

Features and applications:

- Absolute Single- and multi-turn rotary encoder with solid shaft or blind hollow shaft
- Interface RS485 protocol
- Available resolution up to 16 bits
- Power supply from 5 to 30 Vdc
- Applied in highest industrial requirements



Model	RNK(M)58J	RNK(M)58K	RNK(M)58H	RNK(M)58T
Housing diameter	Ø 60 mm			
Shaft diameter	Solid with clamp flange Ø 6/ 8 /10/12 mm	Blind hollow shaft Ø6/ 8/ 10 / 12 / 14 / 15 / 16/ 18 /20 / 22mm		Solid with synthro flange Ø6 / 8 /10 mm
Output signal	RS485 Protocol (angle, length and velocity output set available)			
Supply voltage	5....30 Vdc			
Resolution	12-bits 4096, 16-bits 65536			
Rotation turn no.	1 / 4096			
Encoder	Hexadecimal			
Accuracy	±2 bit			
Consumption	< 50mA (at 24Vdc) without load			
Max.speed	3000 r/min			
Shaft load	Radial 80N, axial 40N			
Protection class	IP65 or IP68			
Starting torque	≤3 Ncm			
Operating Temp.	-35°C....85°C (<-40°C Special make)			
Shock resistance	1000m/s ² , 6ms (100g)			
Vibration resistance	20 g			
Connection type	Cable or Connector			
Connection position	Radial / Axial			

Connection

Color	Brown	White	Pink	Black	Green	Yellow	Blue	Gray
Signal	Vcc	0V	Analog+	Analog -	RS485A	RS485B	Programmable Setting	Reset

RS485 Protocol definition :

Baud rate: 4800bps. 9600bps. 19200bps. 38400bps. 115200bps.

Frame format: Data 8 bit, stop 1bit no parity check, no control flow

Encoder parameters can be set by getting the command from software. As active mode, encoder transmit data to upper computer. Data length is 16 bits 16 hexadecimal ACSII code with format of XAB>±DATA ✓

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
X	Add.		>	±	DATA										✓

“X”refer to guide letter, > is bit separator ± refer to sign bit, DATA is datum, ASCII code, 10digit combined by 0~9. Range is -9,999,999,999~+9,999,999,999 last one is carriage return (0D)

If encoder is in passive mode, upper computer transmit enquiry command to encoder at 4 bit 16 hexadecimal ACSII code with format of D+AB ✓。

A/B is address of encoder with range of 0~99, X00>+0000000000 ✓

1 : reading data

Upper computer transmits : D+address+0D

Encoder response : X+address+>+sign bit+ data +0D

For example : upper computer send : 44 30 31 0D

Encoder response : 58 30 31 3E 2B 30 30 30 30

That is send D 01 ✓ receive X01>±0000000012 ✓。

30 30 30 31 32 33 0D

Use of set function(Gray wire)

While Encoder need to be reset, connect Gray wire with power supply(24V) wire for 3~5 seconds, remove the Gray wire and the position of encoder shall be defined Zero.

Use of Programmable set (Blue wire)

In the mode of setting, Put Blue wire and Brown wire together and connect them with power supply wire, while wire connect ground wire. At the time, communication rate of encoder shall be fixed at 19200bps

No setting mode, encoder is in normal working condition, it is suggested that connect Blue wire and White wire together with power supply ground wire.

Order Reference:

	1	2	3	4	5	6	7	8	9
	RNK58-	XXX	XXX	XX	XXX	X	X	XX	X
1. Spec. and Series	Single-turn RNK58J RNK58K RNK58H RNK58T	Multi-turn RNKM58J RNKM58K RNKM58H RNKM58T							
2. Output signal	R4 RS485 R4L RS485 and 4-20mA	R4 R4L							
3. Number of turn	B01 1 B12 4096 12 bit		B01 B12						
4. Resolution per turn	12 12 bit (4096) ST 13 13 bit (8192) 14 14 bit (16384) 16 16 bit (65536 resolution)			12 13 14 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 S Protection class IP68, Aluminum body(work under water available) V Protection class IP66 Stainless steel heavy duty W Protection class IP68 Stainless steel heavy duty(work under water available) H Protection class IP66 Aluminum body for low Temp.					0 S V W H			
7. Connection position	A Axial R Radial						A R		
8. Connection type	A1 Cable Ø6.8mm, 8x2x0.35mm ² , 1m (ST) AC Connector 8 pins AB Connector M23							A1 AC AB	
9. EX explosion-proof	EX explosion-proof encoder EX II 2G Ex ib IIB T4 Gb								

EX