BTME Elektrotechnik

SSI Absolute Single-and Multi-turn Encoder RNK-58/M58

Features and applications:

- Absolute Single- and multi-turn rotary encoder with solid shaft or blind hollow shaft
- Interface SSI
- Available resolution up to 16 bits
- Power supply from 5 to 30 Vdc
- Applied in highest industrial requirements




Model	RNK(M)58-J	RN K(M)58-K	RN K(M)58-H	RN K(M)58-T
Housing diameter	Ø 60mm			
Shaft diameter	Solid with clamp flange Ø 6 / 8 / 10 / 12 mm	Blind hollow shaft Ø 6 / 8 /10 /12 / 14 / 15 / 16 / 18 / 20 / 22 mm		Solid with synchro flange Ø 6 / 8 / 10 mm
Output signal	SSI			
Supply voltage	5....30 Vdc or 5 Vdc			
Resolution	Standard 12-bits 4096, 13 bits 8192 (Max. 16-bits 65536)			
Rotation turn no.	1 / 4096			
Accuracy	±2 bit			
Consumption	< 40mA (at 24Vdc) without load			
Code	Gray or Binary			
Max.speed	5000 r/min			
Shaft load	Radial 80N, axial 40N			
Protection class	IP65 or IP68			
Starting torque	≤3 Ncm			
Operating Temp.	-35°C....85°C (<-45°C Special make)			
Shock resistance	1000m/s^2 , 6ms (100g)			
Vibration resistance	20g			
Connection type	Cable or Aviation plug			
Connection position	Radial / Axial			

Connection

Color	Brown 2	White 1	Green 3	Green4	Gray 5	Pink 6	Black9	Blue 8
Signal	Vcc	0V	CLOCK +	CLOCK -	DATA+	DATA-	Reset	Revolve

Definition of SSI protocol

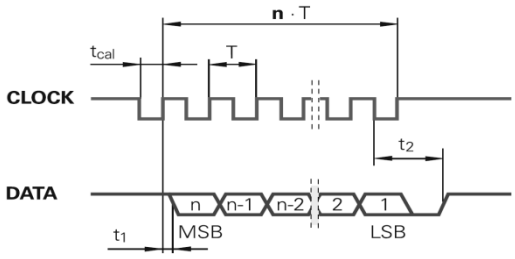
SSI is a synchronous serial signal, the actual two pairs of RS422, one pair of clock trigger, one pair of data transmission.

As shown in the figure on the right, the absolute position value of the encoder is triggered by the clock signal of the receiving device, starting from the high bit (MSB) of the Gray code, and outputting a serial signal synchronized with the clock signal. The clock signal is sent from the receiving device, and N interrupted pulses are output with the total number of bits of the encoder. When the signal is not transmitted, the clock and data bits are both high bits. At the first falling edge of the clock signal, the current value starts to be stored. From the rising edge of the clock signal, the data signal begins to be transmitted, and a clock pulse synchronizes one bit of data.

Where: t3 is the recovery signal, waiting for the next transmission; N=13;16;25;28. According to the total number of bits of the encoder. T=4—11us; t1=1—5.5us; t2≤1us; t3=11—15.5us (Clock- and Date- omitted not shown)

In actual use, in order to ensure the stability of the signal and the long transmission distance, the recommended parameters are as follows:

T=8us（125KHz)； t1=4us； t2′（actual reading delay time)=3-4us； t3=15us



Order Reference:

	1		2	3	4	5	6	7	8	9
	Single-	Multi-	XXX	XXX	XX	XXX	X	X	XX	XX
	-									
1. Spec. and Series	**RNK58J**	**RNKM58J**								
	RNK58K	**RNKM58K**								
	RNK58H	**RNKM58H**								
	RNK58T	**RNKM58T**								
2. Output signal										
SG SSI GRAY			**SG**							
SB SSI Binary			**SB**							
3. Number of turn										
B01 1				**B01**						
B12 **4096 12 bits**				**B12**						
4. Resolution per turn										
12 12 bit（4096 ）ST					**12**					
13 13 bit（8192 ）					**13**					
14 14 bit（16384）					**14**					
16 16 bit（65536）					**16**					
5. Mechanical mounting dimension										
For details, refer to the mechanical dimension ordering code of RNK58 single-&multi-turn absolute encoder										
6. Protection class and body material										
0 Protection class IP65, Aluminum body							**0**			
S Protection class IP68, Aluminum body (work under-water available)							**S**			
V Protection class IP66, Stainless steel heavy-duty body							**V**			
W Protection class IP68, Stainless steel heavy-duty body (work under-water available)							**W**			
H Protection class IP66, Aluminum body for low Temp.							**H**			
7. Connection position								**A**		
A Axial								**R**		
R Radial										
8. Connection type										
A1 Cable Ø6.8mm，8x2x0.35mm^2 ，1m (ST)									**A1**	
AC Connector 8 pins									**AC**	
AB Connector M23									**AB**	
9. EX explosion-proof										**EX**
EX explosion-proof encoderEX II 2G Ex ib IIB T4 Gb										