ
Maximum Rotating Speed	6,000min <sup>-1</sup> Mechanical Spec. Max 6,000rpm
Mounting Tolerances	Radial Play 0.05mm TIR Max
	Axial End Play 0.1mm Max
	Shaft Inclination 0.1° Max
Operating Temp. Range	-10 +85°C
Storage Temp. Range	-20 +90°C
Protective Construction	Not Enclosed
Vibration	98m/s <sup>2</sup> 10G 5 - 2,000Hz for 2hours 98m/s <sup>2</sup> 10G 5 - 2,000Hz 2
Shock	1,960m/s <sup>2</sup> 200G 11msec, 3times 1,960m/s <sup>2</sup> 200G 11msec, 3
Mass	0.08kg Max Without Cable

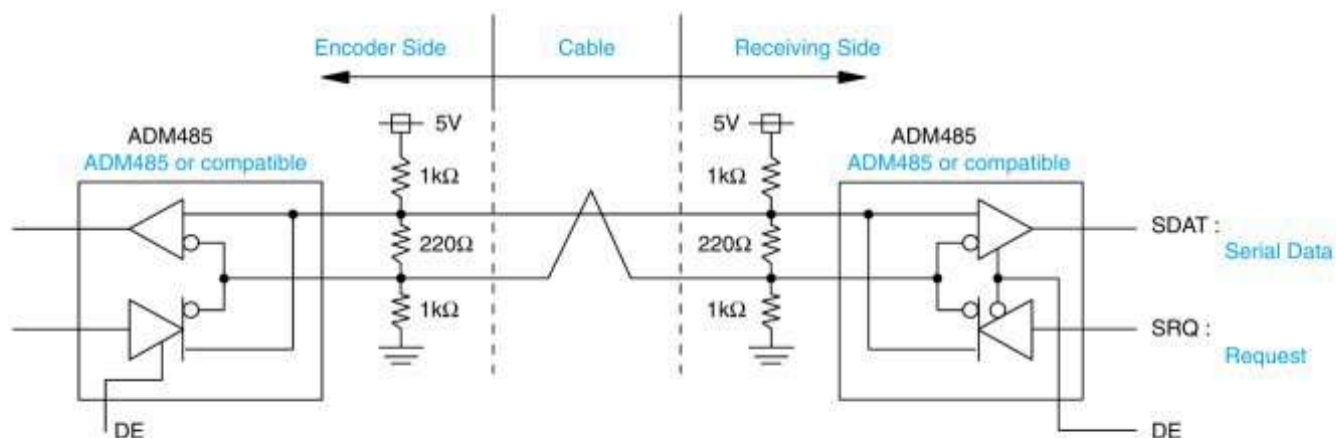
External Battery VB recommended:TOSHIBA Lithium Battery ER6V  
VB ER6V

# CONNECTION TABLE

Lead Wire	Function	Remark
Red	Vcc	Main Power DC + 5V ± 5%
Black	GND	
Brown	VB	Battery Notice1
Brown/Black	GND	
Blue	SD	Serial Data
Blue/Black	SD	
Gray	CASE GND	

Notice 1 : Battery Power is necessary during Power Outage.

# RECEIVING AND TRANSMITTING INTERFACE



Use transmission cable after verifying effects of impedance characteristics, etc.

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# FA-CODER®

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Digital techniques in business industry have been greatly advanced. Among these, necessity for converting analog like rotating value, shaft angle position, etc. to digital has been increased as measurement for physical value and automation for control system are advanced. Encoders, at present, have been widely used for factory automations, measurements, office automation devices, medical equipment, aviations and universal fields.

Various kinds of encoders (FA-CODER® as trade mark) from small to high resolution are available to meet all of the requirements. High performance encoders supported by these high disk producing techniques are available.

