

产品选型手册

Product selection guide



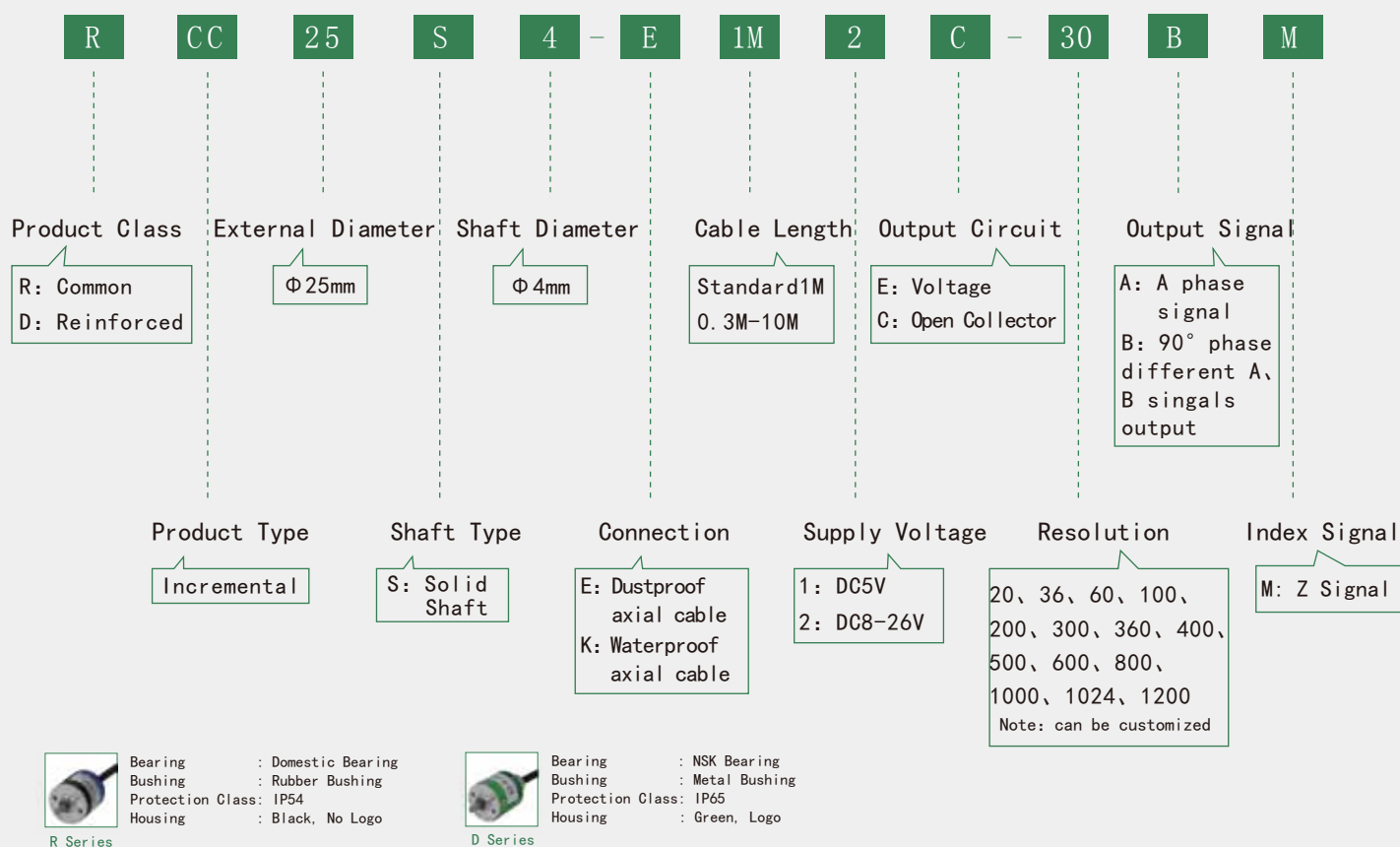
RCC25 · Series

Applications & Features



RCC25S widely used in automatic control, automatic measurement, as the rotation angle and rotation speed measuring sensors. Small size, light total, excellent performance, suitable for small space . Compact size, resolution up to 1200 pulses.

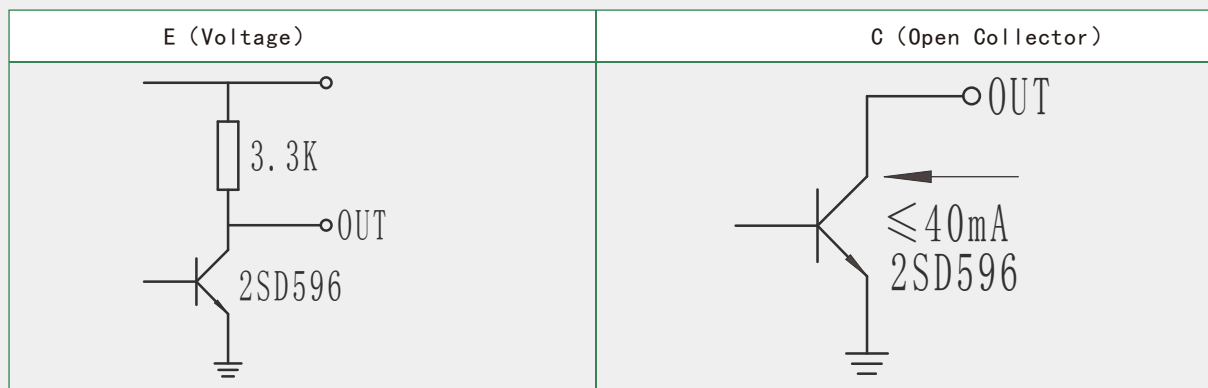
Part Number



Electrical Specifications

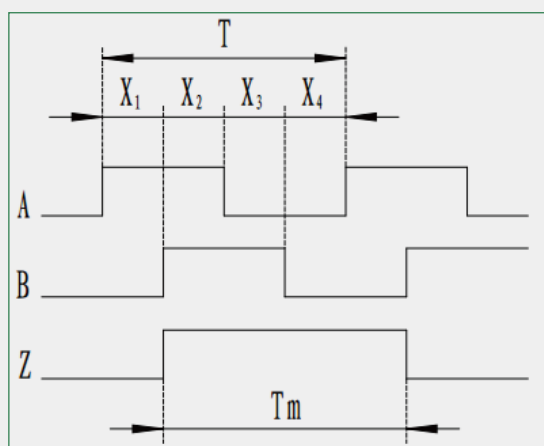
[illegible]

Output Circuit



Note: C, F output is shorted to ground protection diode.

Output Waveform



The picture shows the clockwise (CW) waveform from the shaft side.

Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

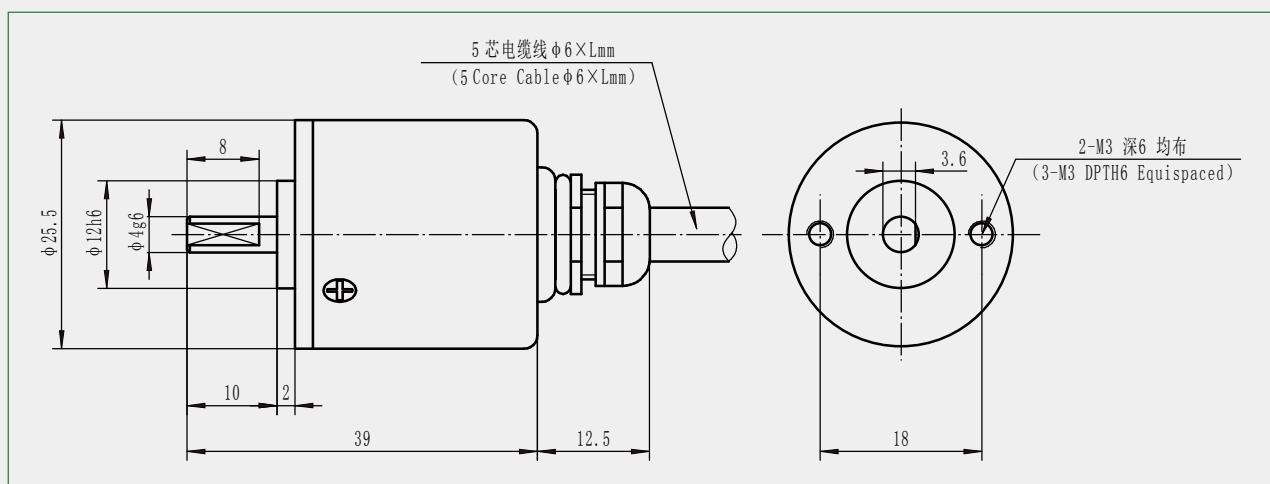
The phase relationship of Z signal and A, B signal is not stipulated.

2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1×10^{-3}	30	20	4×10^{-6}	≈ 0.07

Dimension



Environmental Specifications

Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s^2)	980 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s^2)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Grey	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
G (Open Collector)	Vcc	0V	A		B		Z		G



产品选型手册

Product selection guide



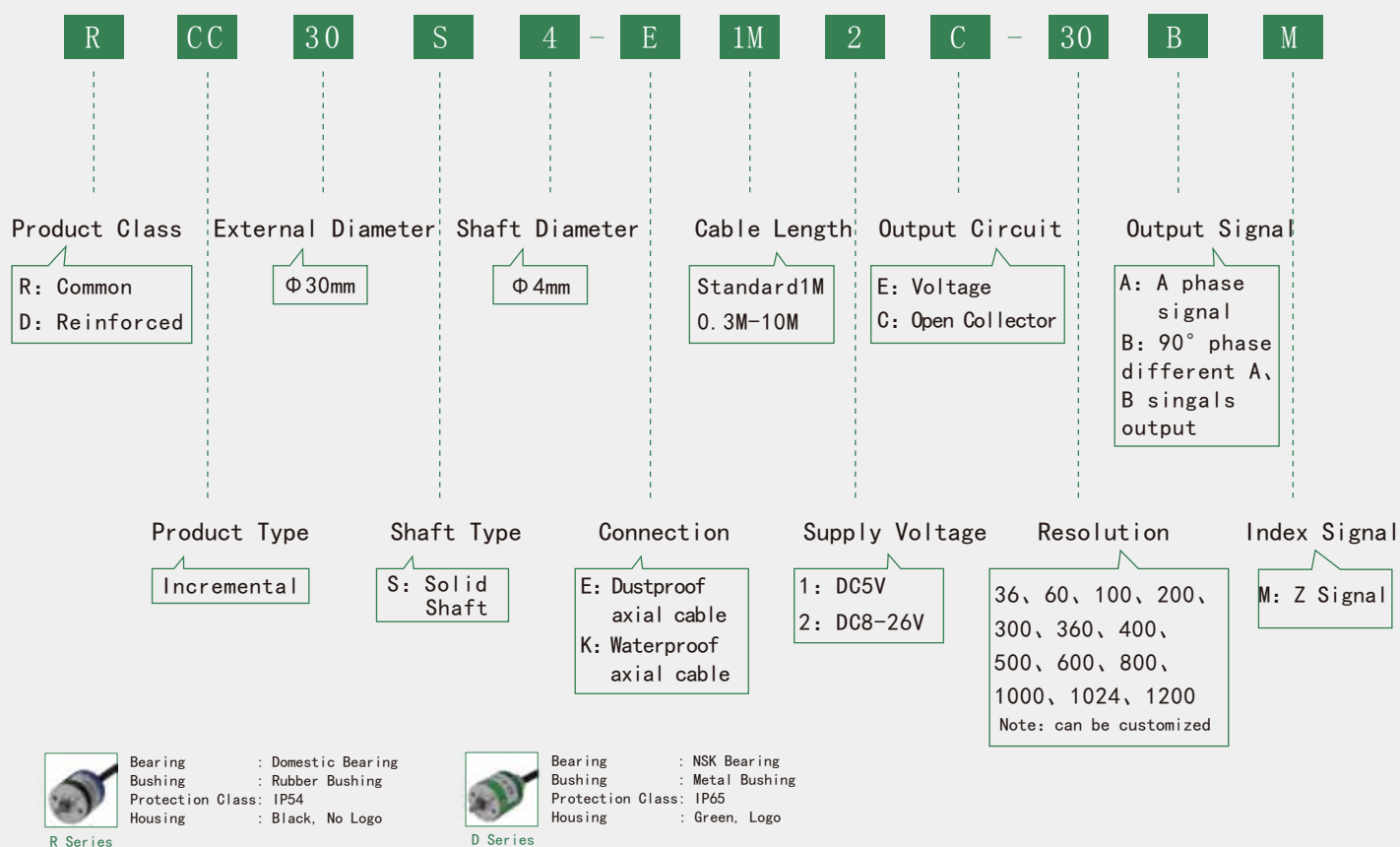
RCC 30 · Series

Applications & Features



RCC30S is widely used in automatic control, automatic measurement, as the rotation angle and rotation speed measuring sensors. Small size, light total, excellent performance, suitable for small space . Compact size, resolution up to 1200 pulses.

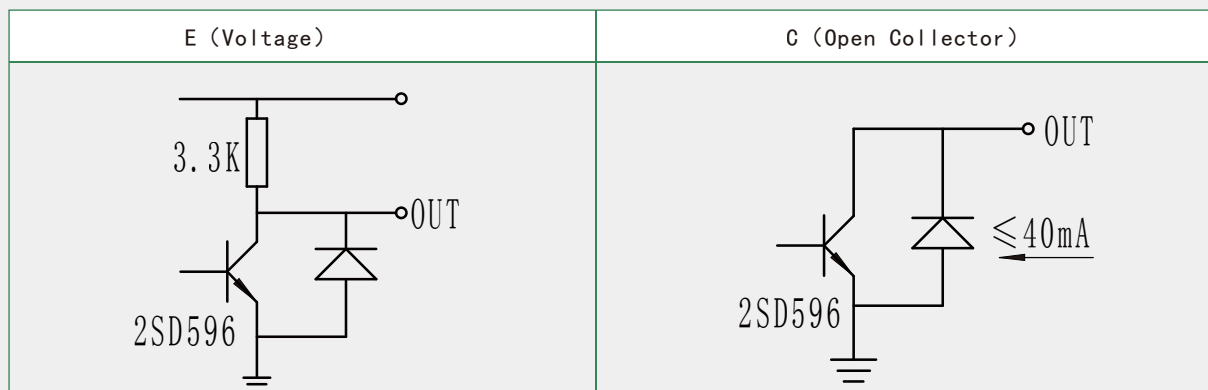
Part Number



Electrical Specifications

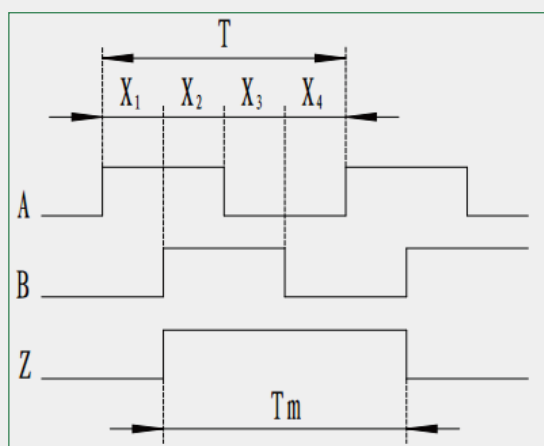
[illegible]

Output Circuit



Note: C, F output is shorted to ground protection diode.

Output Waveform



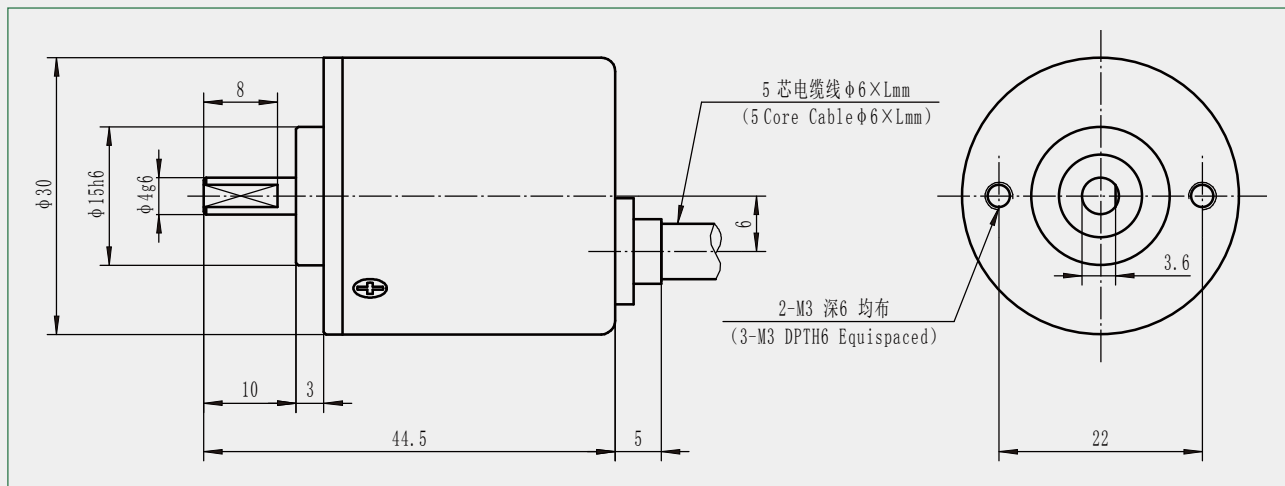
The picture shows the clockwise (CW) waveform from the shaft side.

- Wave Ratio : $X_1 + X_2 = 0.5T \pm 0.1T$
 $X_2 + X_3 = 0.5T \pm 0.1T$
- Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)
- Absolute Angle Error : $\leq 0.2T$
- Cycle Error : $\leq 0.05T$
- $T = 360^\circ / N$ (N =lines count per revolution)
- 1、 $T_m = 1T \pm 0.5T$
 $T_m = nT \pm 0.1T$ ($n \geq 2$)
 The phase relationship of Z signal and A, B signal is not stipulated.
- 2、 $T_m = 0.5T \pm 0.25T$
 $T_m = 0.25T \pm 0.125T$
 $T_m = 0.25T \pm 0.125T$

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1×10^{-3}	10	5	5×10^{-8}	≈ 0.09

Dimension



Environmental Specifications

Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s^2)	1000 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s^2)	100 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Grey	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G



产品选型手册

Product selection guide



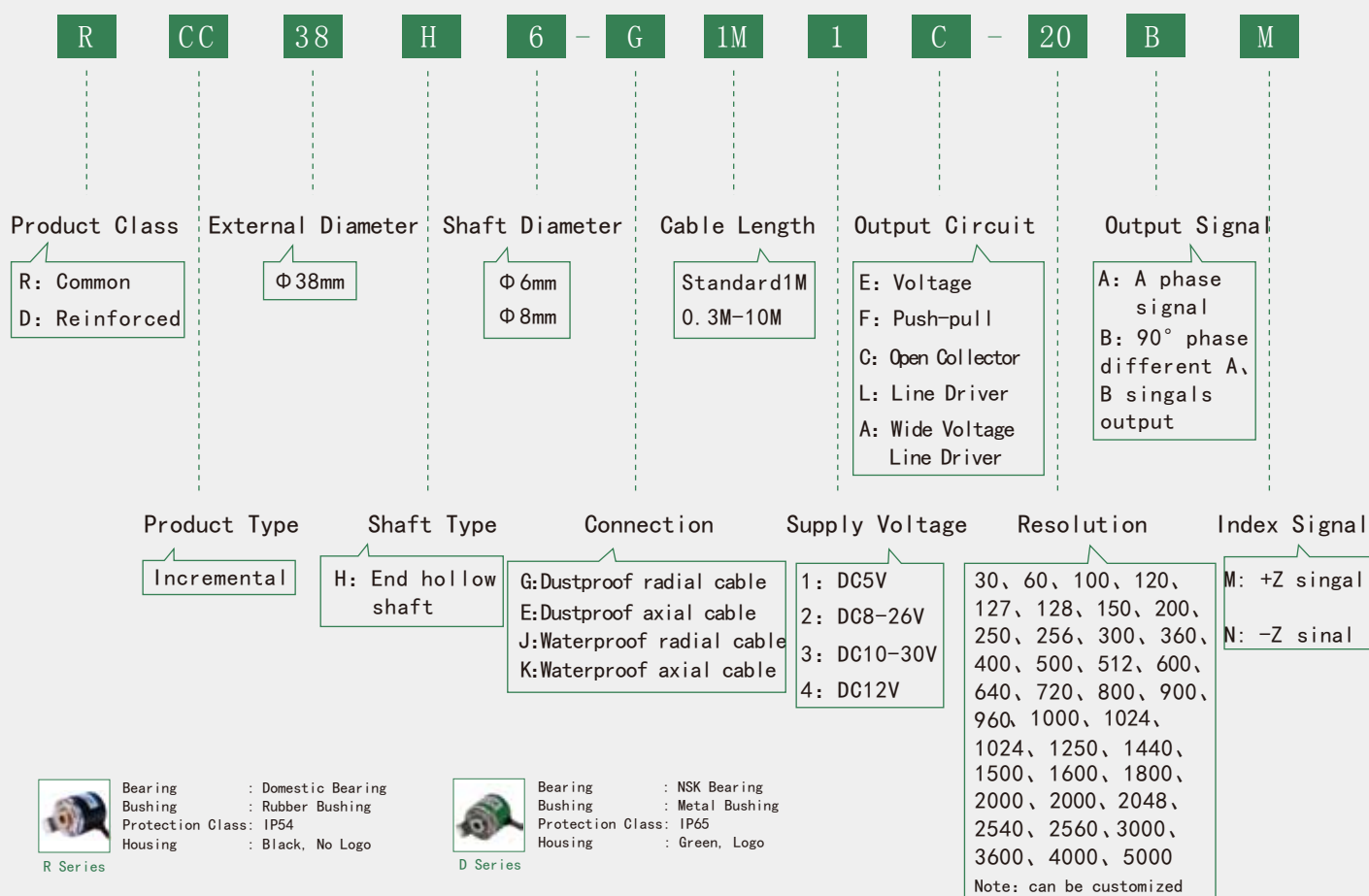
RCC 38H · Series

Applications & Features



RCC38H is widely used to control the speed and position of CNC machines such as embroidery machine. Small outer diameter of 38mm, shaft hole 6-8mm optional, cable is divided into two kinds of radial output and axial output. Rugged construction, high reliability, strong anti-jamming performance, long service life.

Part Number



Electrical Specifications

[illegible]

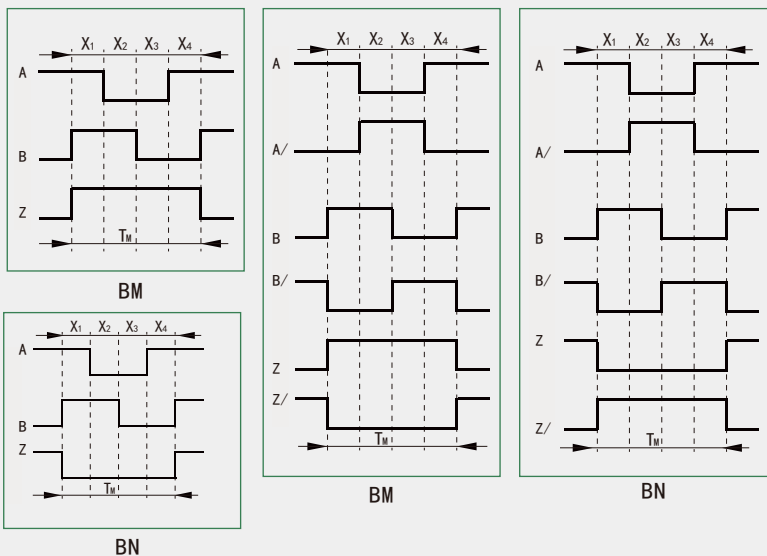
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					 L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T\pm0.1T$
 $X_2+X_3=0.5T\pm0.1T$

Phase Different : $X_n\geq0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq0.2T$

Cycle Error : $\leq0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T\pm0.5T$
 $T_m=nT\pm0.1T$ ($n\geq2$)

The phase relationship of Z signal and A, B signal is not stipulated.

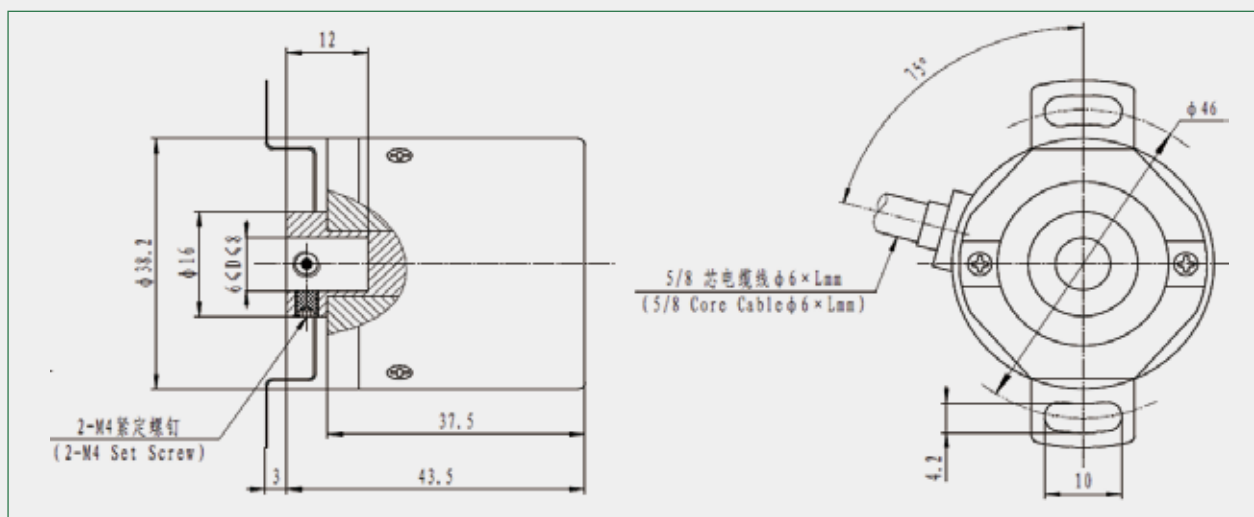
2、 $T_m=0.5T\pm0.25T$
 $T_m=0.25T\pm0.125T$
 $T_m=0.25T\pm0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	$1\cdot10^{-3}$	30	20	$4\cdot10^{-6}$	≈0.135

Dimension



Environmental Specifications

Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Grey	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L、A (Line Driver)	Vcc	0V	A	A	B	B	Z	Z	G

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产品选型手册

Product selection guide



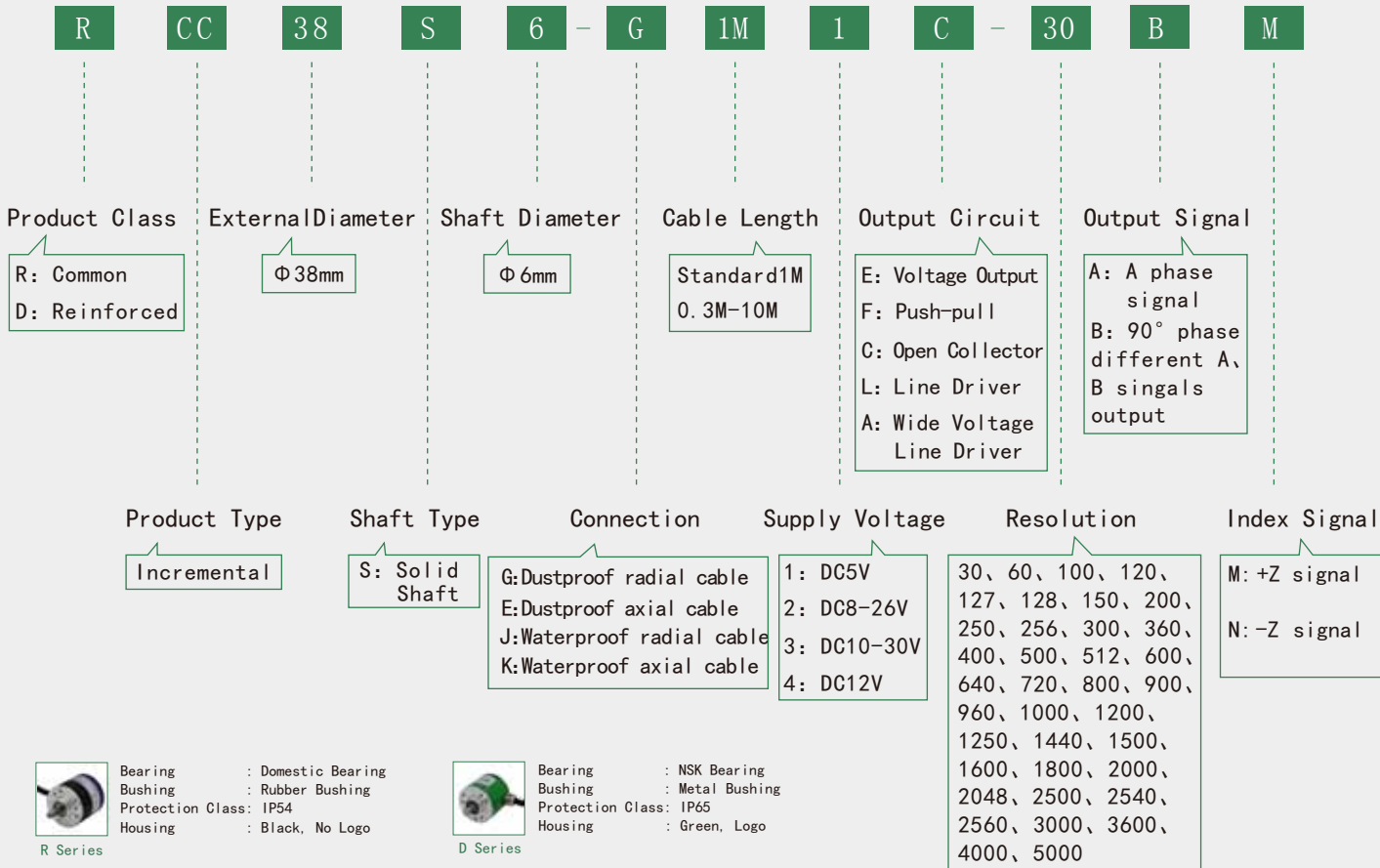
RCC38S6 · Series

Applications & Features



RCC38S is widely used in various mechanical industrial control, especially in the printing and packing industry. Resolution up to 5000 P/R. Small size, light weight and high precision. Through the axial length changes, the encoder can be adapted to the more different environment, is the preferred higher quality and low cost product.

Part Number



Electrical Specifications

[illegible]

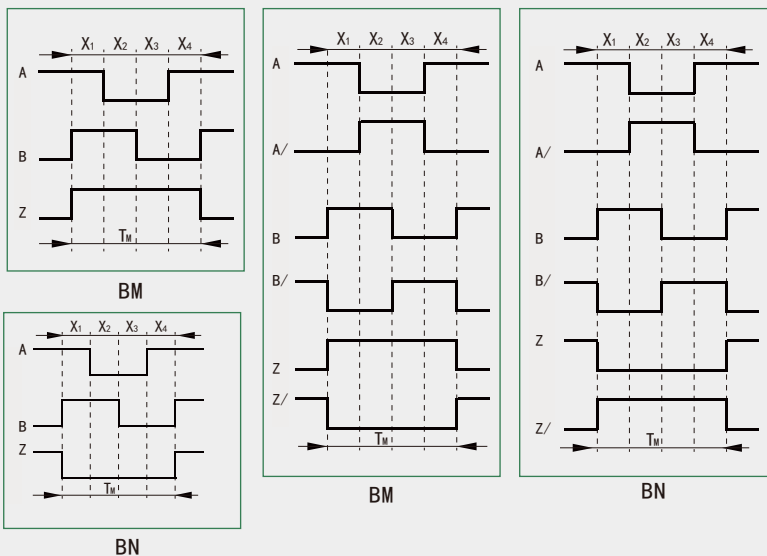
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

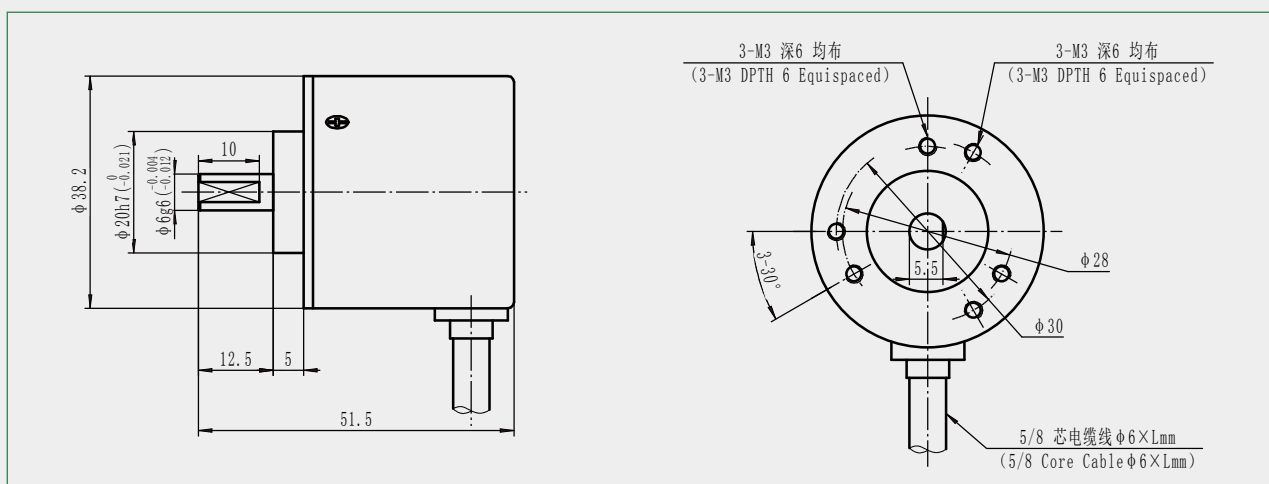
2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1×10^{-3}	30	20	4×10^{-6}	≈0.135

Dimension



Environmental Specifications

Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+90	
Relative Humidity	35%~85%RH no condensation	
Impact Resistance (m/s ²)	980(Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Grey	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
G (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

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产品选型手册

Product selection guide



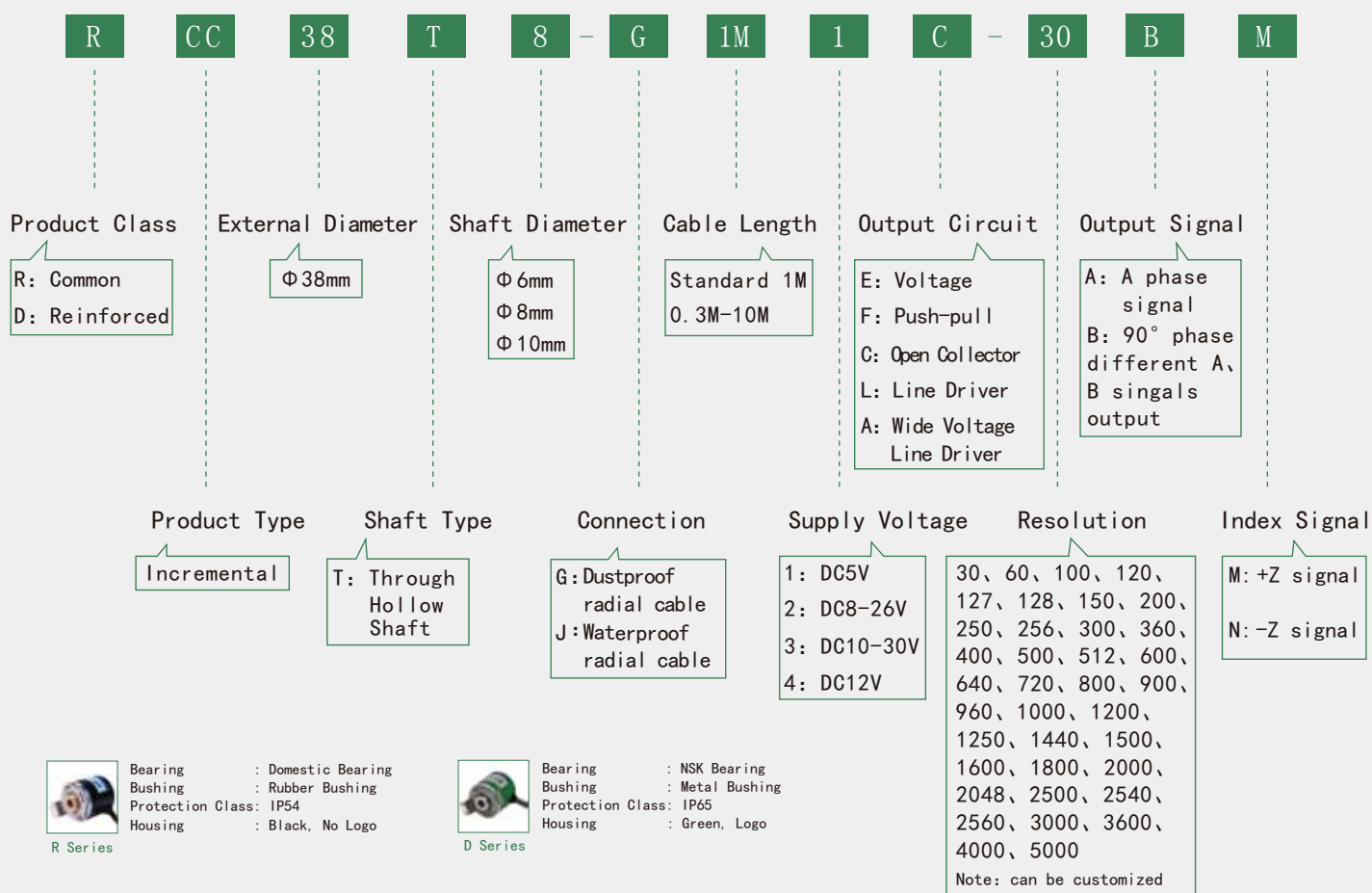
RCC38T · Series

Applications & Features



RCC38T for precision work environment. Products using through-hole design, diameter between 6mm-8mm. Resolution up to 5000 pulses, special requirements can be customized. Optoelectronic devices with high reliability, long life, anti-jamming capability, using a wide temperature range.

Part Number

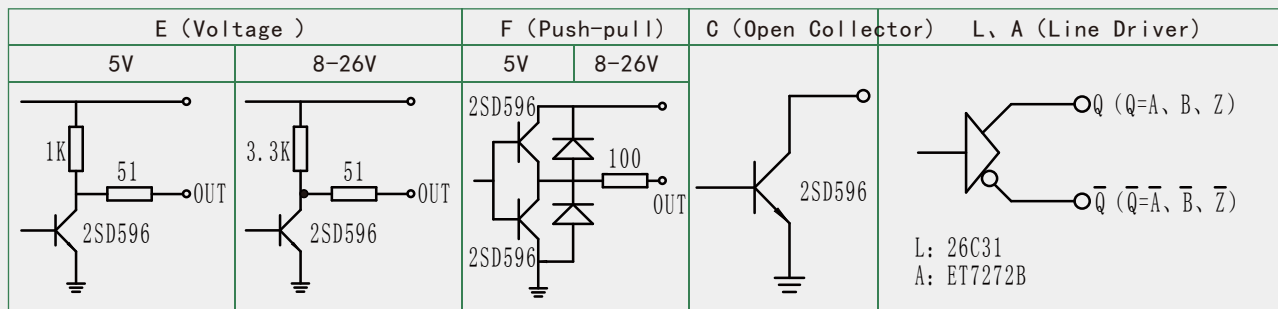


Electrical Specifications

[illegible]

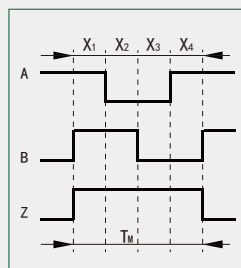
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

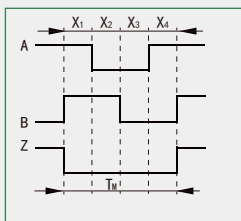


Note: C, F output is shorted to ground protection diode.

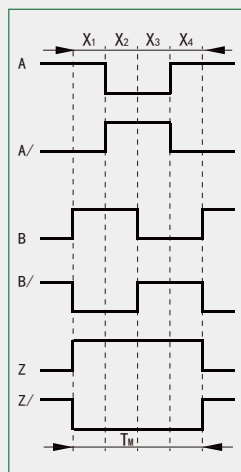
Output Waveform



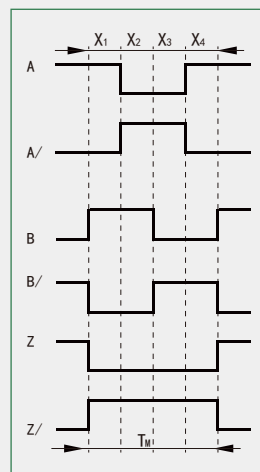
BM



BN



BM



BN

Wave Ratio : $X1+X2=0.5T \pm 0.1T$
 $X2+X3=0.5T \pm 0.1T$

Phase Different : $Xn \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

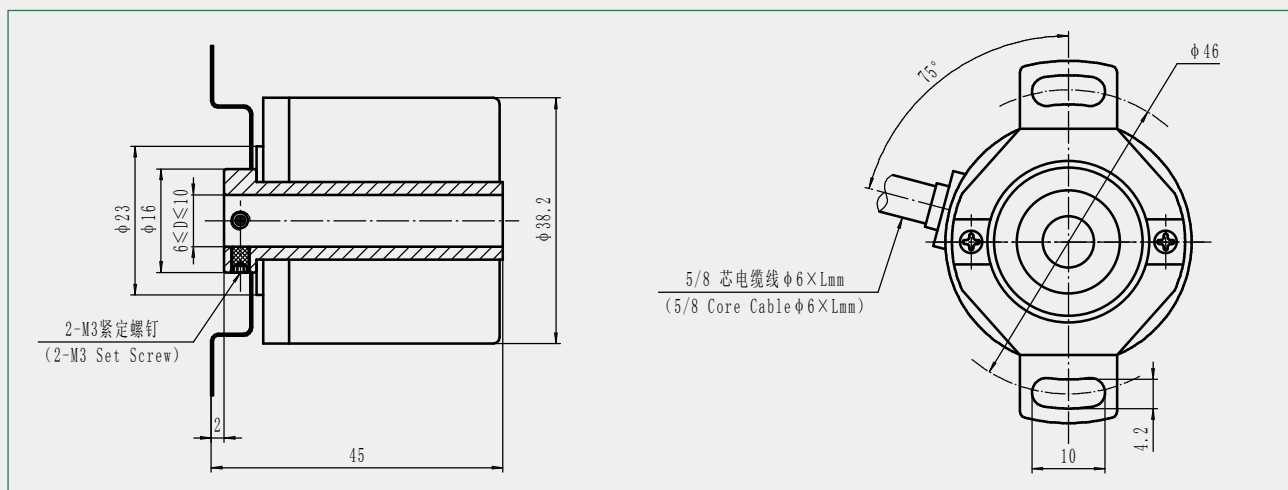
2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1×10^{-3}	30	20	4×10^{-6}	≈0.135

Dimension



Environmental Specifications

Operating Temperature (°C)	-30~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A	/	B	/	Z	/	G
F (Push Pull)	Vcc	0V	A	/	B	/	Z	/	G
C (Open Collector)	Vcc	0V	A	/	B	/	Z	/	G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G



产品选型手册

Product selection guide



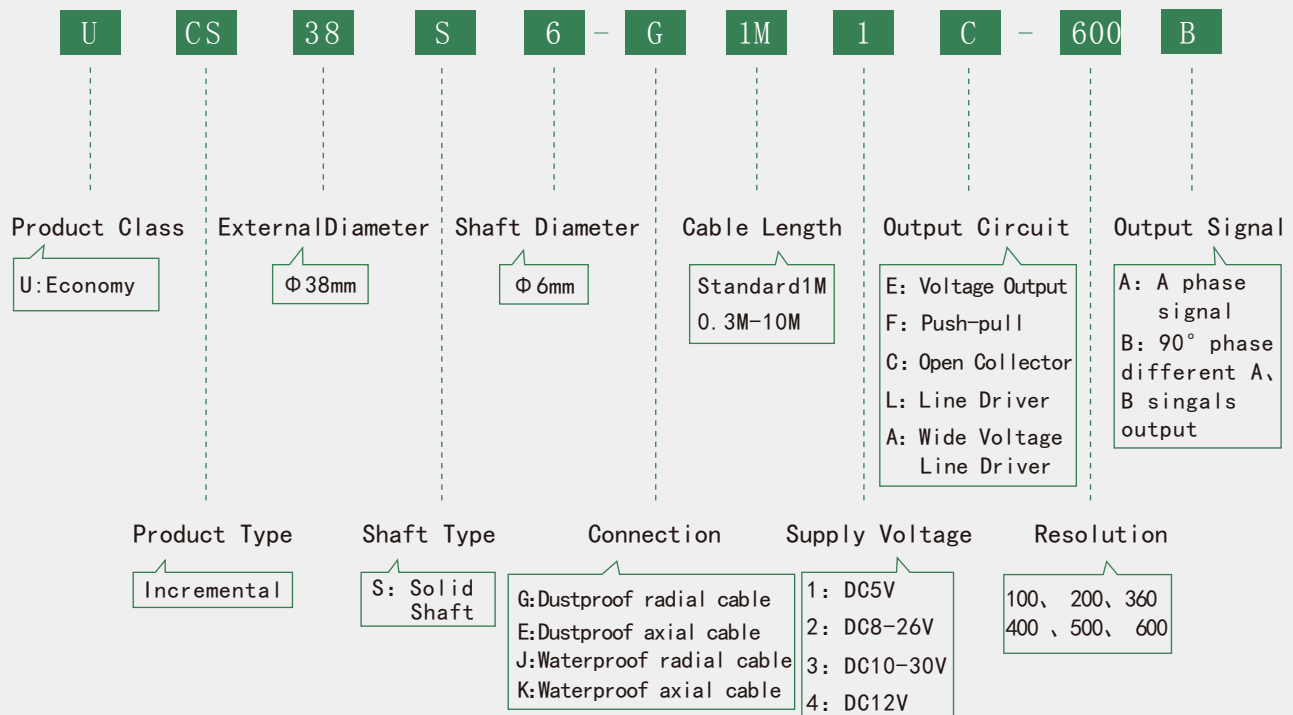
UCS38S6 · Series

Applications & Features



For precision work environment. Products using hollow shaft design, shaft diameter among 6mm-10mm. Product pulses up to 5,000 pulses, special requirements can be customized. Optoelectronic devices ensure high reliability, long life, anti-jamming capability, wide temperature range.

Part Number



Electrical Specifications

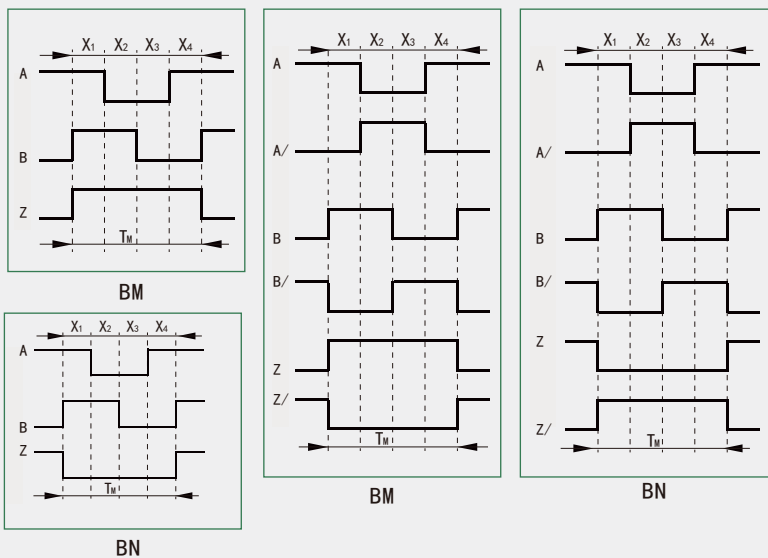
Output Circuit	Supply Voltate DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					 L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.



Wave Ratio : $X1+X2=0.5T \pm 0.1T$
 $X2+X3=0.5T \pm 0.1T$

Phase Different : $Xn \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

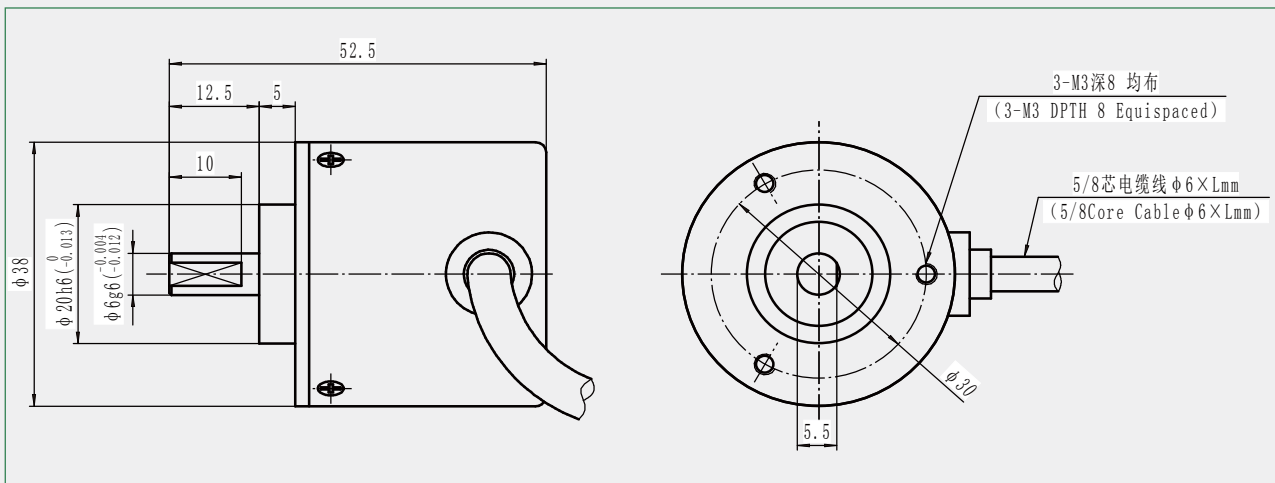
Mechanical Specifications

Max Speed (r/min)	Starting Torque (25°C) (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1×10^{-3}	30	20	4×10^{-6}	≈0.135

Environmental Specifications

Operating Temperature (°C)	-20~+85
Storage Temperature (°C)	-30~+90
Relative Humidity	35%~85%RH no condensation
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)
Protection Class	IP54

Dimension



Connection

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orang	Shield
E (Voltage)	Vcc	0V	A	/	B	/	Z	/	G
F (Push Pull)	Vcc	0V	A	/	B	/	Z	/	G
G (Open Collector)	Vcc	0V	A	/	B	/	Z	/	G
L、A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

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产品选型手册

Product selection guide



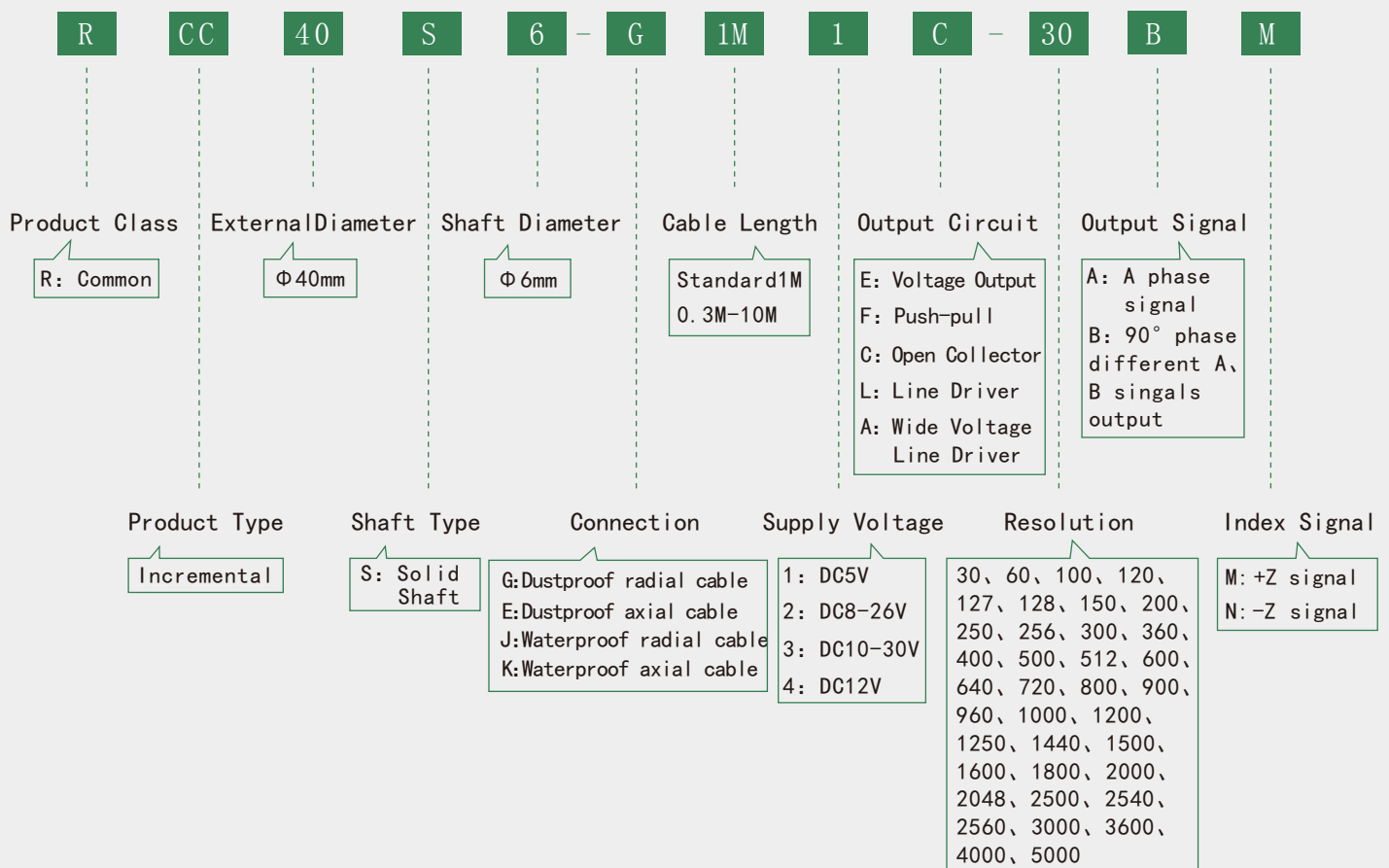
RCC 40S6 · Series

Applications & Features



RCC40S6 is widely used in various mechanical industrial control, especially in the printing and packaging industry. Resolution up to 5000, taking into account the small size, light weight and high precision of modern industrial requirements. Through the axial length changes, more applications can be adapted to the environment, is the preferred higher quality and low cost products.

Part Number



Electrical Specifications

[illegible]

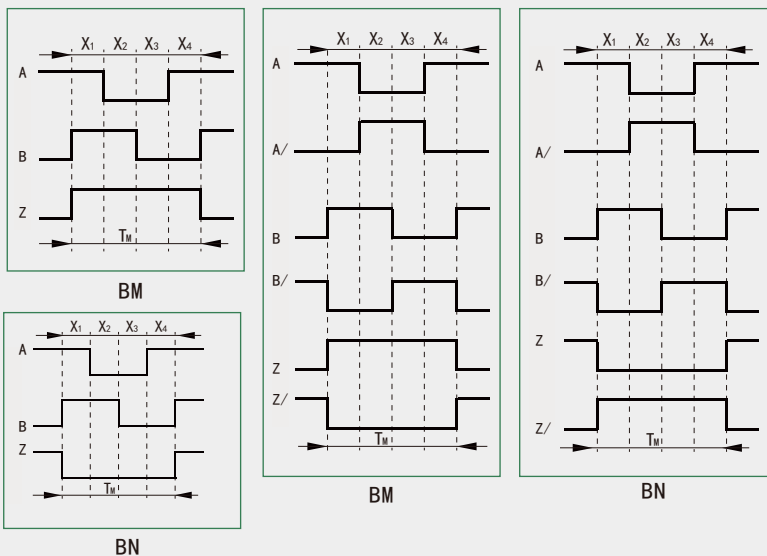
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					 L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T\pm0.1T$
 $X_2+X_3=0.5T\pm0.1T$

Phase Different : $X_n\geq0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq0.2T$

Cycle Error : $\leq0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T\pm0.5T$
 $T_m=nT\pm0.1T$ ($n\geq2$)

The phase relationship of Z signal and A, B signal is not stipulated.

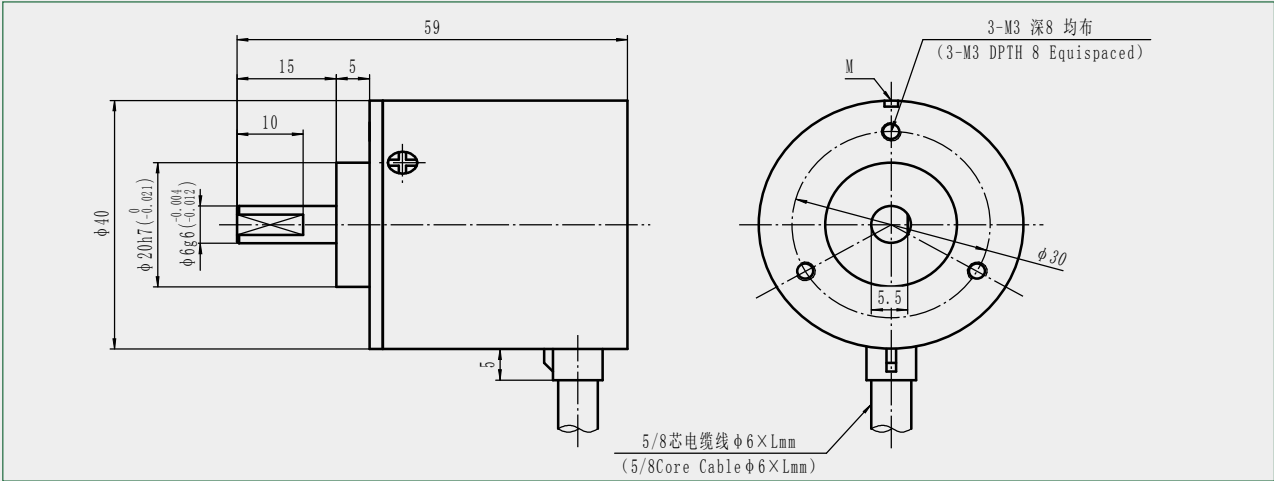
2、 $T_m=0.5T\pm0.25T$
 $T_m=0.25T\pm0.125T$
 $T_m=0.25T\pm0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	$1\cdot10^{-3}$	30	20	$4\cdot10^{-6}$	≈0.135

Dimension



Environmental Specifications



Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
G (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

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产品选型手册

Product selection guide



RCC50H · Series

Applications & Features

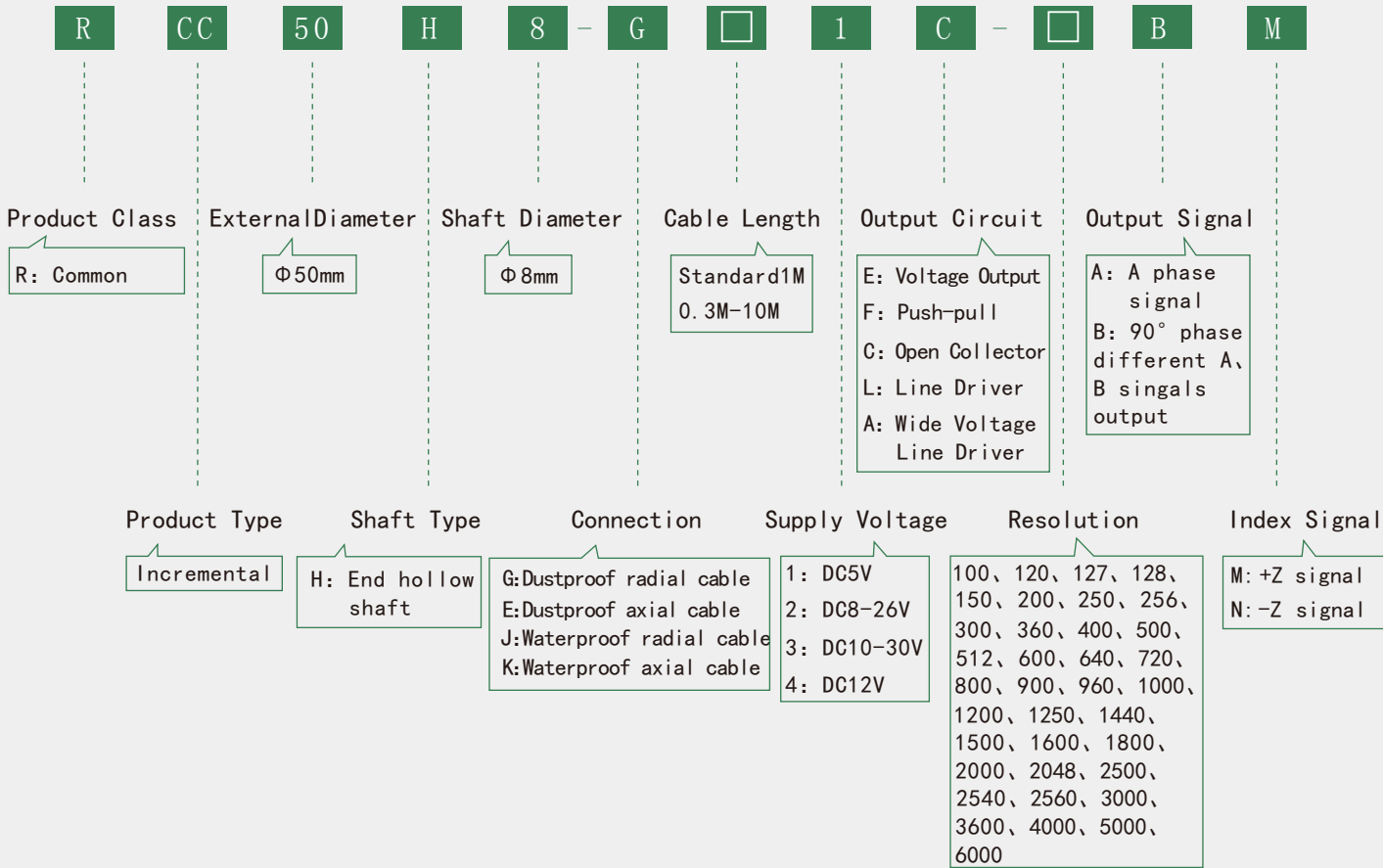


RCC50H, 50mm External Diameter; Various kinds of termination;
Wide application range.

The grating divided into metal grating and glass grating, the max resolution up to 6000ppr.

Optoelectronic devices with high reliability, long life, strong anti-interference ability, wide range of operating temperature.

Part Number



Electrical Specifications

Output Circuit	Supply Voltage DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

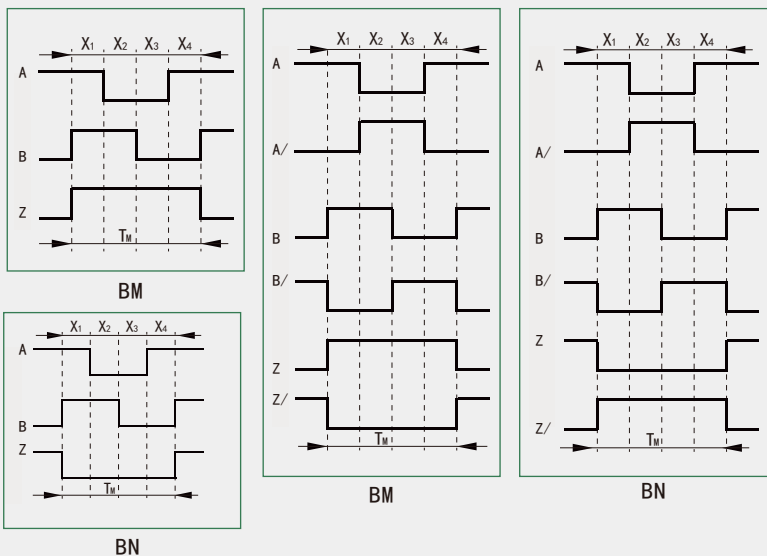
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

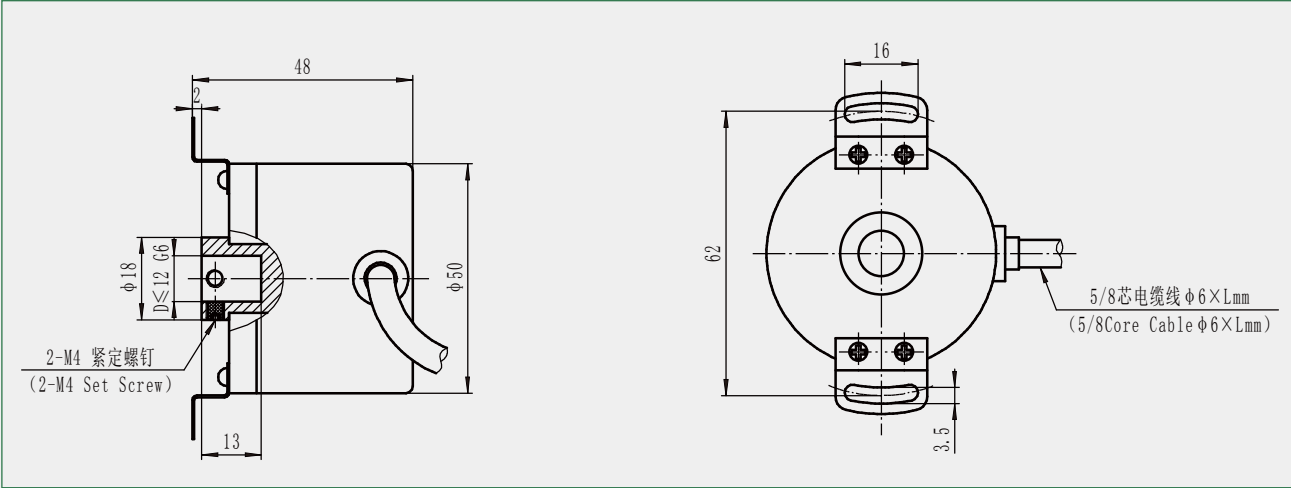
2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1×10^{-2}	60	40	3.5×10^{-6}	≈0.28

Dimension



Environmental Specifications



Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L、A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

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产品选型手册

Product selection guide



RCC50S · Series

Applications & Features

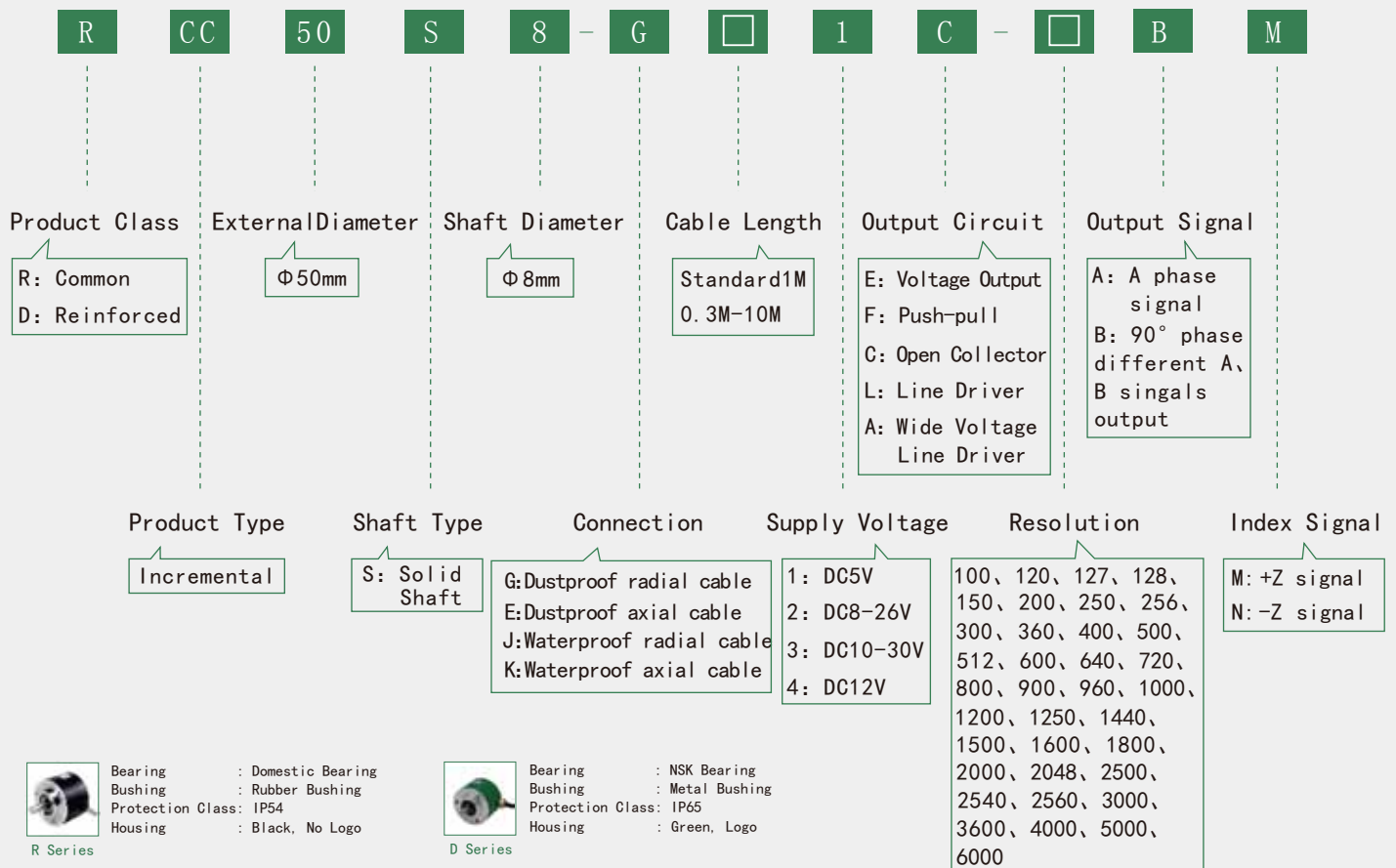


RCC50S, 50mm External Diameter; Various kinds of termination;
Wide application range.

The grating divided into metal grating and glass grating, the max resolution up to 6000ppr.

Optoelectronic devices with high reliability, long life, strong anti-interference ability, wide range of operating temperature.

Part Number



Electrical Specifications

[illegible]

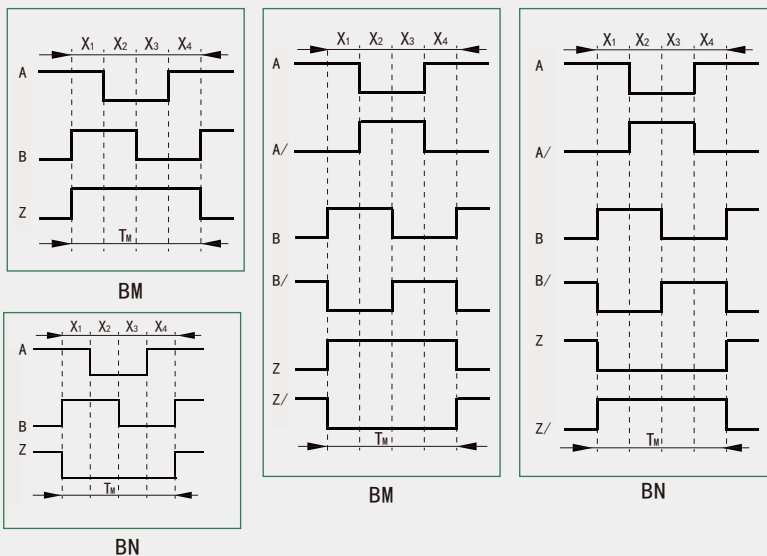
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

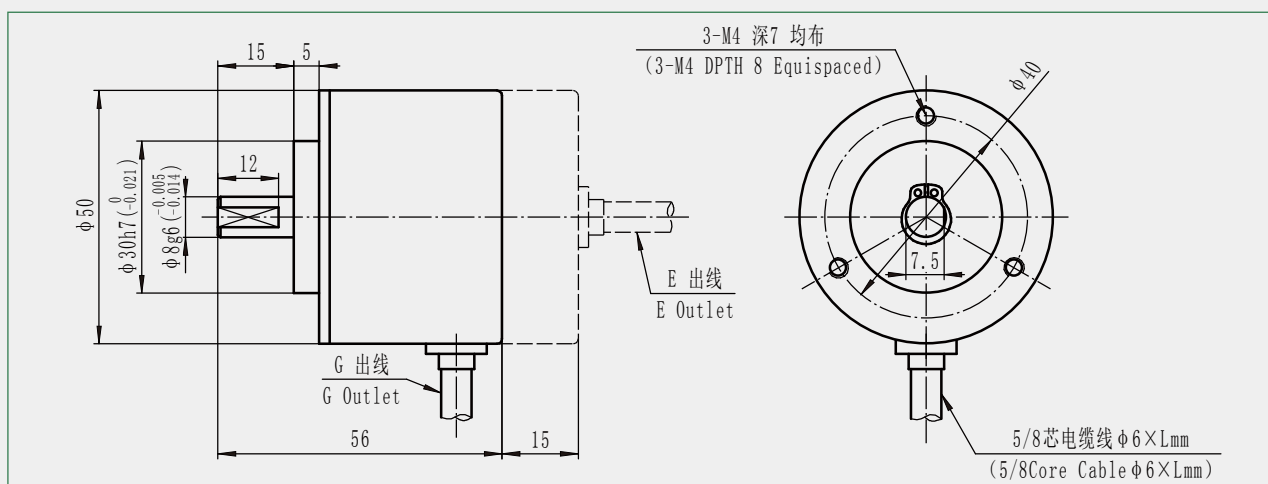
2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1×10^{-3}	30	20	4×10^{-6}	≈0.19

Dimension



Environmental Specifications

Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L、A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G



产品选型手册

Product selection guide



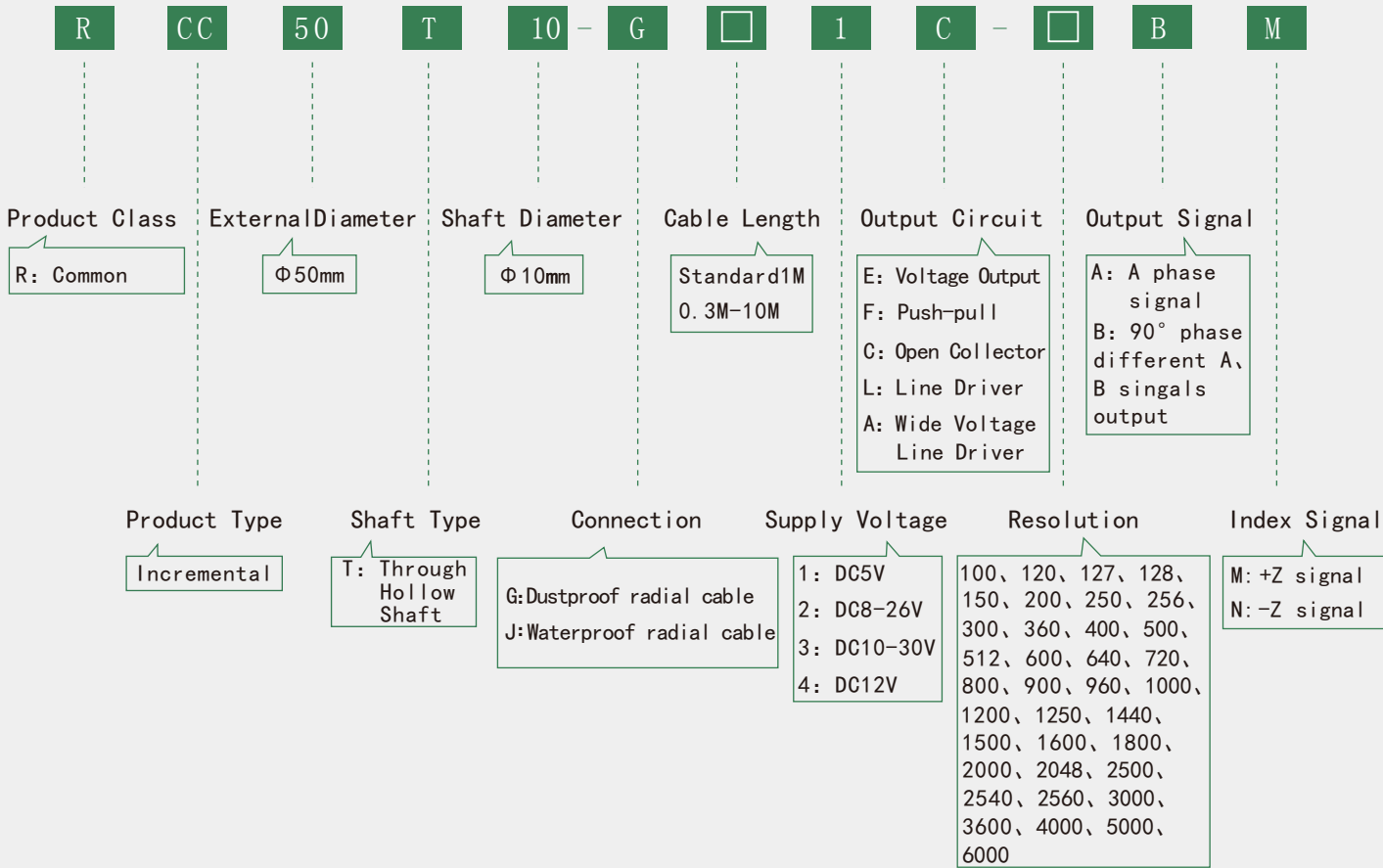
RCC50T · Series

Applications & Features



RCC50T is widely used in automatic control, automatic measurement, remote control, computer technology. Resolution up to 6000ppr, others on request. Optoelectronic devices with high reliability, long life, strong anti-interference ability, wide range of operating temperature.

Part Number



Electrical Specifications

Output Circuit	Supply Voltage DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

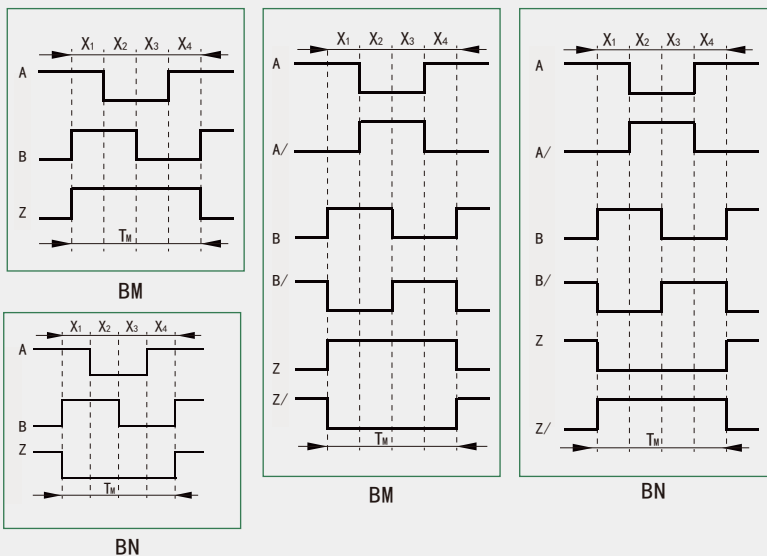
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					 L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

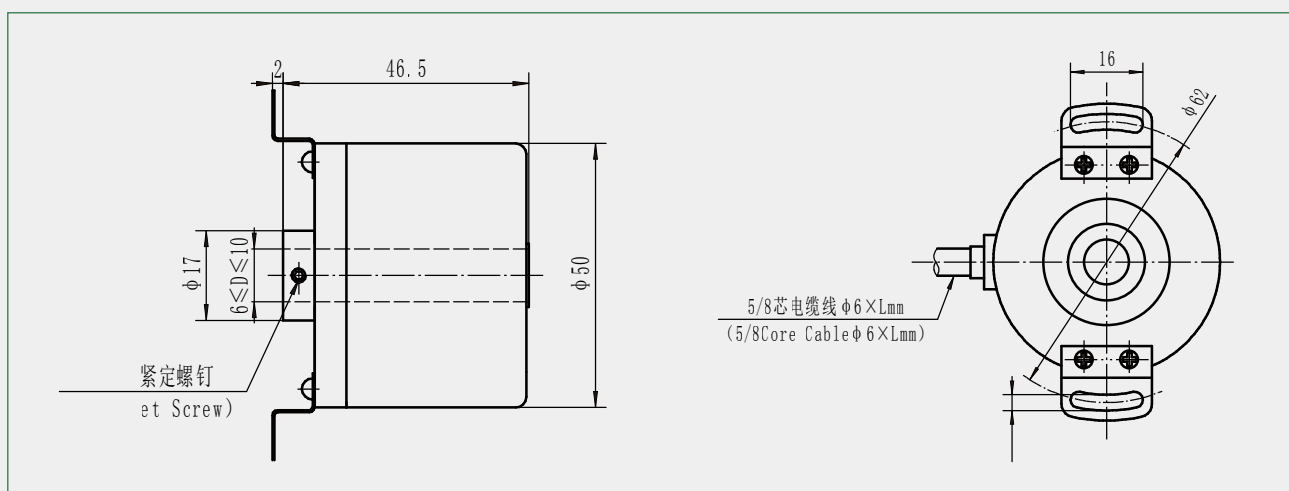
2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	1.5×10^{-2}	50	30	4×10^{-7}	≈0.28

Dimension



Environmental Specifications

Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s ²)	500 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP51	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L、A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

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产品选型手册

Product selection guide



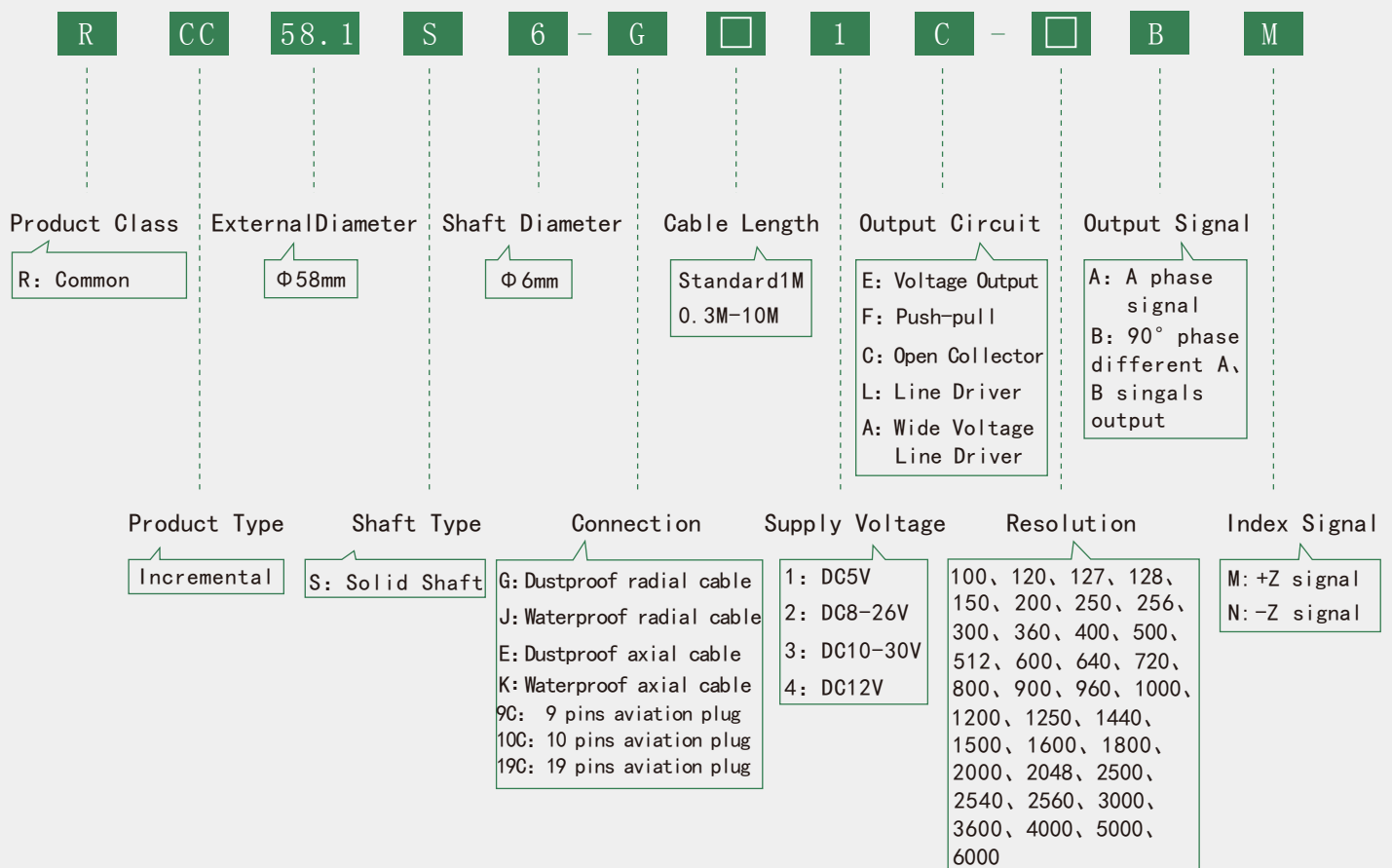
RCC58.1S6 · Series

Applications & Features



RCC58.1S6 is widely applied to kinds of machinery and photoelectric light industry control industry. Multiple output signals are available, resolution up to 6000ppr, others on request. Optoelectronic devices with high reliability, long life, strong anti-interference ability, wide range of operating temperature.

Part Number



Electrical Specifications

[illegible]

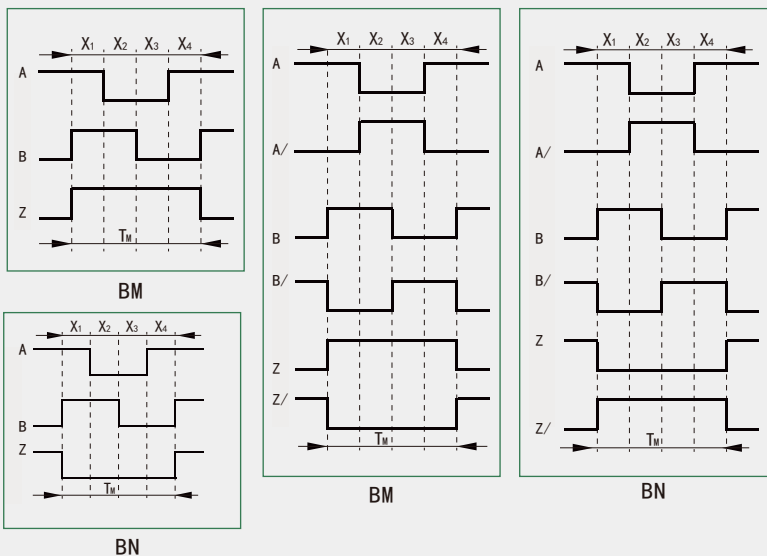
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					 L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X1+X2=0.5T \pm 0.1T$
 $X2+X3=0.5T \pm 0.1T$

Phase Different : $Xn \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

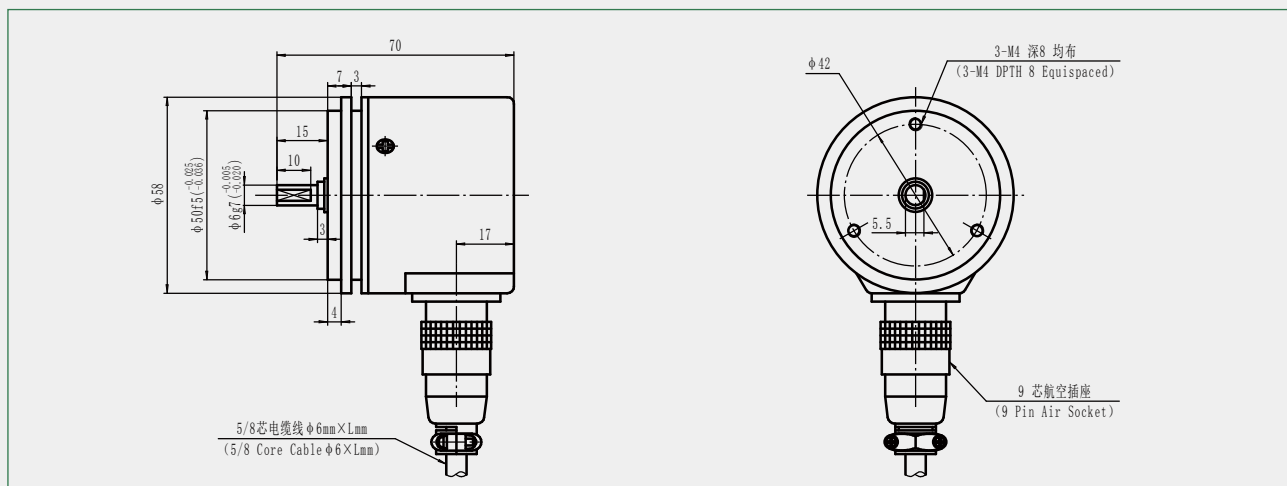
2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	6×10^{-3}	40	30	8.5×10^{-6}	≈0.255

Dimension



Environmental Specifications

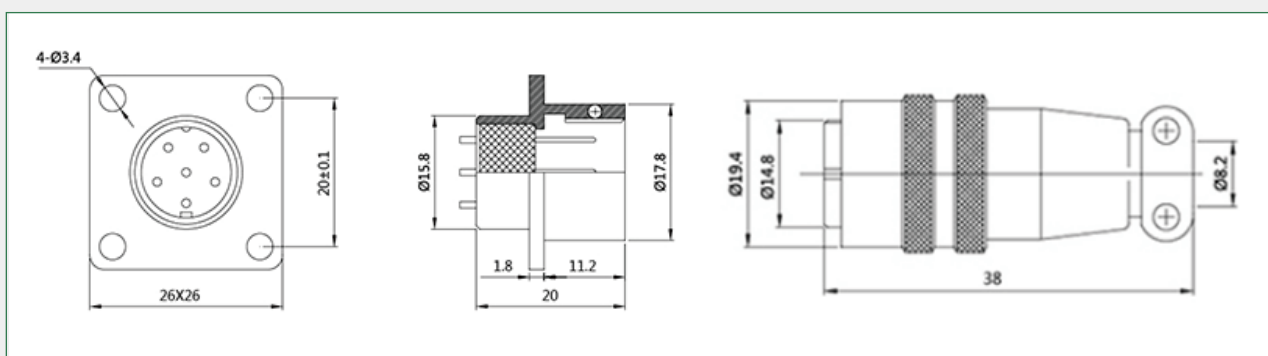
Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s ²)	500 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10 ~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

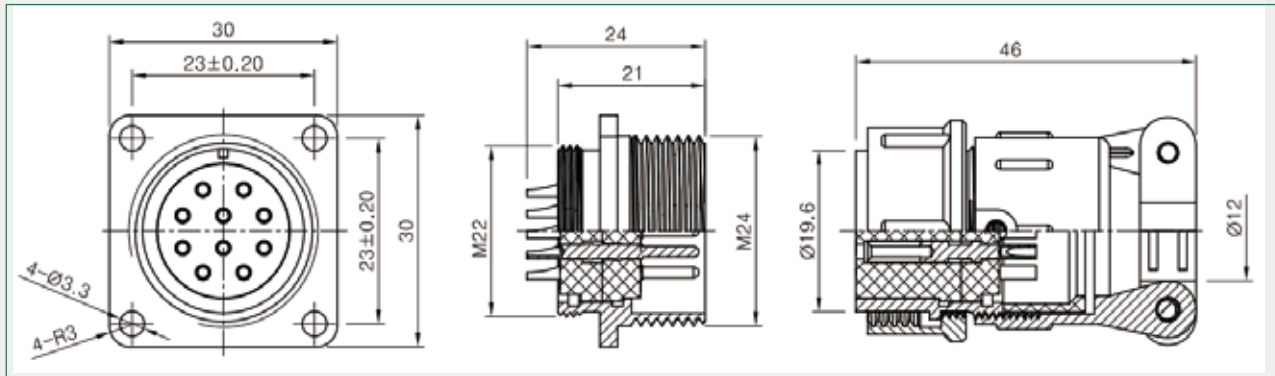
9 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Shield
E (Voltage)	Vcc	Z	B	0V	A				G
F (Push Pull)	Vcc	Z	B	0V	A				G
C (Open Collector)	Vcc	Z	B	0V	A				G
L, A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	G



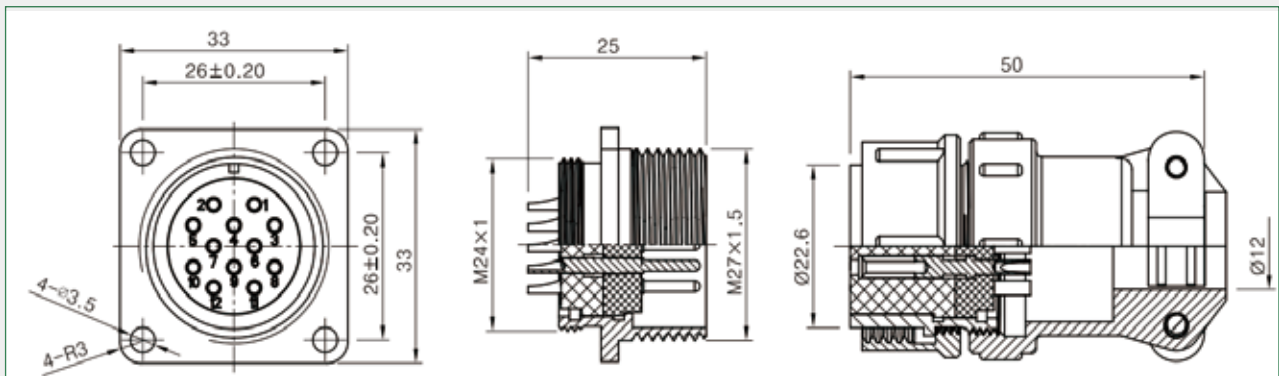
10 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9	10
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Black	Shield
E (Voltage)	Vcc	Z	B	0V	A				0V	G
F (Push Pull)	Vcc	Z	B	0V	A				0V	G
G (Open Collector)	Vcc	Z	B	0V	A				0V	G
L、A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	0V	G



19 Pins Aviation Plug

Pins No.	1	2	3	8	10	12	13	14	15	17
Cable Color	Green	Yellow	White	Red	Black	Black	Brown	Orange	Gray	Shield
E (Voltage)	A	Z	B	Vcc	0V	0V				G
F (Push Pull)	A	Z	B	Vcc	0V	0V				G
G (Open Collector)	A	Z	B	Vcc	0V	0V				G
L、A (Line Driver)	A	Z	B	Vcc	0V	0V	A/	Z/	B/	G



产品选型手册

Product selection guide



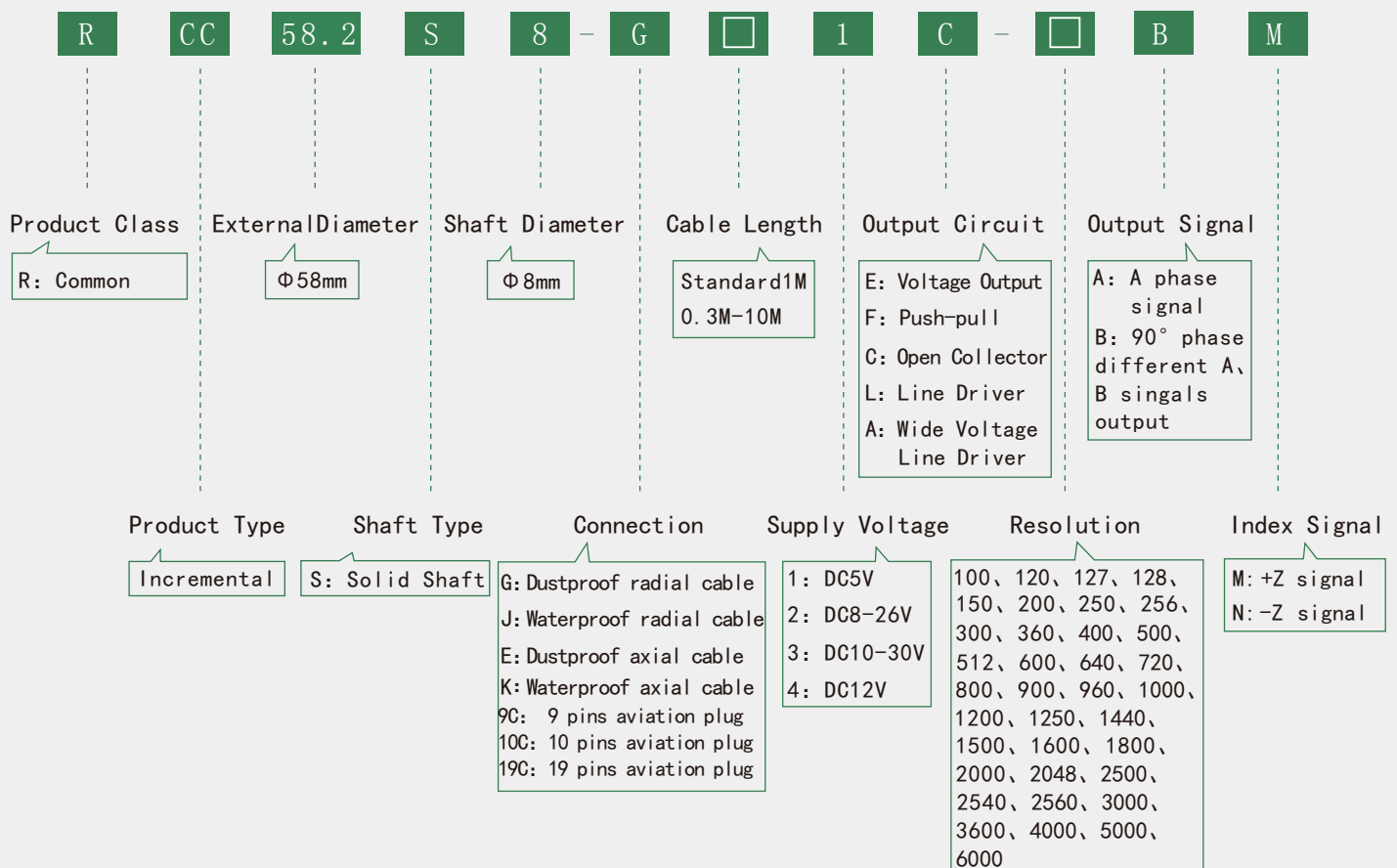
RCC58.1S6 · Series

Applications & Features



RCC58.2S is widely applied to kinds of machinery and photoelectric light industry control industry. Multiple output signals are available, resolution up to 6000ppr, others on request. Optoelectronic devices with high reliability, long life, strong anti-interference ability, wide range of operating temperature.

Part Number



Electrical Specifications

[illegible]

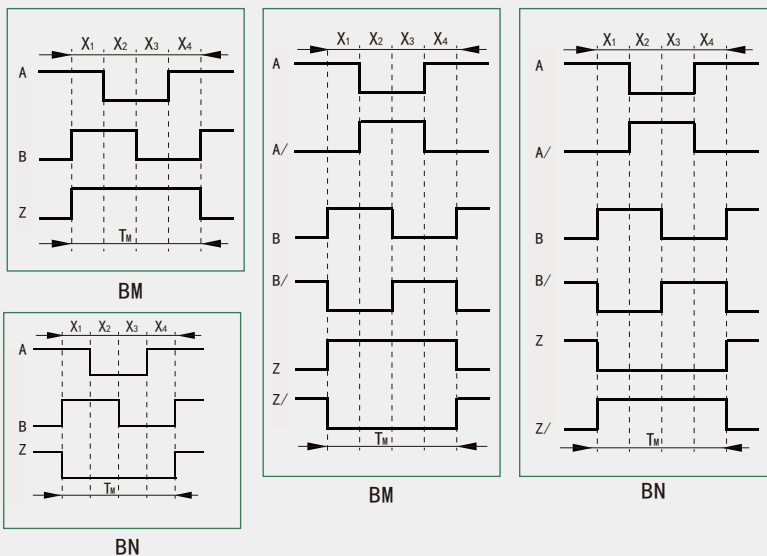
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					 L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

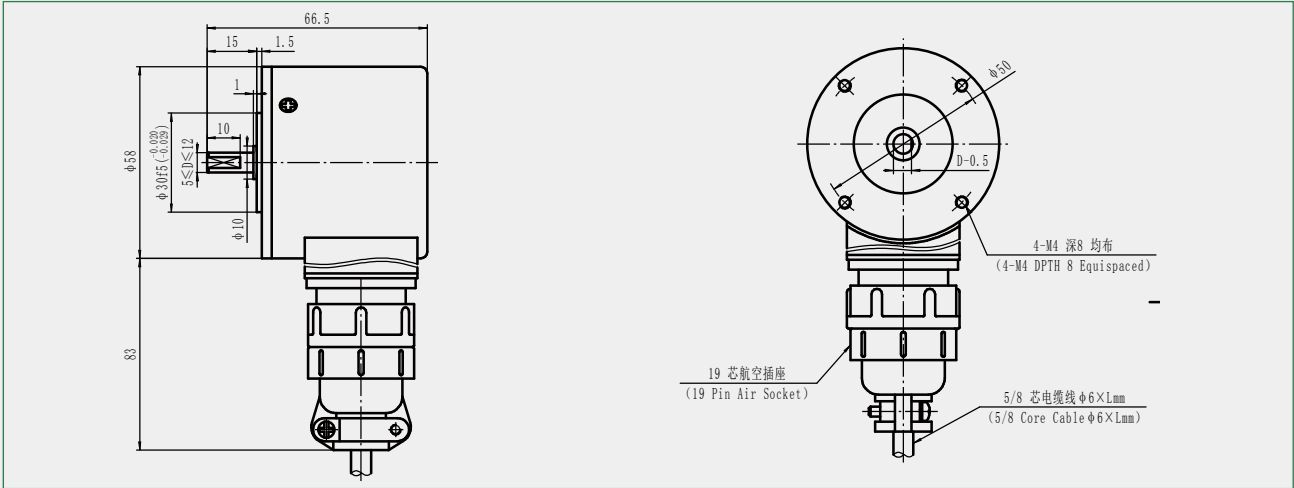
2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	6×10^{-3}	40	30	8.5×10^{-6}	≈0.285

Dimension



Environmental Specifications

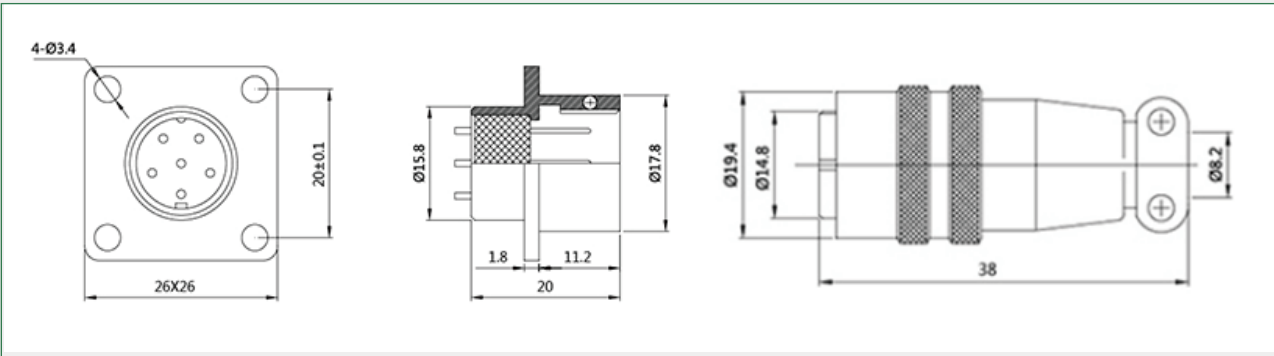


Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
G (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

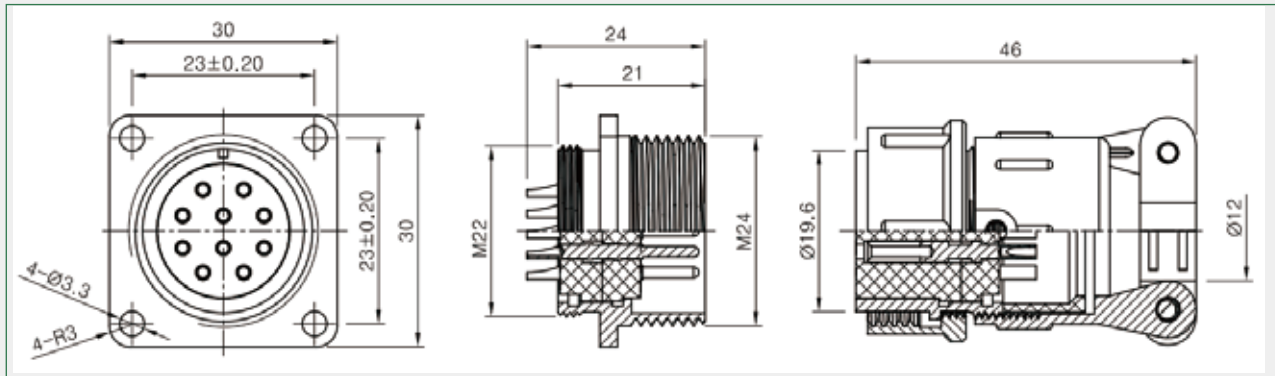
9 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Shield
E (Voltage)	Vcc	Z	B	0V	A				G
F (Push Pull)	Vcc	Z	B	0V	A				G
C (Open Collector)	Vcc	Z	B	0V	A				G
L、A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	G



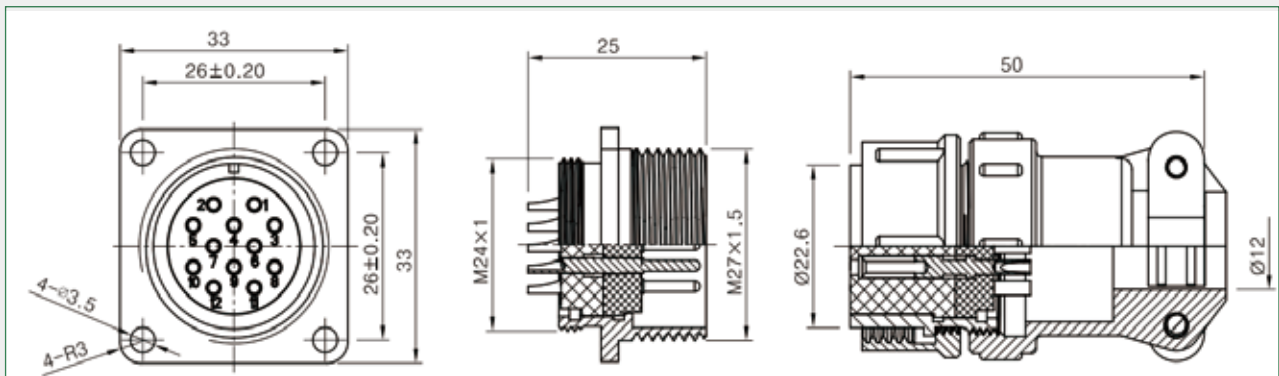
10 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9	10
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Black	Shield
E (Voltage)	Vcc	Z	B	0V	A				0V	G
F (Push Pull)	Vcc	Z	B	0V	A				0V	G
G (Open Collector)	Vcc	Z	B	0V	A				0V	G
L、A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	0V	G



19 Pins Aviation Plug

Pins No.	1	2	3	8	10	12	13	14	15	17
Cable Color	Green	Yellow	White	Red	Black	Black	Brown	Orange	Gray	Shield
E (Voltage)	A	Z	B	Vcc	0V	0V				G
F (Push Pull)	A	Z	B	Vcc	0V	0V				G
G (Open Collector)	A	Z	B	Vcc	0V	0V				G
L、A (Line Driver)	A	Z	B	Vcc	0V	0V	A/	Z/	B/	G



产品选型手册

Product selection guide



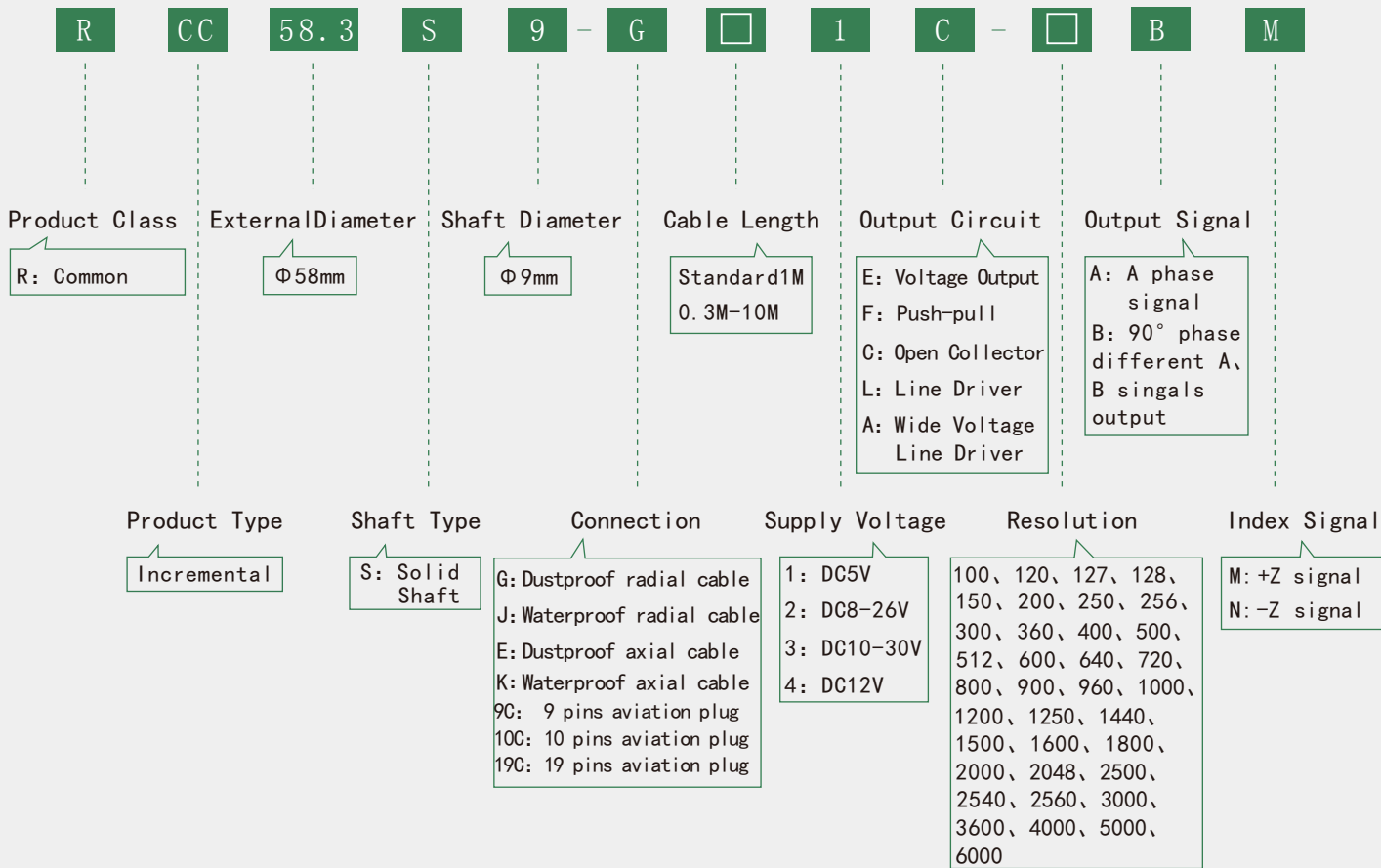
RCC58.3S9 · Series

Applications & Features



RCC58.3S9 is widely applied to kinds of machinery and photoelectric light industry control industry. Multiple output signals are available, resolution up to 6000ppr, others on request. Optoelectronic devices with high reliability, long life, strong anti-interference ability, wide range of operating temperature.

Part Number



Electrical Specifications

Output Circuit	Supply Voltage DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

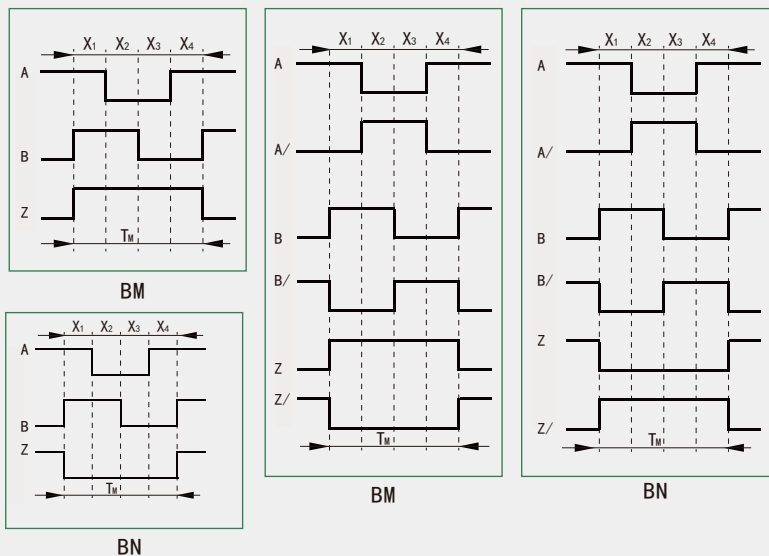
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

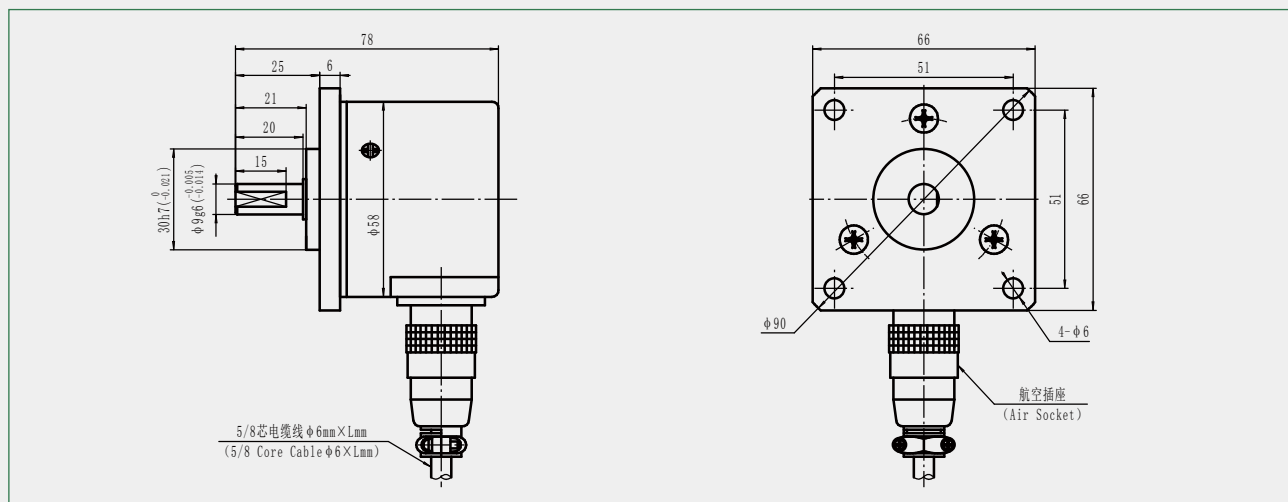
2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	6×10^{-3}	40	30	8.5×10^{-6}	≈0.255

Dimension



Environmental Specifications

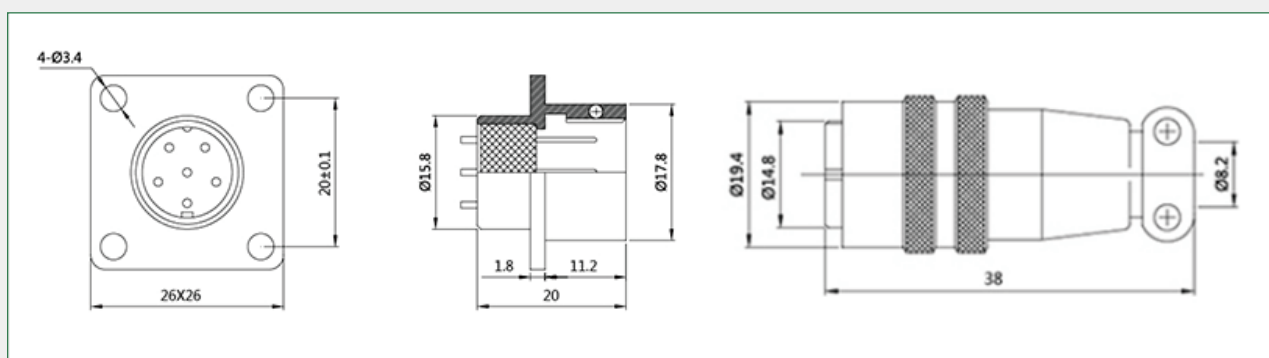
Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s ²)	500 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10 ~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L、A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

9 Pins Aviation Plug

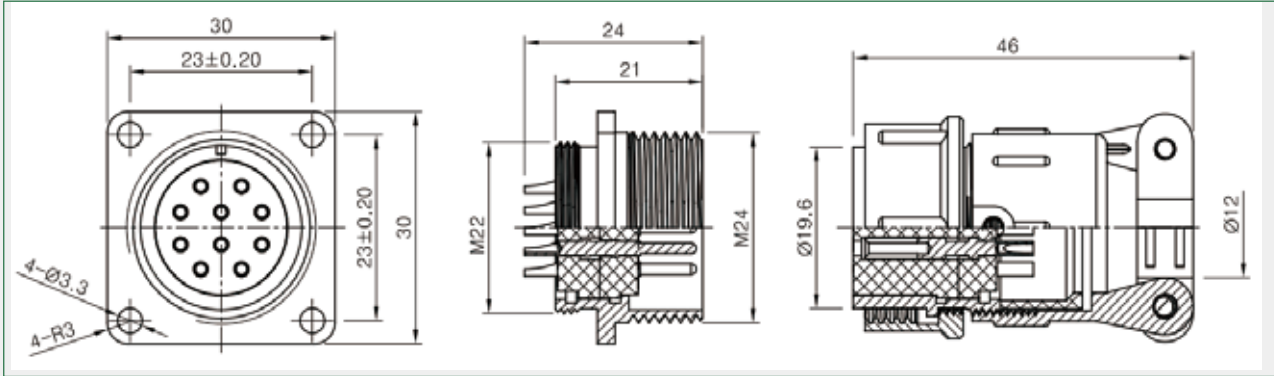
Pins No.	1	2	3	4	5	6	7	8	9
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Shield
E (Voltage)	Vcc	Z	B	0V	A				G
F (Push Pull)	Vcc	Z	B	0V	A				G
C (Open Collector)	Vcc	Z	B	0V	A				G
L、A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	G



35 ~ 85%RH no condensation

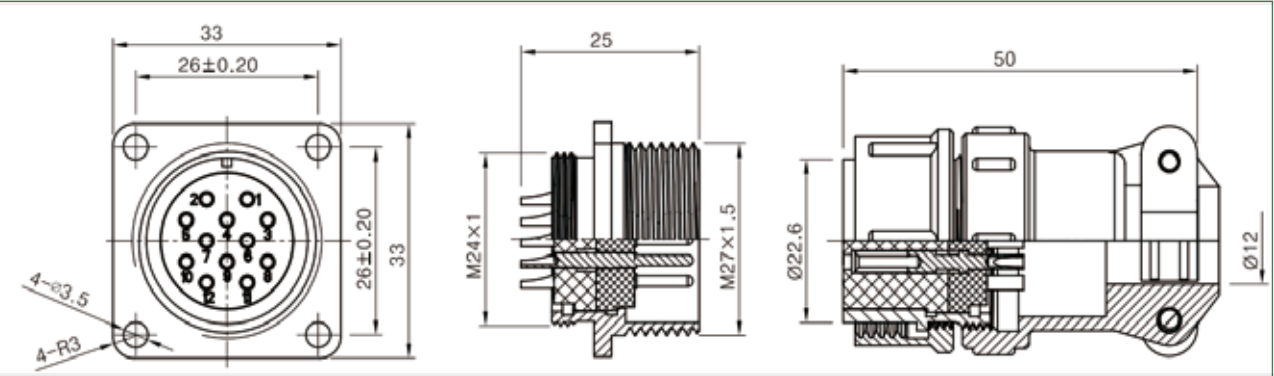
10 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9	10
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Black	Shield
E (Voltage)	Vcc	Z	B	0V	A				0V	G
F (Push Pull)	Vcc	Z	B	0V	A				0V	G
C (Open Collector)	Vcc	Z	B	0V	A				0V	G
L、A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	0V	G



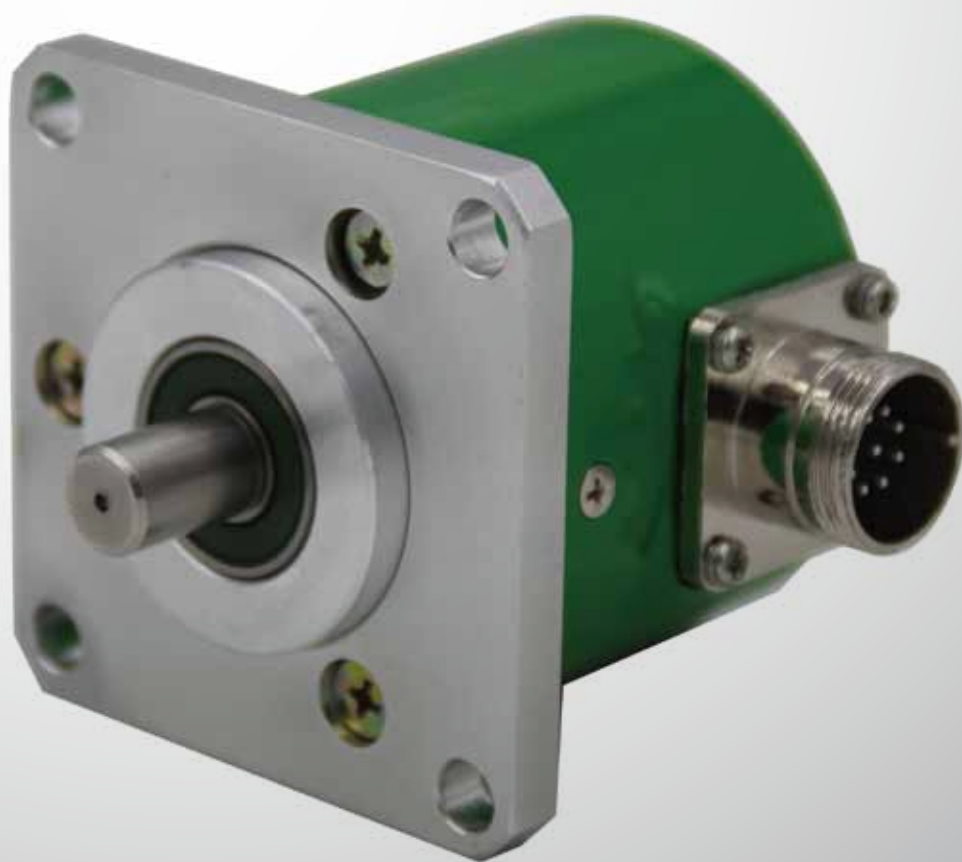
19 Pins Aviation Plug

Pins No.	1	2	3	8	10	12	13	14	15	17
Cable Color	Green	Yellow	White	Red	Black	Black	Brown	Orange	Gray	Shield
E (Voltage)	A	Z	B	Vcc	0V	0V				G
F (Push Pull)	A	Z	B	Vcc	0V	0V				G
C (Open Collector)	A	Z	B	Vcc	0V	0V				G
L、A (Line Driver)	A	Z	B	Vcc	0V	0V	A/	Z/	B/	G



产品选型手册

Product selection guide



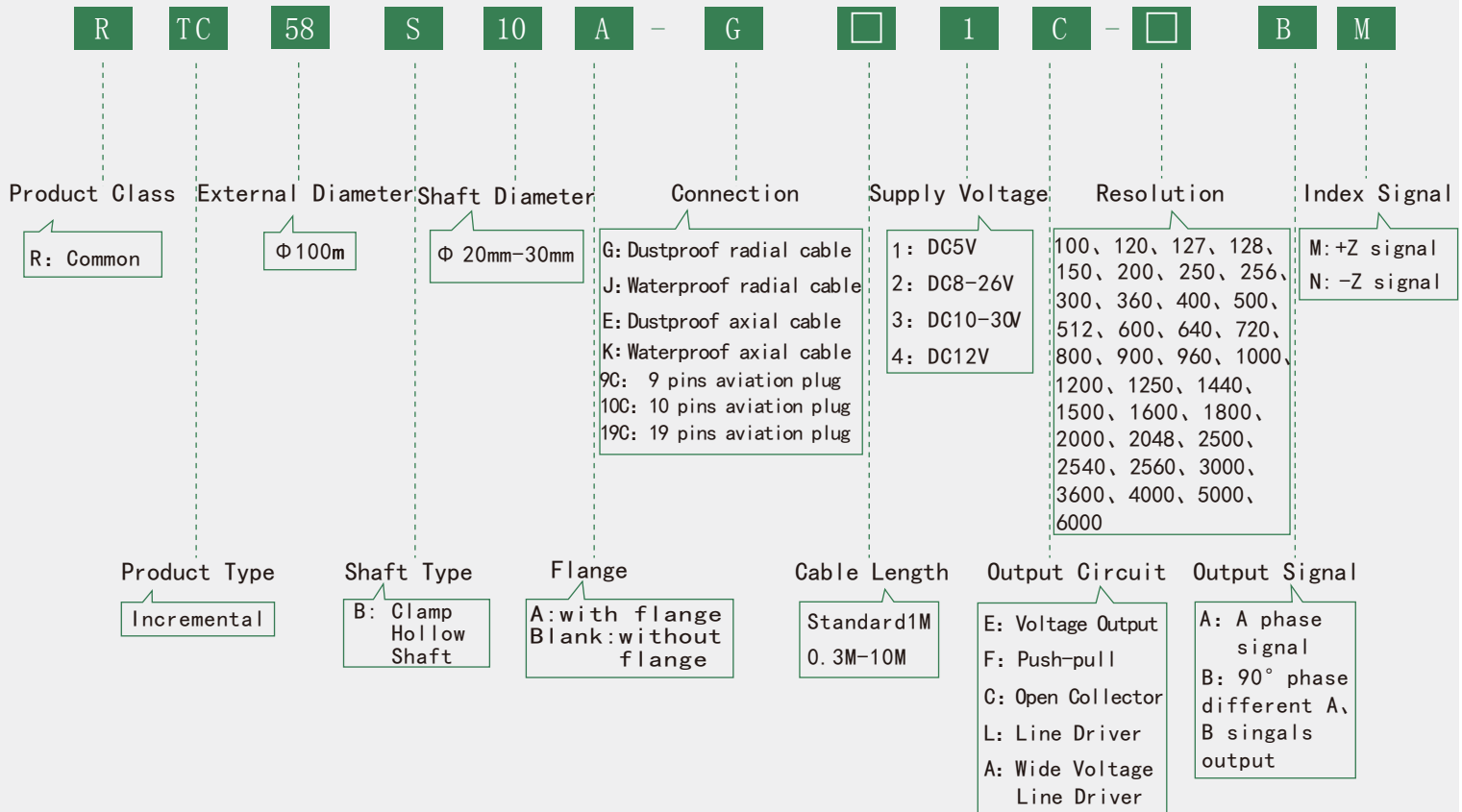
RTC58S10 · Series

Applications & Features



Product outer diameter of 58mm, is widely used in various mechanical and optical light control industry. There are a variety of output forms for customers to choose the maximum number of pulses up to 5000 pulses, pulse number can be customized according to customer requirements. Optoelectronic devices and high reliability, long life, anti-jamming capability, wide temperature range.

Part Number



Electrical Specifications

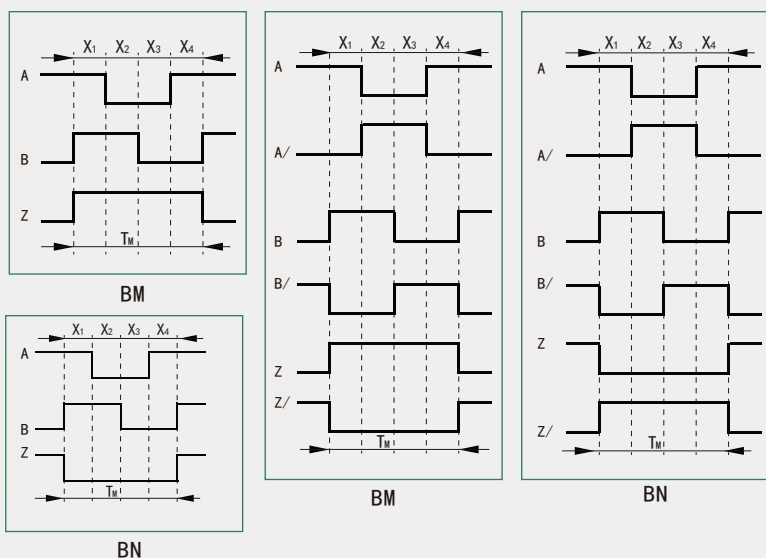
Output Circuit	Supply Voltage DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	12						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	12						
C (Open Collector)	5±0.25						
	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26						
	10-30	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					 L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$

$T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

2、 $T_m=0.5T \pm 0.25T$

$T_m=0.25T \pm 0.125T$

$T_m=0.25T \pm 0.125T$

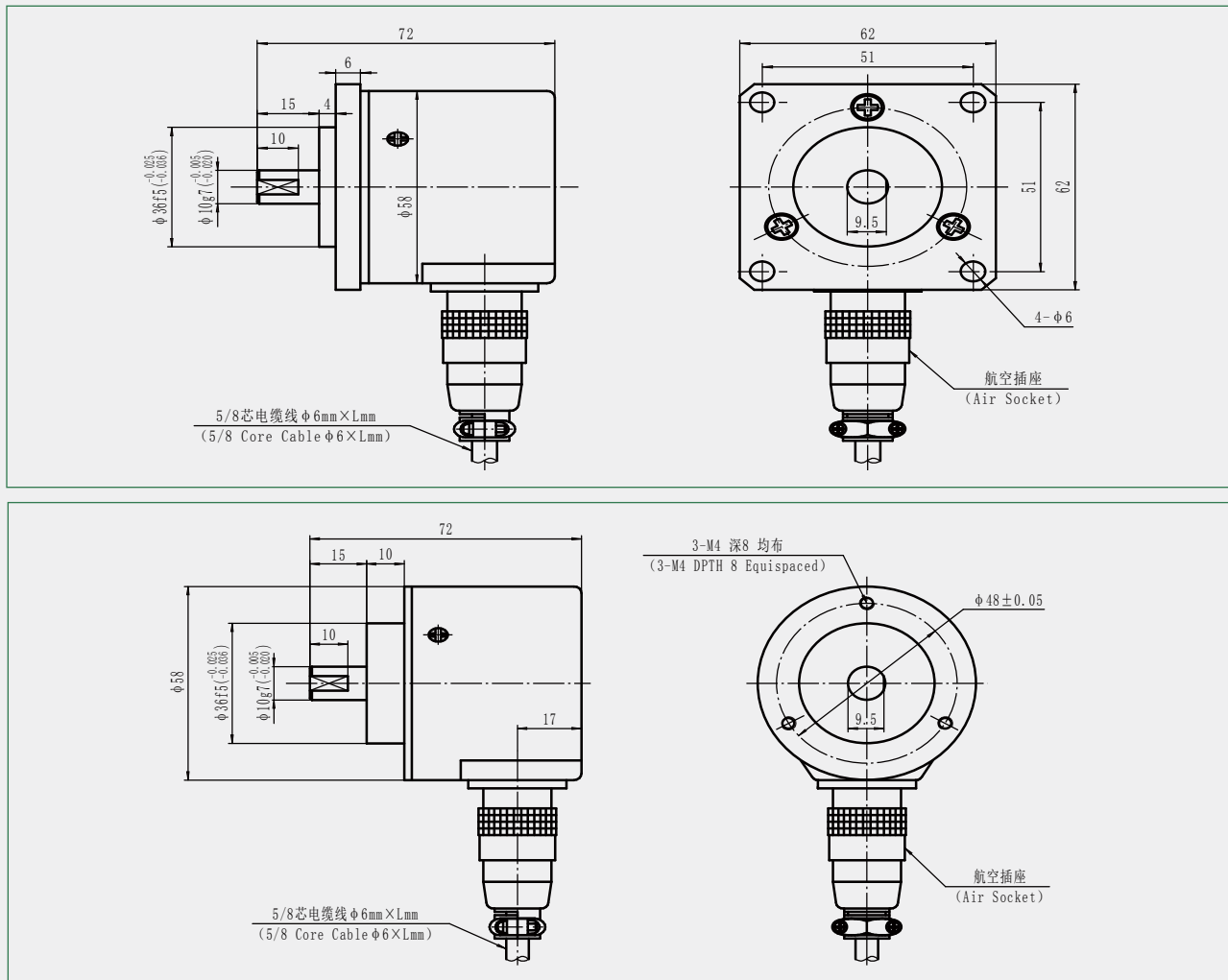
The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	6×10^{-3}	40	30	8.5×10^{-6}	≈ 0.36

Environmental Specifications

Operating Temperature (°C)	-20~+85
Storage Temperature (°C)	-30~+95
Relative Humidity	35~85%RH no condensation
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)
Protection Class	Common IP54 Reinforced IP65

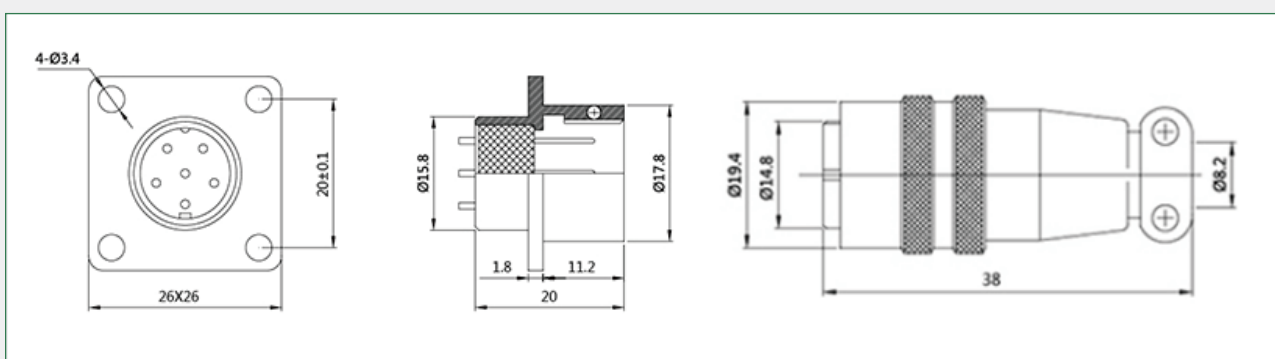


Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A	B	B	Z	Z	G

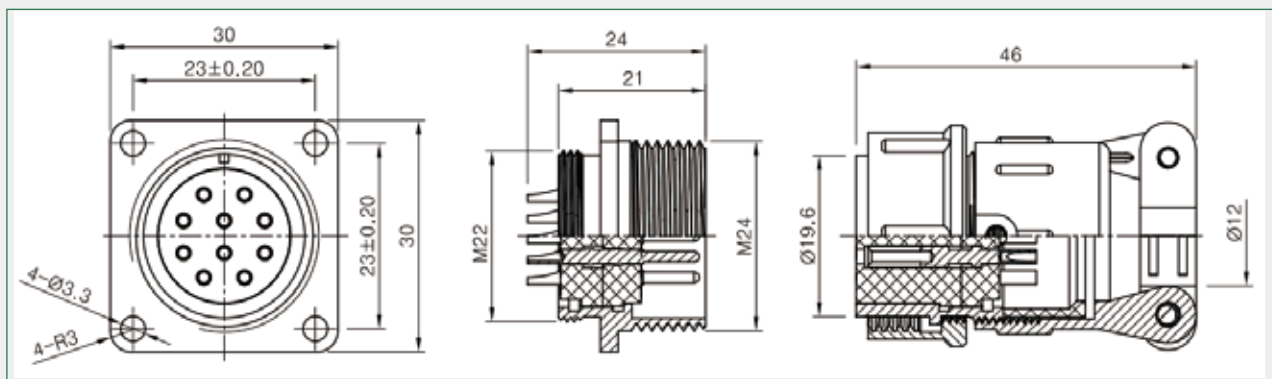
9 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Shield
E (Voltage)	Vcc	Z	B	0V	A				G
F (Push Pull)	Vcc	Z	B	0V	A				G
C (Open Collector)	Vcc	Z	B	0V	A				G
L, A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	G



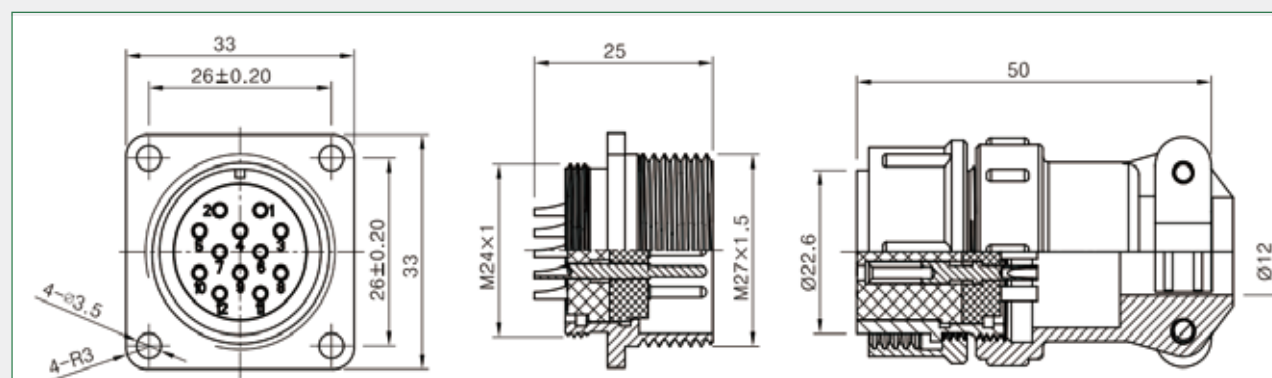
10 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9	10
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Black	Shield
E (Voltage)	Vcc	Z	B	0V	A				0V	G
F (Push Pull)	Vcc	Z	B	0V	A				0V	G
C (Open Collector)	Vcc	Z	B	0V	A				0V	G
L, A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	0V	G



19 Pins Aviation Plug

Pins No.	1	2	3	8	10	12	13	14	15	17
Cable Color	Green	Yellow	White	Red	Black	Black	Brown	Orange	Gray	Shield
E (Voltage)	A	Z	B	Vcc	0V	0V				G
F (Push Pull)	A	Z	B	Vcc	0V	0V				G
C (Open Collector)	A	Z	B	Vcc	0V	0V				G
L, A (Line Driver)	A	Z	B	Vcc	0V	0V	A/	Z/	B/	G



China Rongde Optics Co., Ltd

www.roundssencoder.com



产品选型手册

Product selection guide



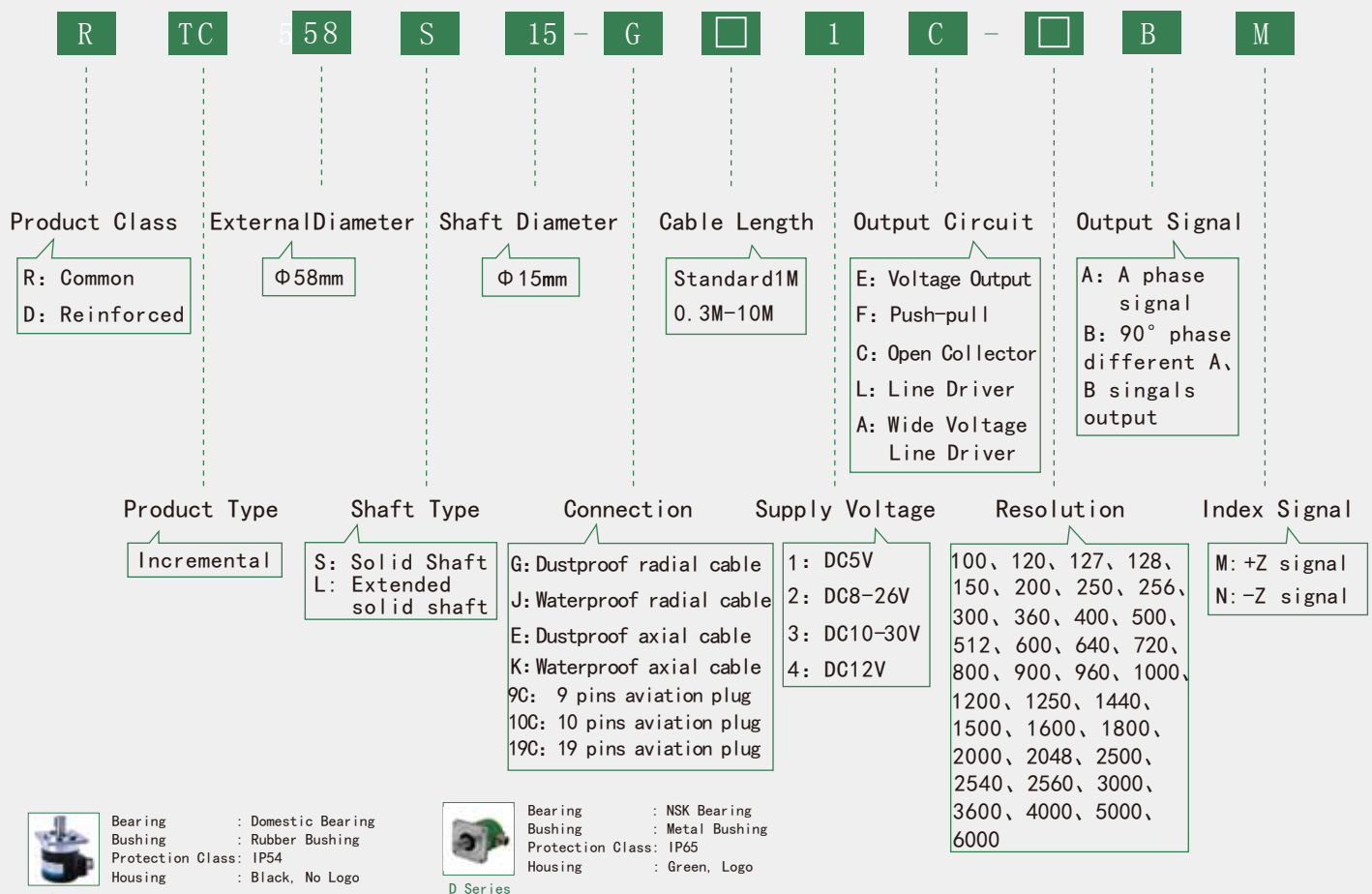
RTC58S15 · Series

Applications & Features



RTC58S15 is widely applied to kinds of machinery and photoelectric light industry control industry. Multiple output signals are available, resolution up to 6000ppr, others on request. Optoelectronic devices with high reliability, long life, strong anti-interference ability, wide range of operating temperature.

Part Number



Electrical Specifications

Output Circuit	Supply Voltage DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

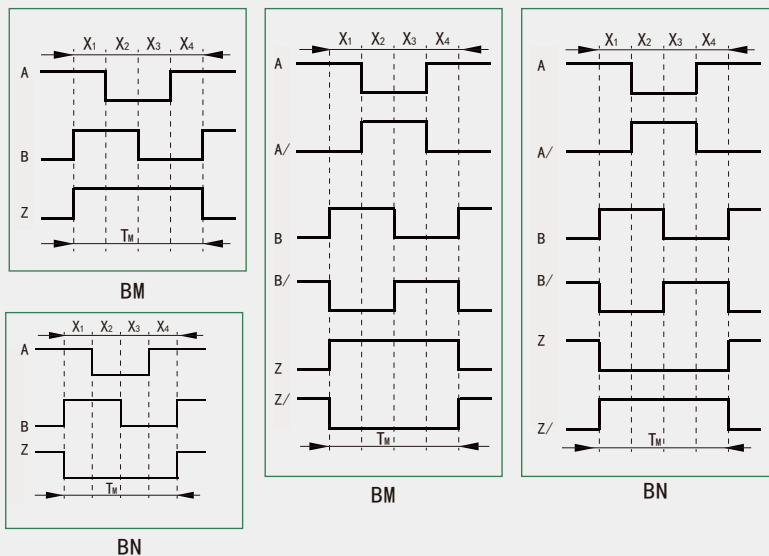
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					 L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

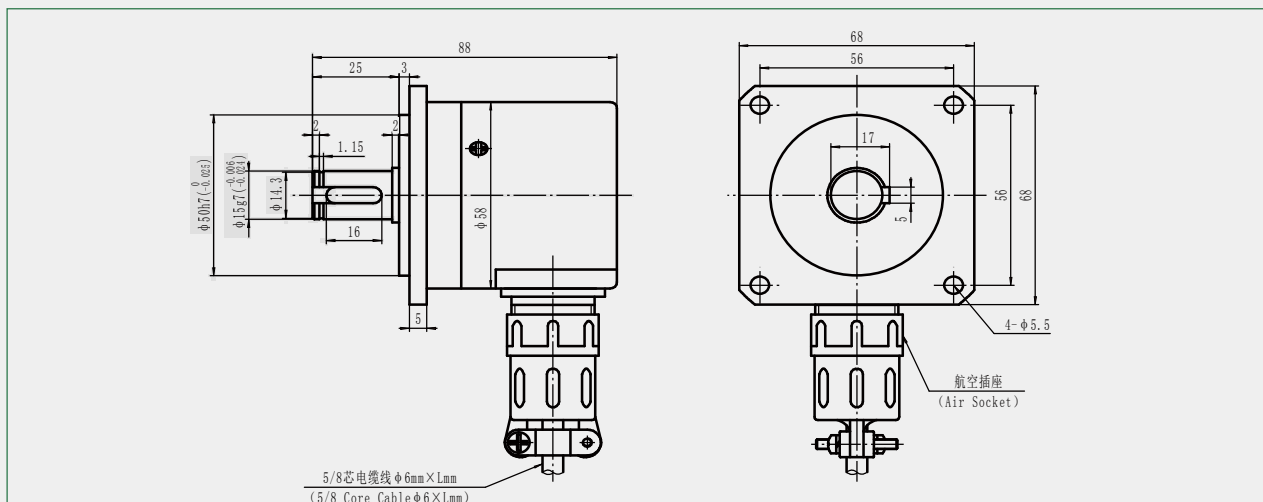
The phase relationship of Z signal and A, B signal is not stipulated.

2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	6×10^{-3}	40	30	8.5×10^{-6}	≈0.36



Environmental Specifications

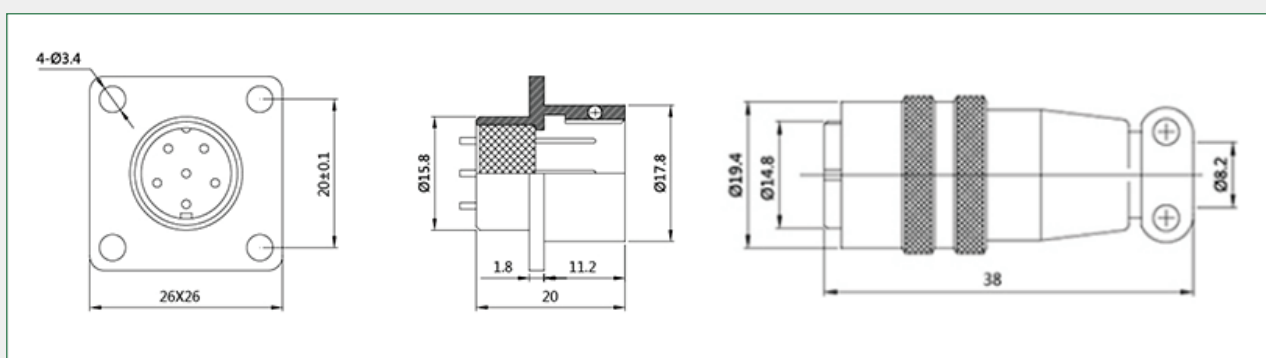
Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L、A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

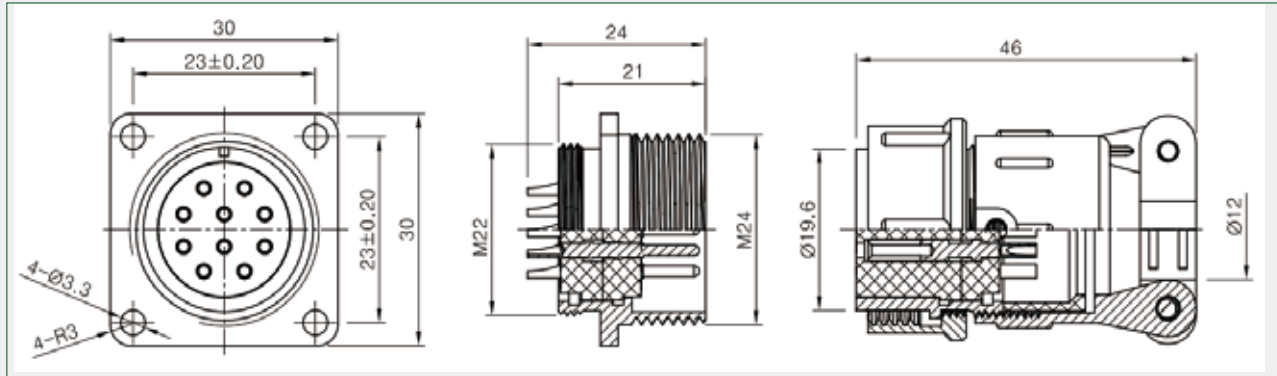
9 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Shield
E (Voltage)	Vcc	Z	B	0V	A				G
F (Push Pull)	Vcc	Z	B	0V	A				G
C (Open Collector)	Vcc	Z	B	0V	A				G
L、A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	G



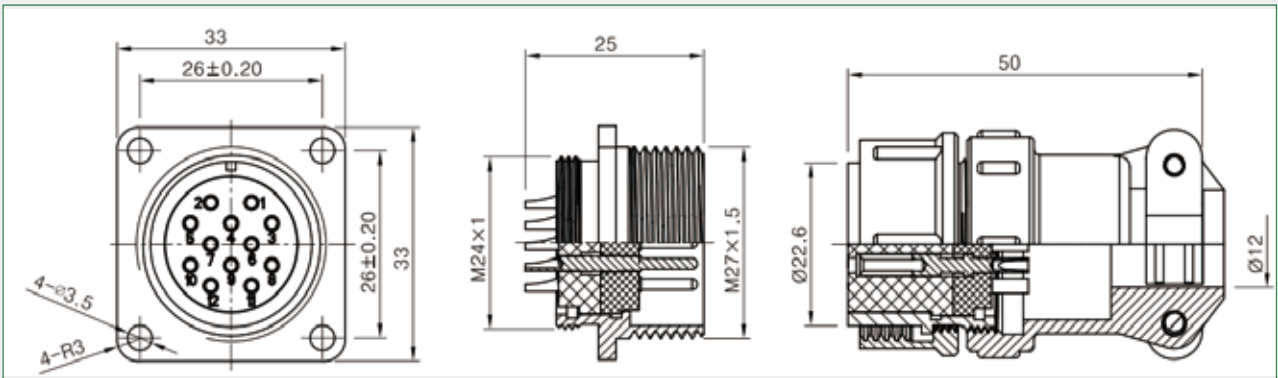
10 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9	10
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Black	Shield
E (Voltage)	Vcc	Z	B	0V	A				0V	G
F (Push Pull)	Vcc	Z	B	0V	A				0V	G
C (Open Collector)	Vcc	Z	B	0V	A				0V	G
L, A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	0V	G



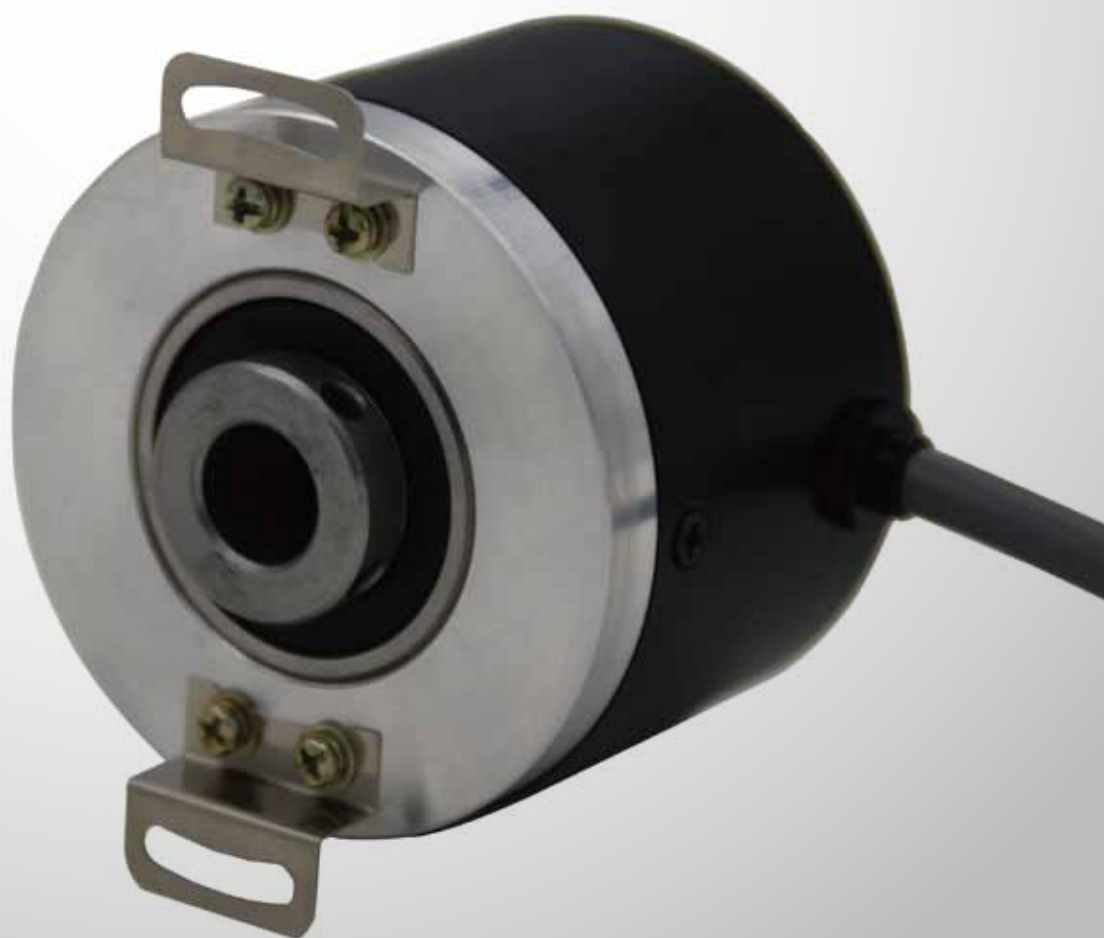
19 Pins Aviation Plug

Pins No.	1	2	3	8	10	12	13	14	15	17
Cable Color	Green	Yellow	White	Red	Black	Black	Brown	Orange	Gray	Shield
E (Voltage)	A	Z	B	Vcc	0V	0V				G
F (Push Pull)	A	Z	B	Vcc	0V	0V				G
C (Open Collector)	A	Z	B	Vcc	0V	0V				G
L, A (Line Driver)	A	Z	B	Vcc	0V	0V	A/	Z/	B/	G



产品选型手册

Product selection guide



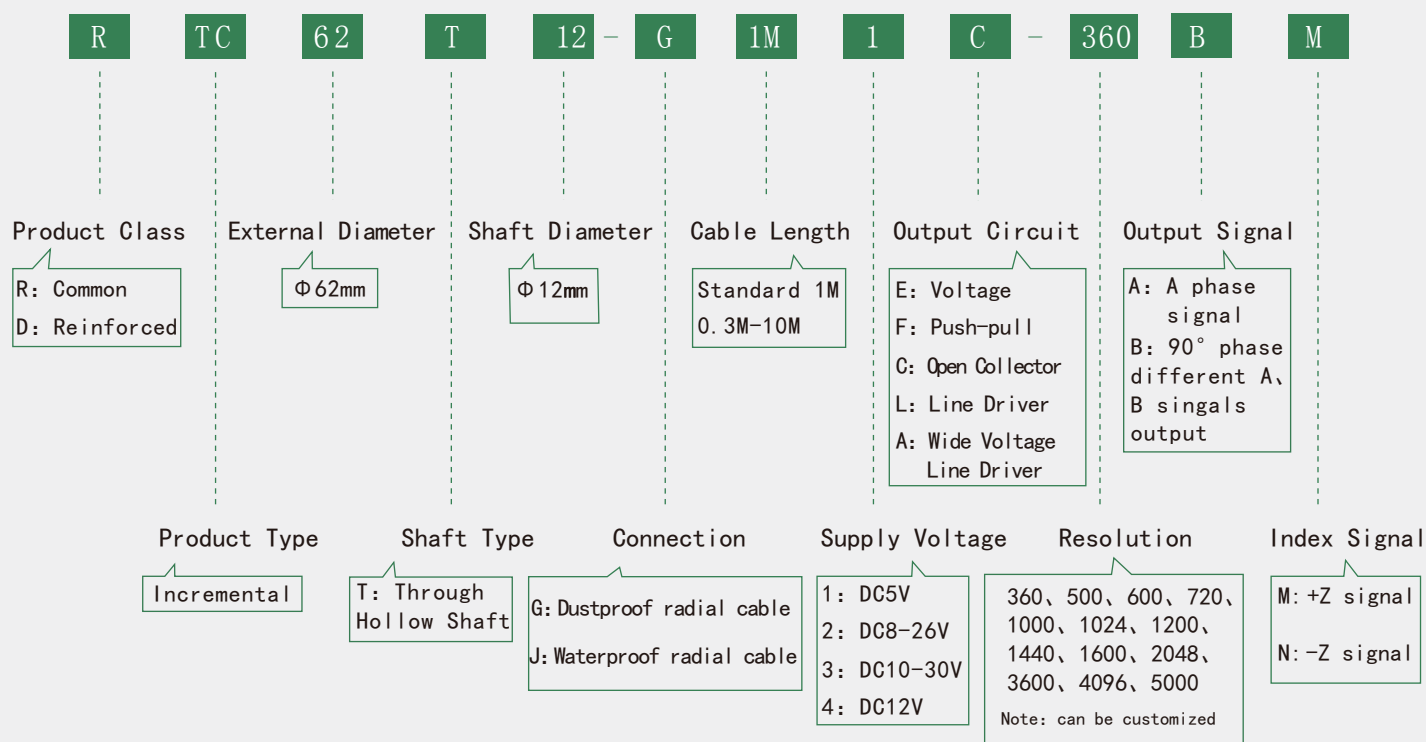
RTC62T12 · Series

Applications & Features



Product, outer diameter 62mm, is widely used in various mechanical and optical light control industry. There are a variety of output forms for customers to choose, the maximum output pulses up to 5000 ppr. Pulse number can be customized according to customer requirements. Optoelectronic devices ensure high reliability, long life, anti-jamming capability, wide temperature range.

Part Number

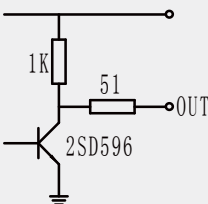
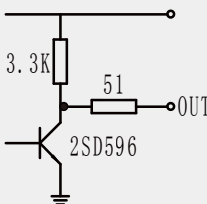
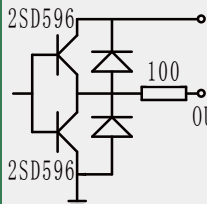
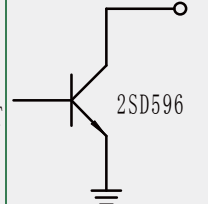
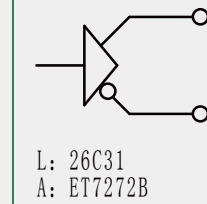
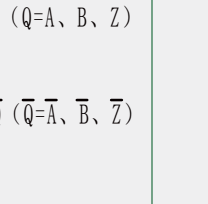


Electrical Specifications

Output Circuit	Supply Voltage DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

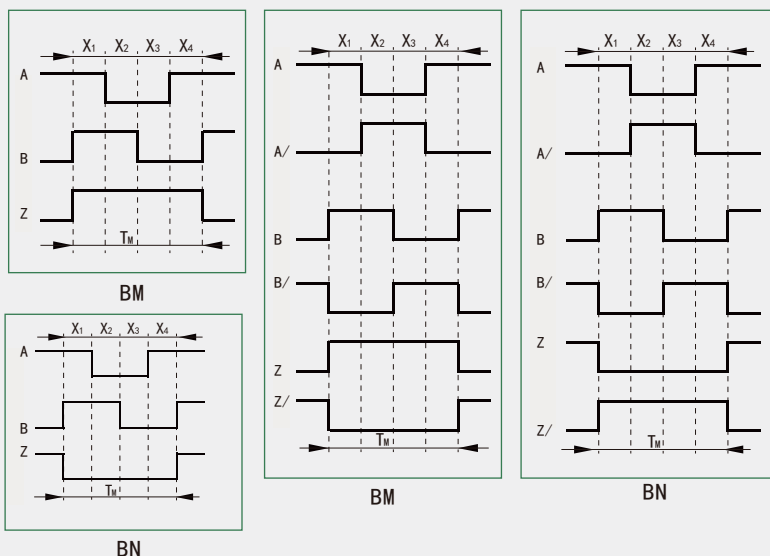
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		G (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					
					L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X1+X2=0.5T \pm 0.1T$
 $X2+X3=0.5T \pm 0.1T$

Phase Different : $Xn \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is stipulated.

2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

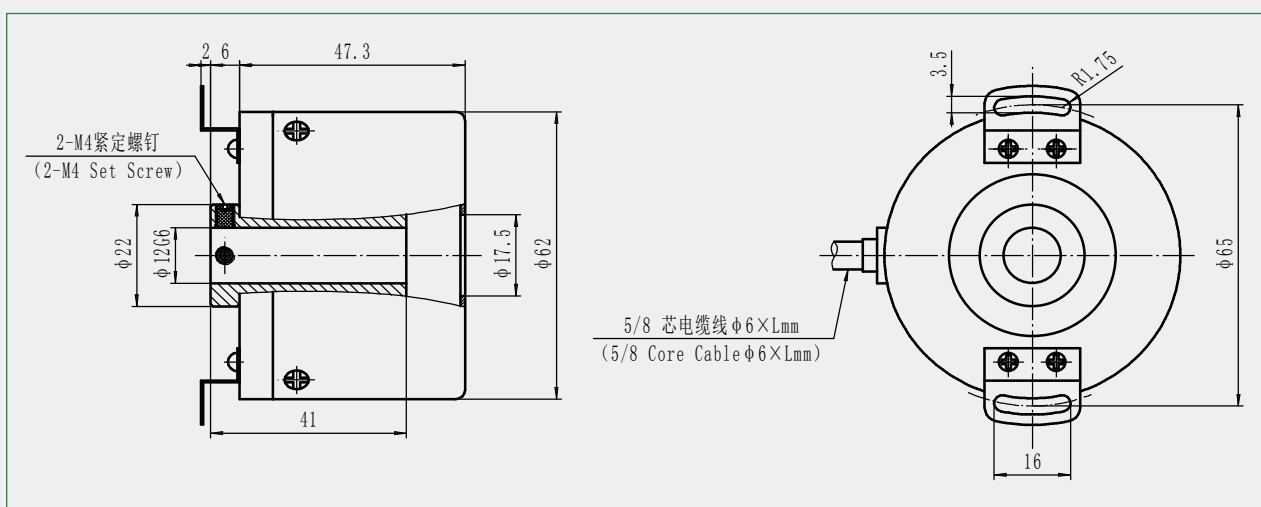
Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	6×10^{-3}	40	30	8.5×10^{-6}	≈ 0.335

Environmental Specifications

Operating Temperature (°C)	-30~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Dimension



Connection

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
G (Open Collector)	Vcc	0V	A		B		Z		G
L、A (Line Driver)	Vcc	0V	A	A	B	B	Z	Z	G

China Rongde Optics Co., Ltd

www.roundssencoder.com



产品选型手册

Product selection guide



REC80B · Series

Applications & Features



REC80B is ultra-thin design to save space. Multiple mounting brackets are available for easy installation. Wide through hollow shaft from 16mm to 30mm. Widely used for elevators, light industrial machinery, displacement and speed measurement. Imported optoelectronic devices with high reliability, long life, strong anti-interference ability, wide range of operating temperature.

Part Number

R	EC	80	B	30	A	-	G		1	C	-		B	M
Product Class	External Diameter	Shaft Diameter	Connection	Supply Voltage	Resolution	Index Signal								
R: Common	Φ80mm	Φ 18mm~30mm	G: Dustproof radial cable J: Waterproof radial cable 15N: 15 pins DB computer plug	1: DC5V 2: DC8~26V 3: DC10~30V 4: DC12V	100、300、 500、512、 600、1000、 1024、2000、 2500、3000、 4096、10800	M: +Z signal N: -Z signal								
Product Type	Shaft Type	Accessory Type	Cable Length	Output Circuit	Output Signal									
Incremental	B: Clamp Hollow Shaft	A, B, C	Standard1M 0.3M~10M	E: Voltage Output F: Push-pull C: Open Collector L: Line Driver A: Wide Voltage Line Driver	A: A phase signal B: 90° phase different A、B singals output									

Electrical Specifications

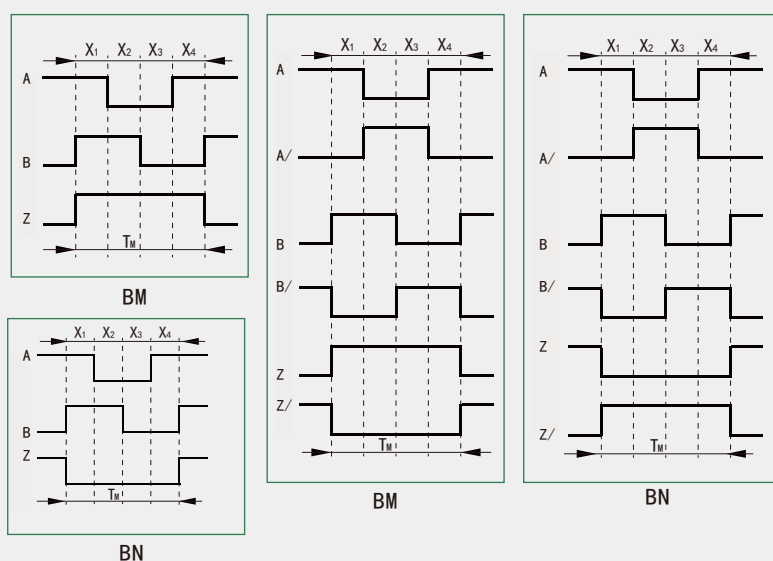
Output Circuit	Supply Voltage DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					 L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

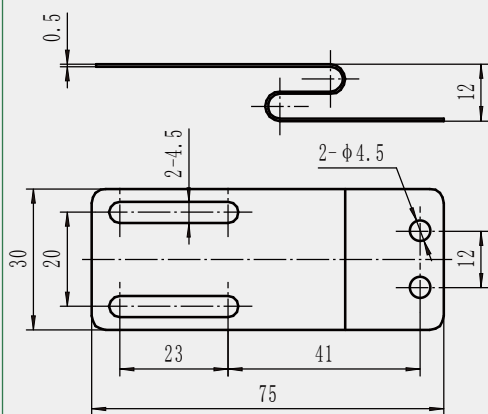
The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

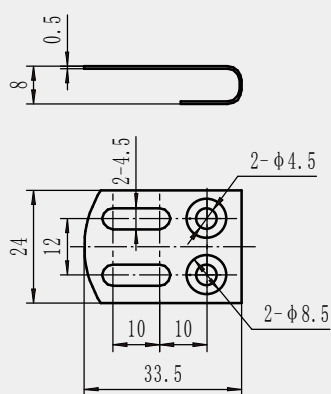
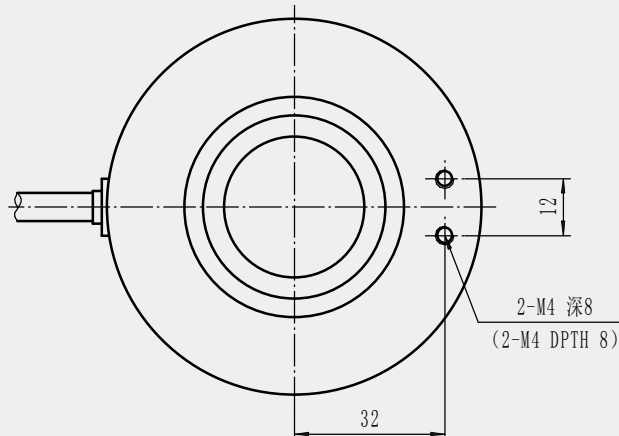
Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
4000	3×10^{-2}	40	20	6×10^{-6}	≈ 0.42

Environmental Specifications

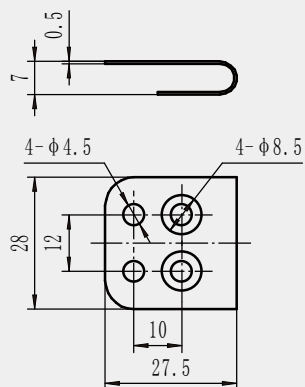
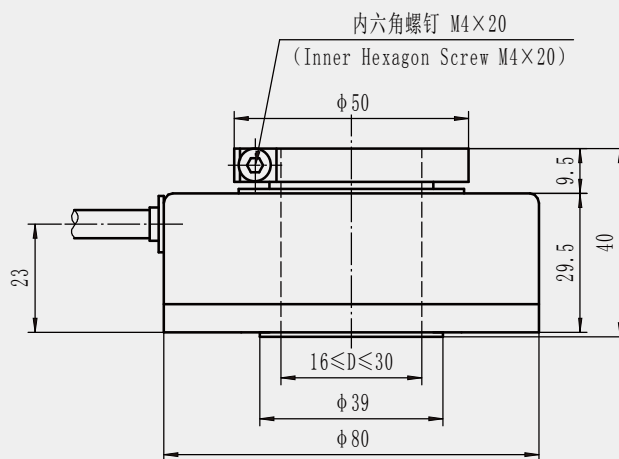
Operating Temperature (°C)	-20~+85
Storage Temperature (°C)	-30~+95
Relative Humidity	35~85%RH no condensation
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)
Vibration Resistance (m/s ²)	49 (10 ~200Hz, 2h on x, y, z directions)
Protection Class	Common IP54 Reinforced IP65



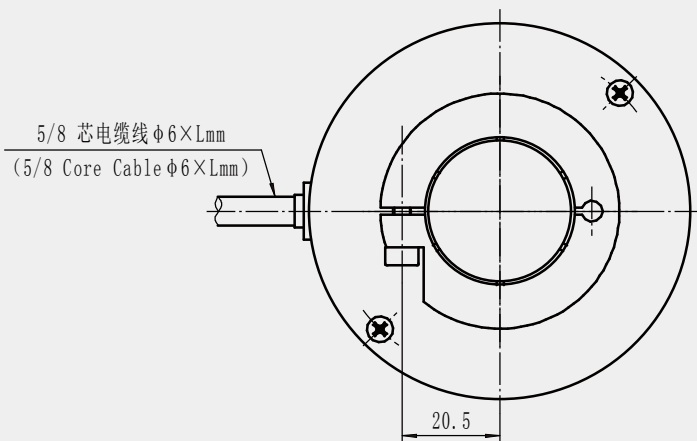
附件A (Accessory A)



附件B (Accessory B)



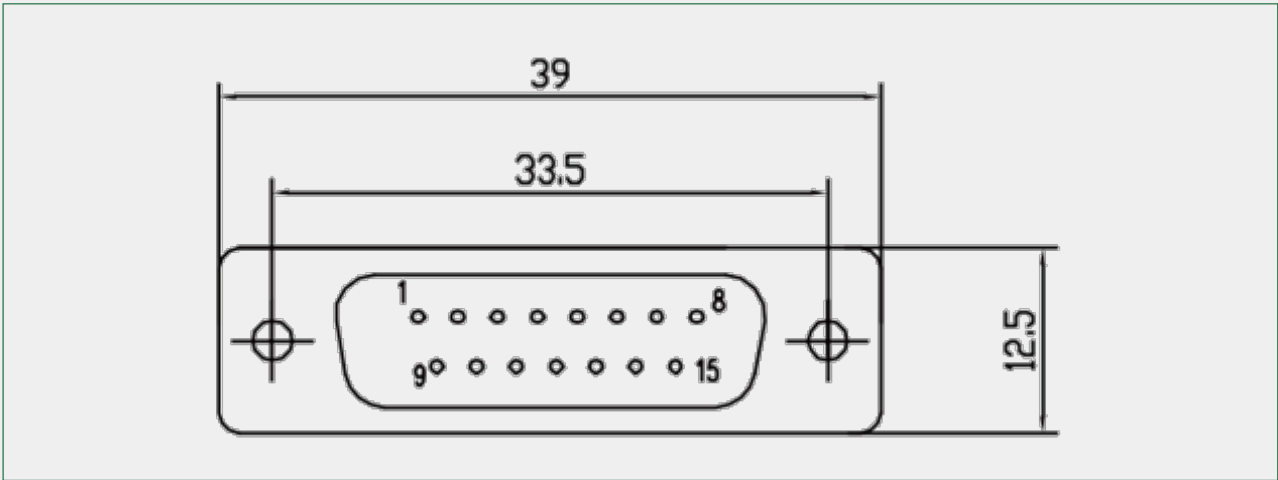
附件C (Accessory C)



Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

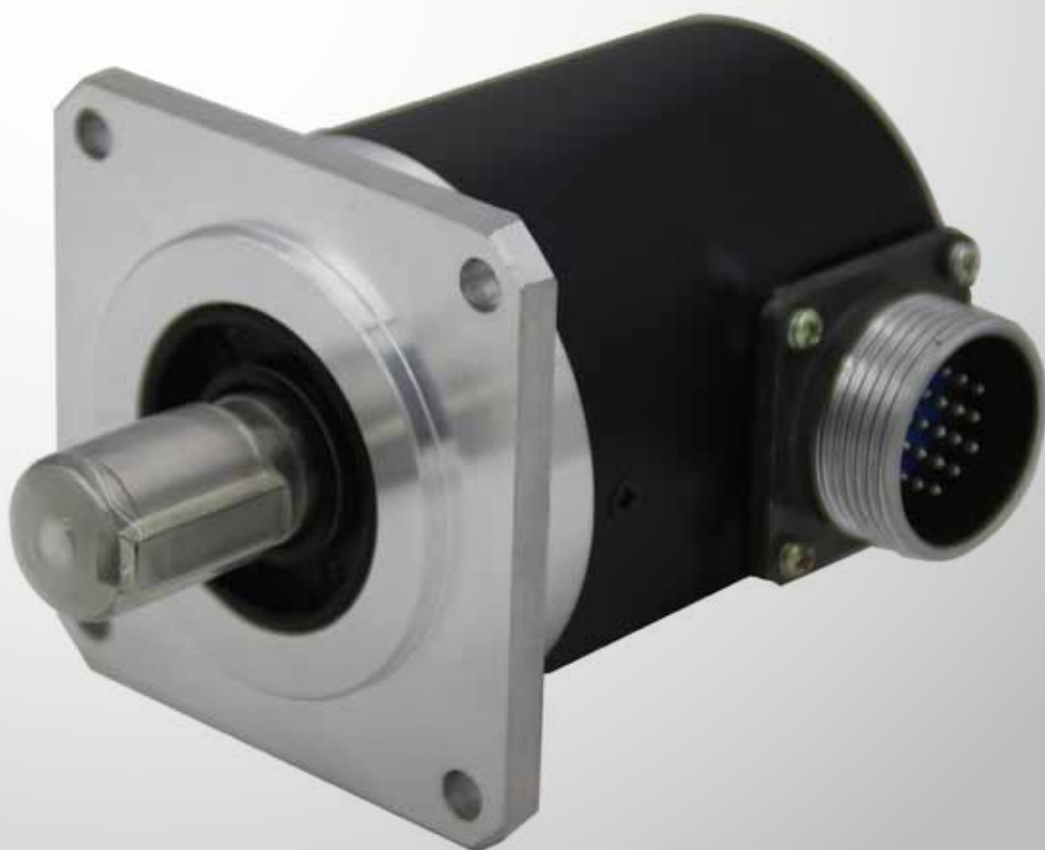
15 Pins DB Computer Plug

Pins No.	7	5	4	2	11	13	14	10	8
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Shield
E (Voltage)	Vcc	Z	B	0V	A				G
F (Push Pull)	Vcc	Z	B	0V	A				G
C (Open Collector)	Vcc	Z	B	0V	A				G
L, A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	G



产品选型手册

Product selection guide



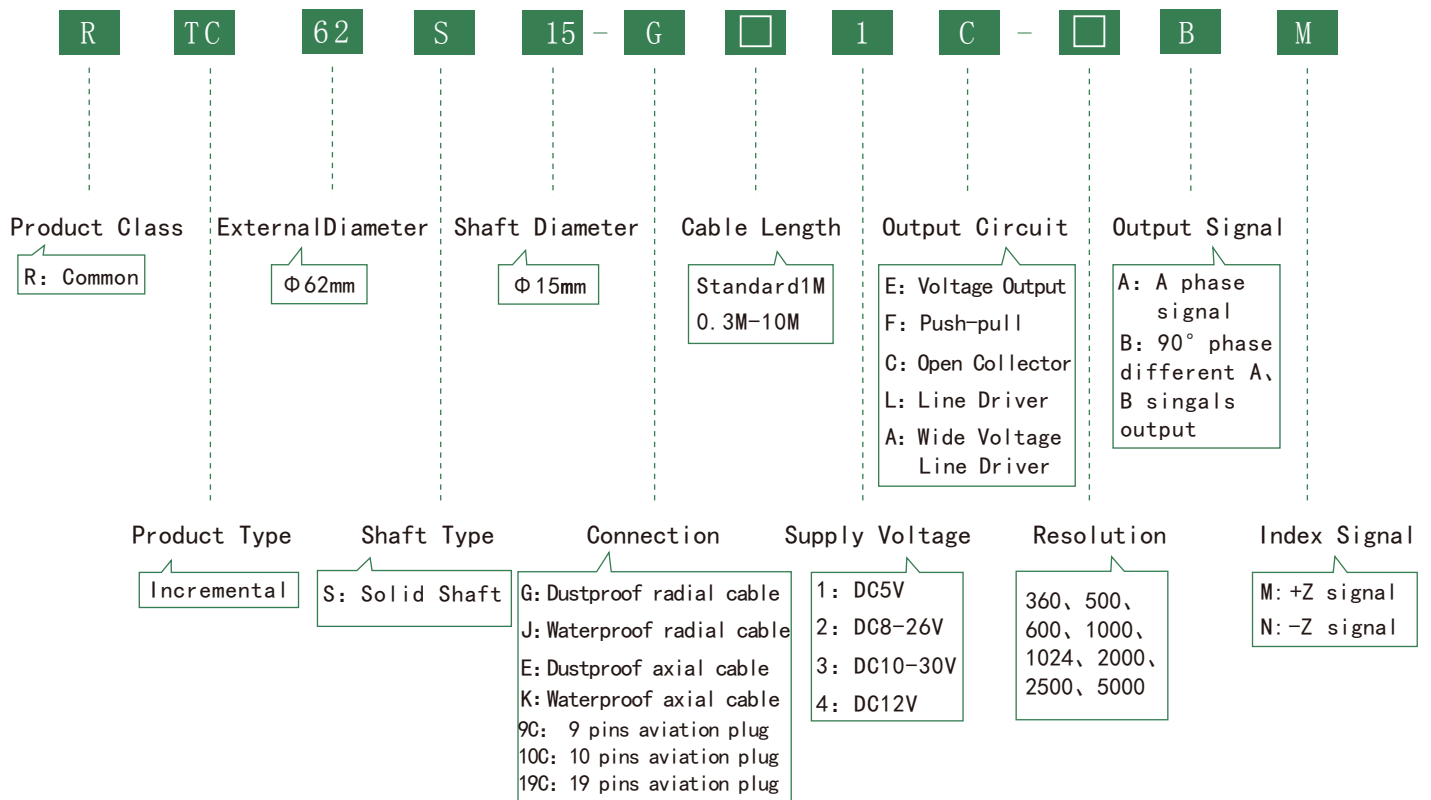
RTC62S15 · Series

Applications & Features



RTC62S15 is widely applied to kinds of machinery and photoelectric light industry control industry. Multiple output signals are available, resolution up to 5000ppr, others on request. Optoelectronic devices with high reliability, long life, strong anti-interference ability, wide range of operating temperature.

Part Number



Electrical Specifications

[illegible]

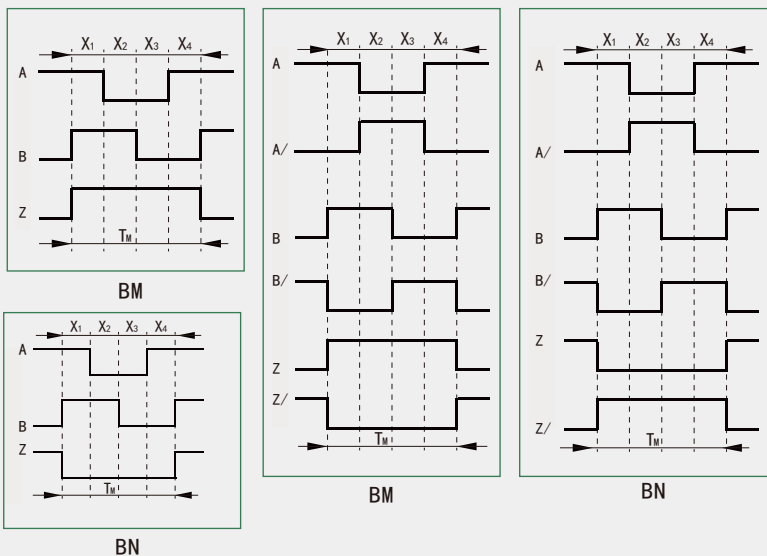
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
A (Wide Voltage Line Driver)	12	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

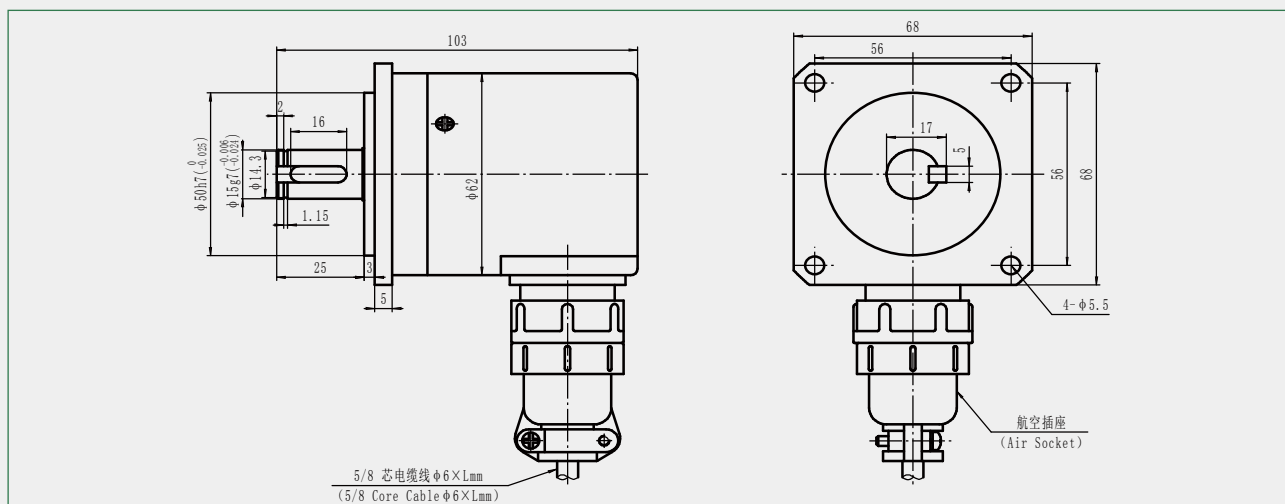
2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	6×10^{-3}	40	30	8.5×10^{-6}	≈0.39

Dimension



Environmental Specifications

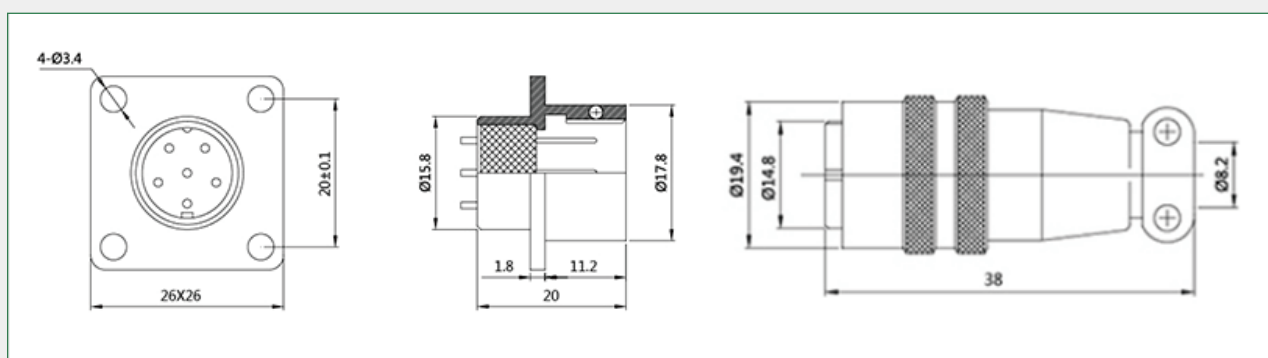
Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s ²)	980(Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
G (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

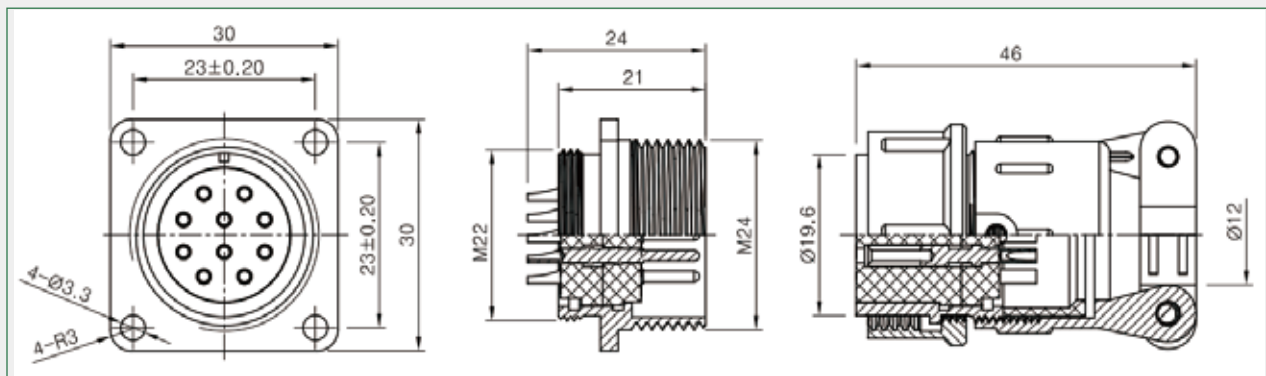
9 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Shield
E (Voltage)	Vcc	Z	B	0V	A				G
F (Push Pull)	Vcc	Z	B	0V	A				G
C (Open Collector)	Vcc	Z	B	0V	A				G
L, A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	G



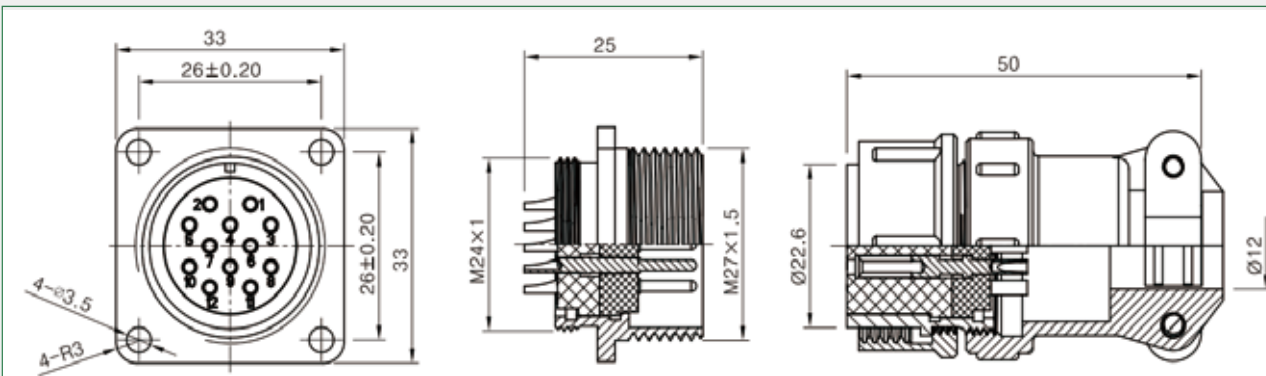
10 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9	10
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Black	Shield
E (Voltage)	Vcc	Z	B	0V	A				0V	G
F (Push Pull)	Vcc	Z	B	0V	A				0V	G
C (Open Collector)	Vcc	Z	B	0V	A				0V	G
L, A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	0V	G



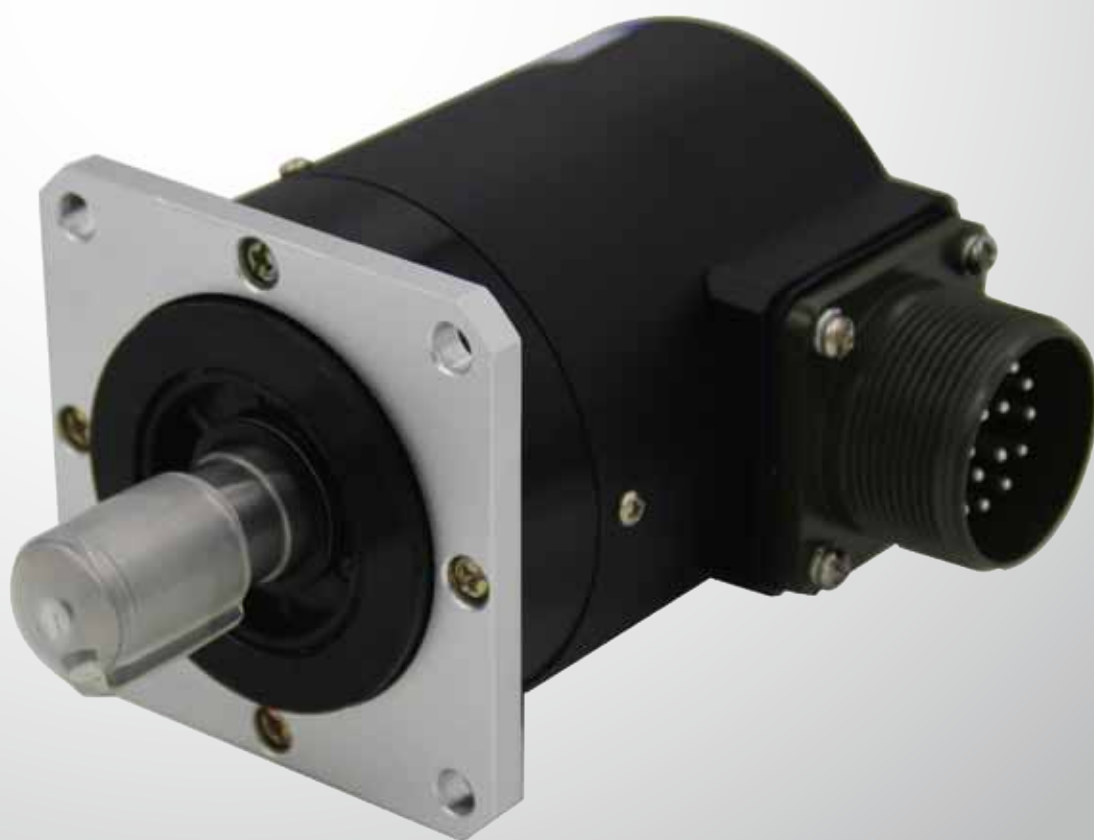
19 Pins Aviation Plug

Pins No.	1	2	3	8	10	12	13	14	15	17
Cable Color	Green	Yellow	White	Red	Black	Black	Brown	Orange	Gray	Shield
E (Voltage)	A	Z	B	Vcc	0V	0V				G
F (Push Pull)	A	Z	B	Vcc	0V	0V				G
C (Open Collector)	A	Z	B	Vcc	0V	0V				G
L, A (Line Driver)	A	Z	B	Vcc	0V	0V	A/	Z/	B/	G



产品选型手册

Product selection guide



RTC66S15 · Series

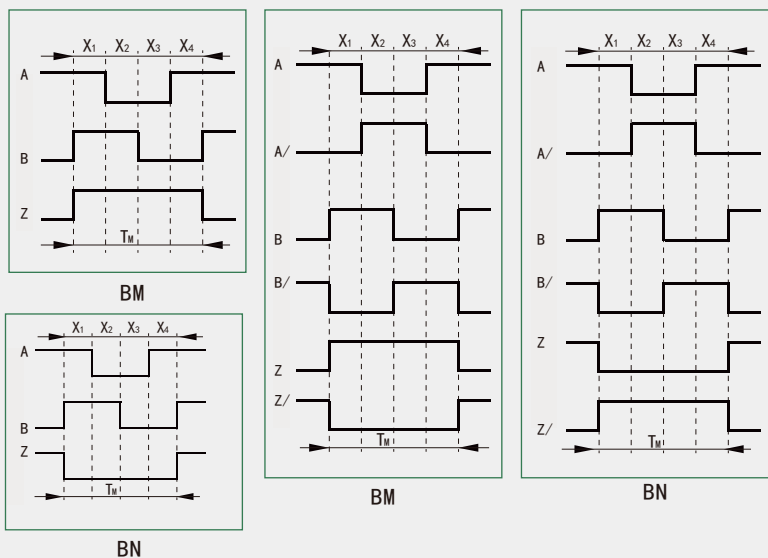
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					 L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X1+X2=0.5T \pm 0.1T$
 $X2+X3=0.5T \pm 0.1T$

Phase Different : $Xn \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

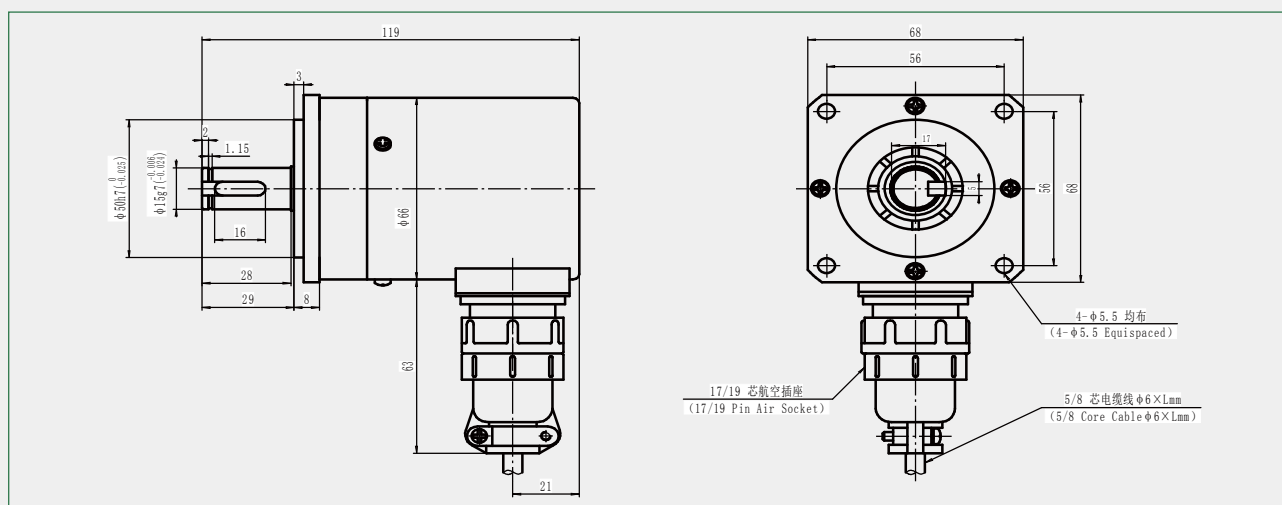
Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
6000	6×10^{-3}	40	30	8.5×10^{-6}	≈0.725

Environmental Specifications

Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+90	
Relative Humidity	35%~85%RH no condensation	
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Dimension

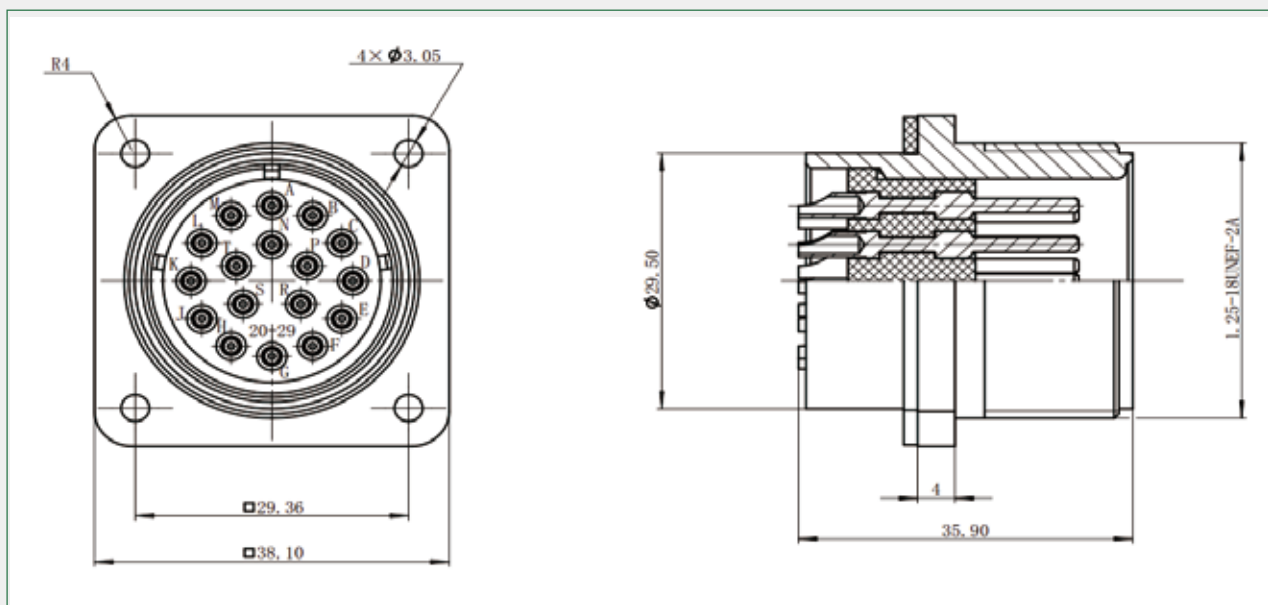


Connection

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A	B	B	Z	Z	G

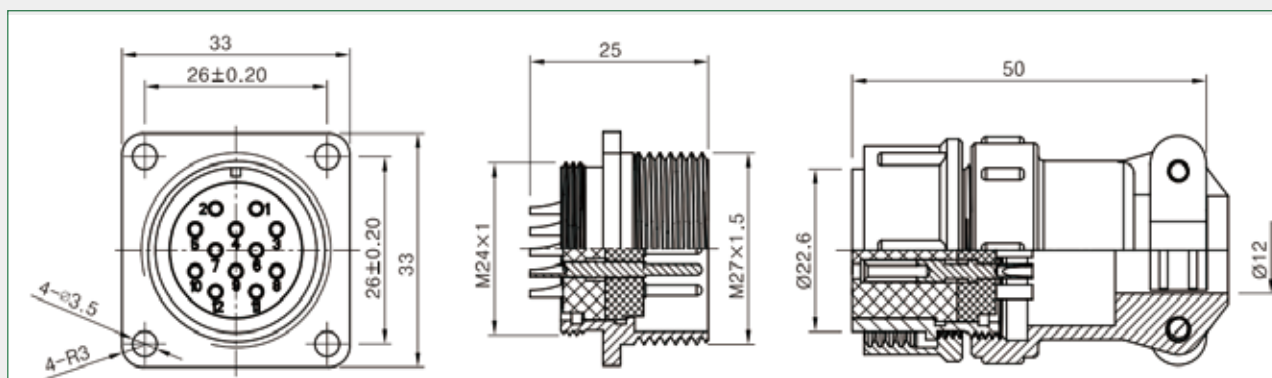
17 Pins Aviation Plug

Pins No.	A	B	C	H	K	M	N	P	R	T
Cable Color	Green	Yellow	White	Red	Black	Black	Brown	Orange	Gray	Shield
E (Voltage)	A	Z	B	Vcc	0V	0V				G
F (Push Pull)	A	Z	B	Vcc	0V	0V				G
C (Open Collector)	A	Z	B	Vcc	0V	0V				G
L, A (Line Driver)	A	Z	B	Vcc	0V	0V	A/	Z/	B/	G



19 Pins Aviation Plug

Pins No.	1	2	3	8	10	12	13	14	15	17
Cable Color	Green	Yellow	White	Red	Black	Black	Brown	Orange	Gray	Shield
E (Voltage)	A	Z	B	Vcc	0V	0V				G
F (Push Pull)	A	Z	B	Vcc	0V	0V				G
C (Open Collector)	A	Z	B	Vcc	0V	0V				G
L, A (Line Driver)	A	Z	B	Vcc	0V	0V	A/	Z/	B/	G



产品选型手册

Product selection guide



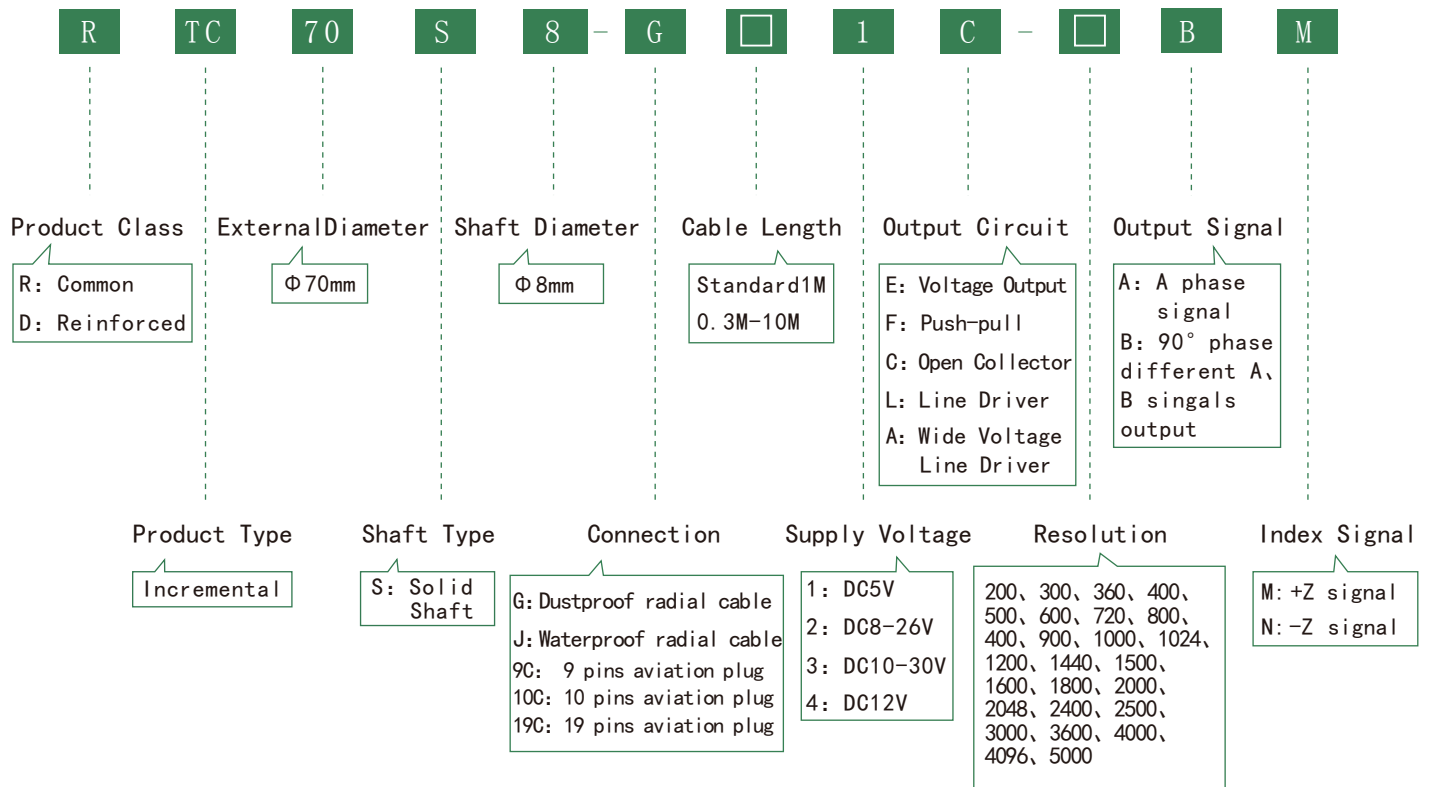
RTC70S8 · Series

Applications & Features



Product, outer diameter 70mm, is widely used in economical CNC machine tools. There are a variety of output forms for customers to choose the maximum number of pulses up to 5000 pulses, pulse number can be customized according to customer requirements. All imports of high photoelectric device ensure the reliability, long life, anti-jamming capability, wide temperature range.

Part Number



Electrical Specifications

[illegible]

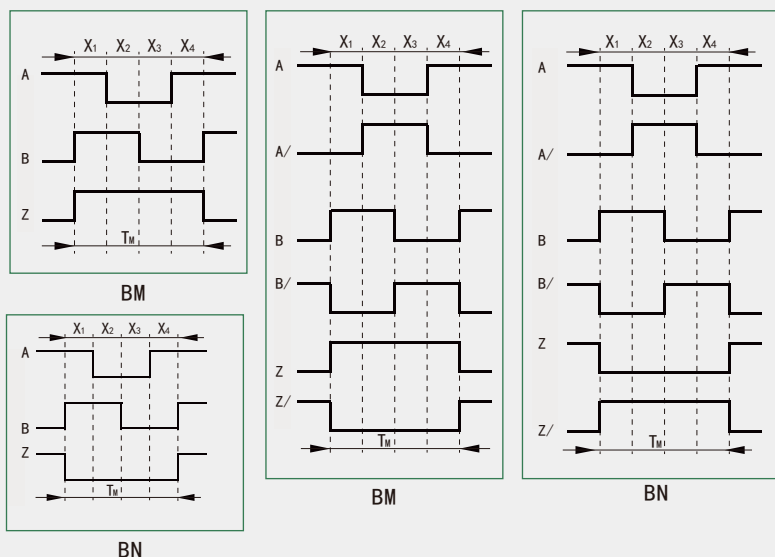
C (Open Collector)	5 ± 0.25	≤ 60	$> V_{CC} - 2.5$	≤ 0.7	≤ 500	≤ 100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5 ± 0.25	≤ 100	> 3.5	≤ 0.7	≤ 200	≤ 200	0-300
A (Wide Voltage Line Driver)	8-26	≤ 60	$> V_{CC} - 2.5$	≤ 0.7	≤ 500	≤ 100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1 + X_2 = 0.5T \pm 0.1T$
 $X_2 + X_3 = 0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T = 360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m = 1T \pm 0.5T$
 $T_m = nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

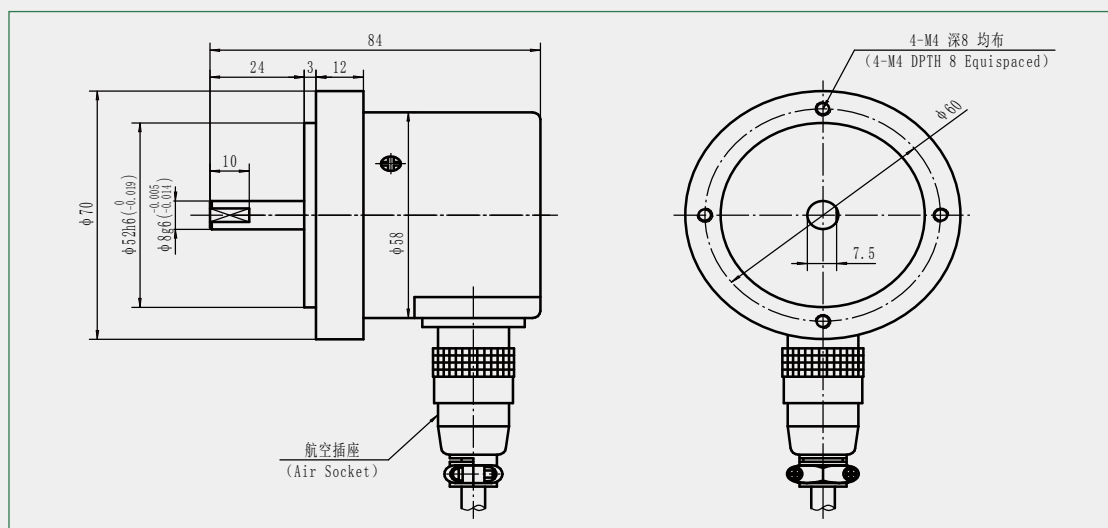
2、 $T_m = 0.5T \pm 0.25T$
 $T_m = 0.25T \pm 0.125T$
 $T_m = 0.25T \pm 0.125T$

The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm^2)	Weight (kg)
		Radial	Axial		
6000	2×10^{-3}	40	30	4×10^{-6}	≈ 0.315

Dimension



Environmental Specifications

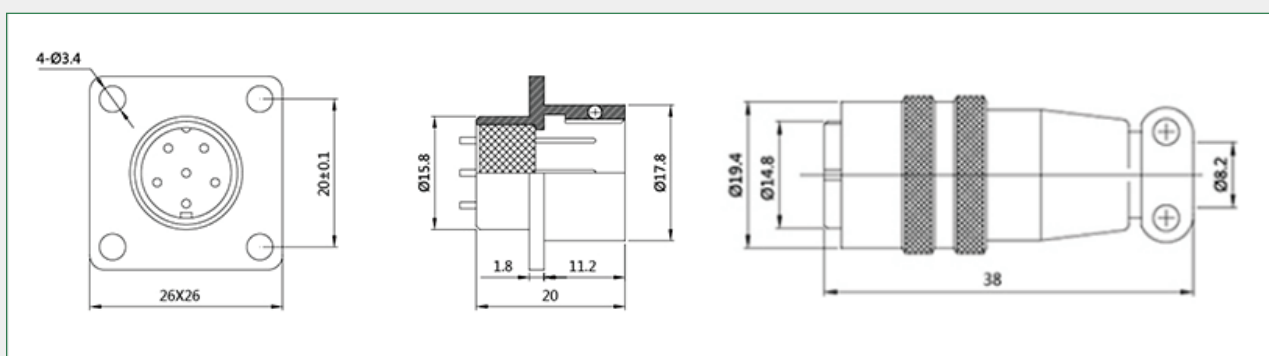
Operating Temperature (°C)	-20~+85	
Storage Temperature (°C)	-30~+95	
Relative Humidity	35~85%RH no condensation	
Impact Resistance (m/s ²)	980(Three times each on x, y, z directions, each time lasts 6ms)	
Vibration Resistance (m/s ²)	50 (10~200Hz, 2h on x, y, z directions)	
Protection Class	Common IP54	Reinforced IP65

Connections

Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
G (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

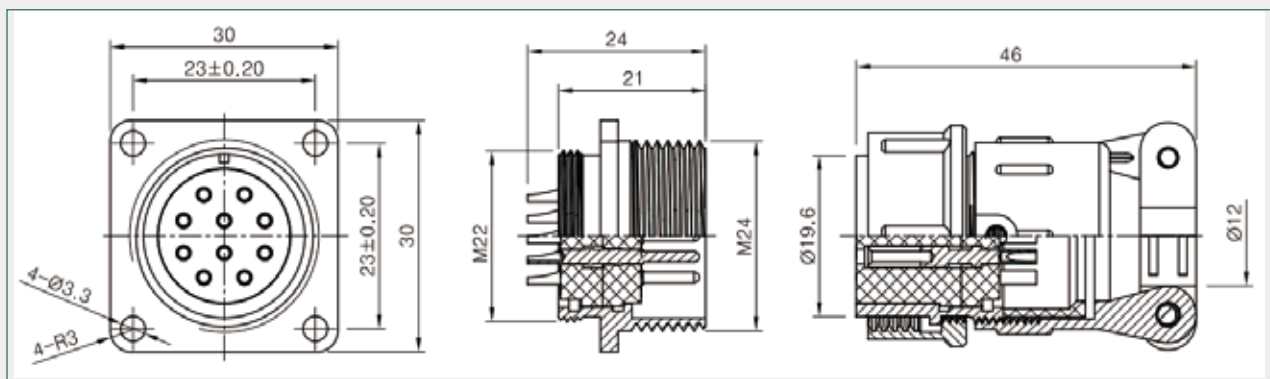
9 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Shield
E (Voltage)	Vcc	Z	B	0V	A				G
F (Push Pull)	Vcc	Z	B	0V	A				G
C (Open Collector)	Vcc	Z	B	0V	A				G
L, A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	G



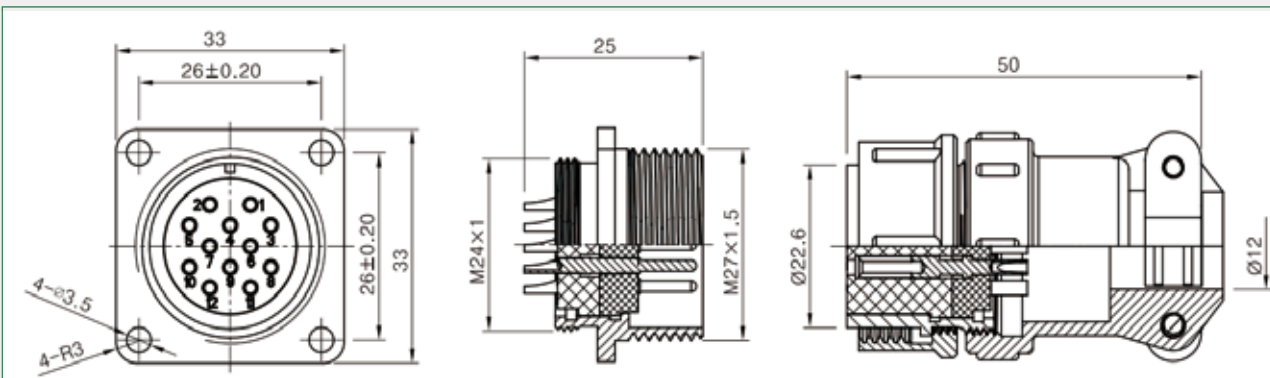
10 Pins Aviation Plug

Pins No.	1	2	3	4	5	6	7	8	9	10
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Black	Shield
E (Voltage)	Vcc	Z	B	0V	A				0V	G
F (Push Pull)	Vcc	Z	B	0V	A				0V	G
G (Open Collector)	Vcc	Z	B	0V	A				0V	G
L、A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	0V	G



19 Pins Aviation Plug

Pins No.	1	2	3	8	10	12	13	14	15	17
Cable Color	Green	Yellow	White	Red	Black	Black	Brown	Orange	Gray	Shield
E (Voltage)	A	Z	B	Vcc	0V	0V				G
F (Push Pull)	A	Z	B	Vcc	0V	0V				G
G (Open Collector)	A	Z	B	Vcc	0V	0V				G
L、A (Line Driver)	A	Z	B	Vcc	0V	0V	A/	Z/	B/	G



China Rongde Optics Co., Ltd

www.roundssencoder.com



产品选型手册

Product selection guide



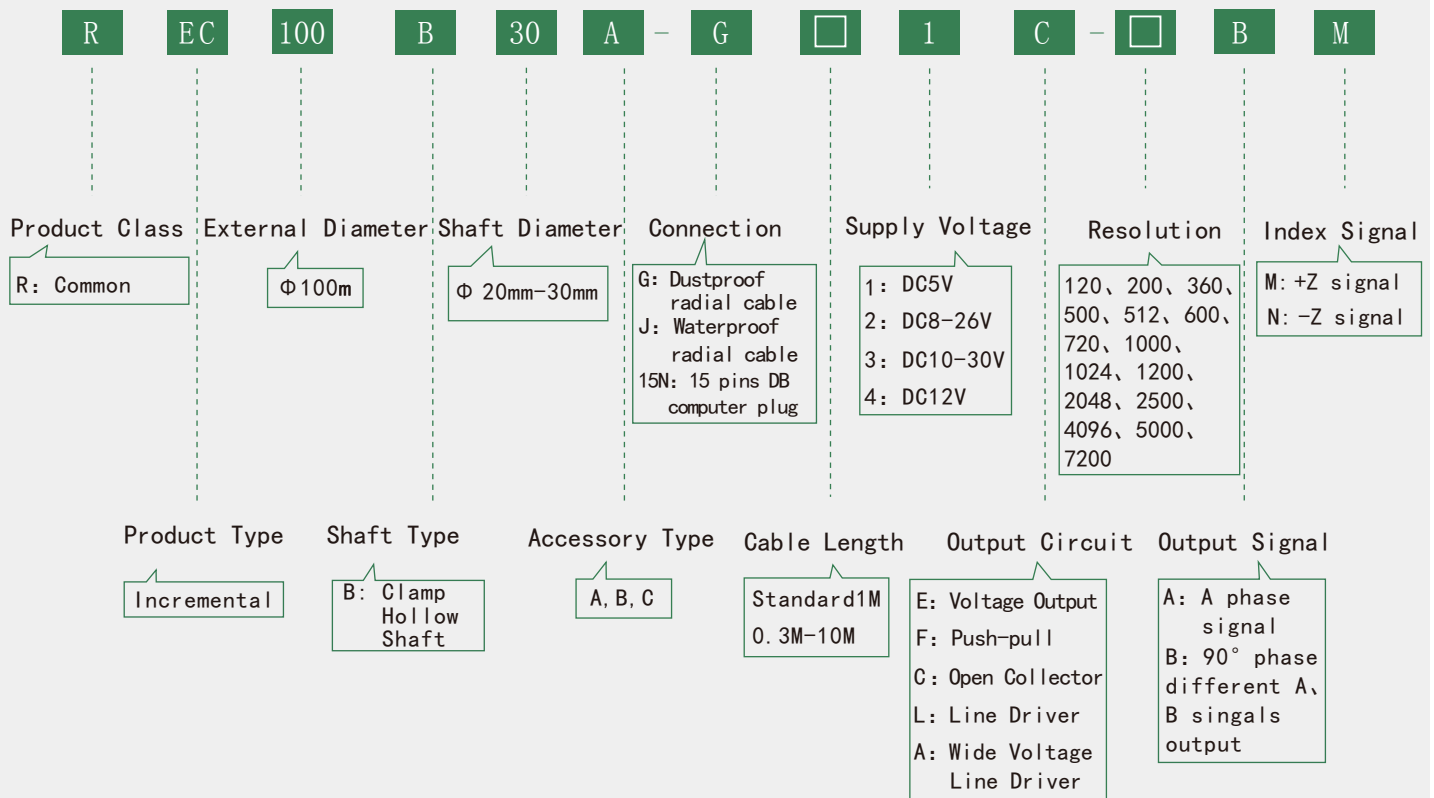
REC100B30 · Series

Applications & Features



The product uses ultra-thin design, saving space. Using the plate spring connections, more tight. The products are widely used in automatic control, automatic measurement, remote control, computer technology as well as for measuring the angle and the vertical axis on CNC machine tools, especially for the use of the elevator industry. All imports of high photoelectric device ensure the reliability, long life, anti-jamming capability, a wide range of temperature.

Part Number



Electrical Specifications

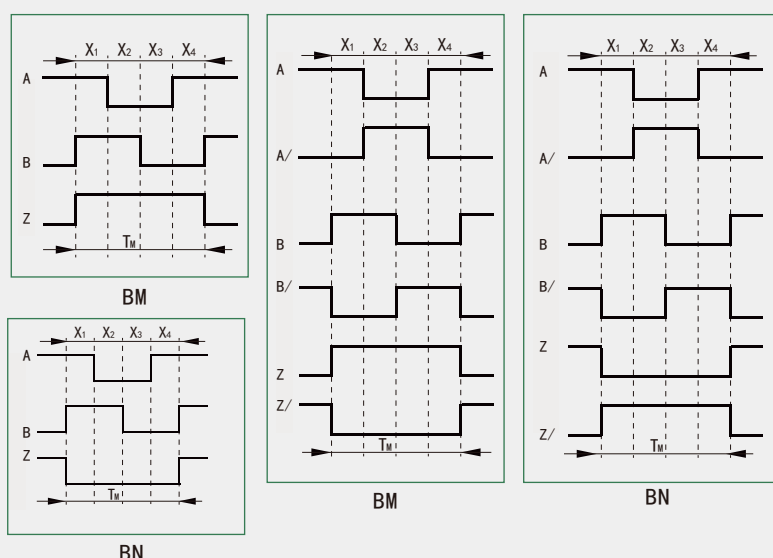
Output Circuit	Supply Voltage DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X_1+X_2=0.5T \pm 0.1T$
 $X_2+X_3=0.5T \pm 0.1T$

Phase Different : $X_n \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

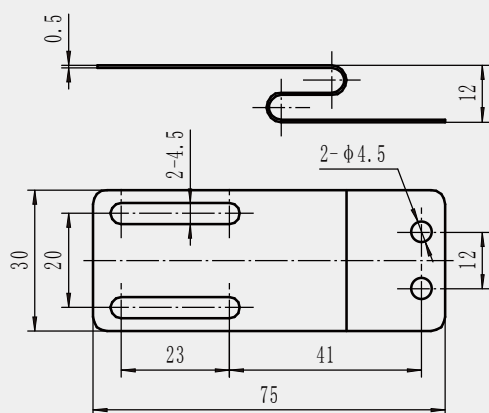
The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

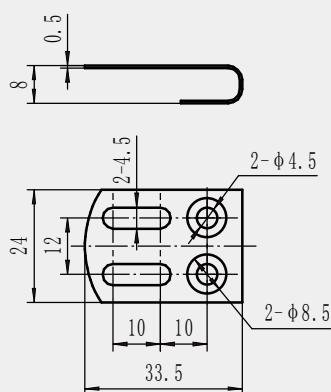
Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
4000	5×10^{-2}	40	20	1×10^{-5}	≈ 0.585

Environmental Specifications

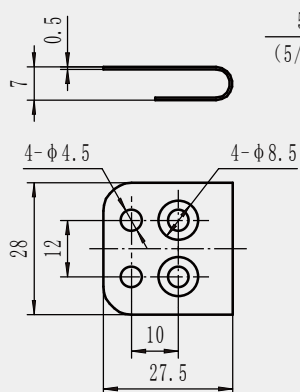
Operating Temperature (°C)	-20~+85
Storage Temperature (°C)	-30~+95
Relative Humidity	35~85%RH no condensation
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)
Vibration Resistance (m/s ²)	50 (10 ~200Hz, 2h on x, y, z directions)
Protection Class	Common IP54 Reinforced IP65



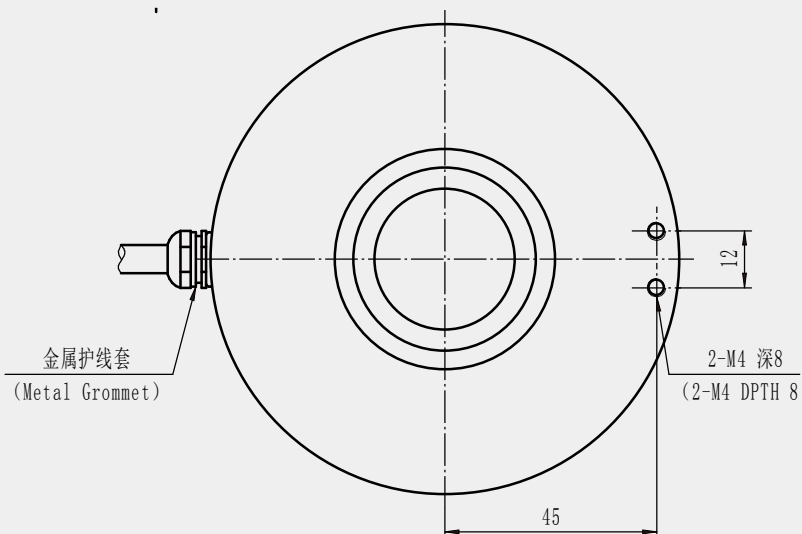
附件A (Accessory A)



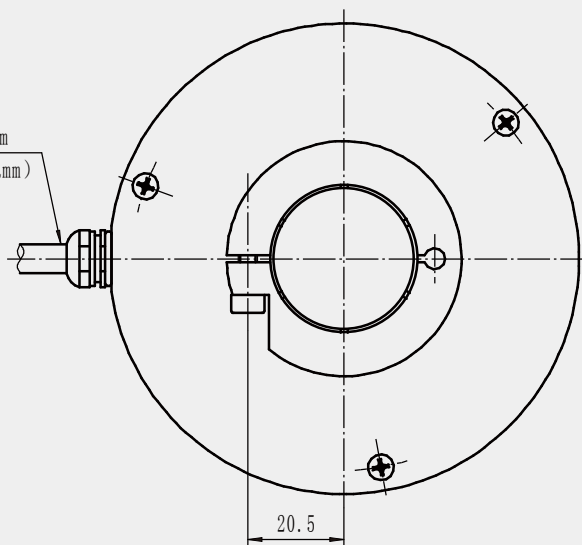
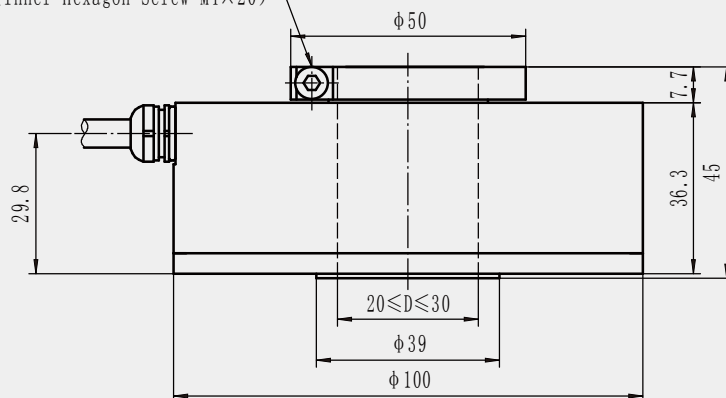
附件B (Accessory B)



附件C (Accessory C)



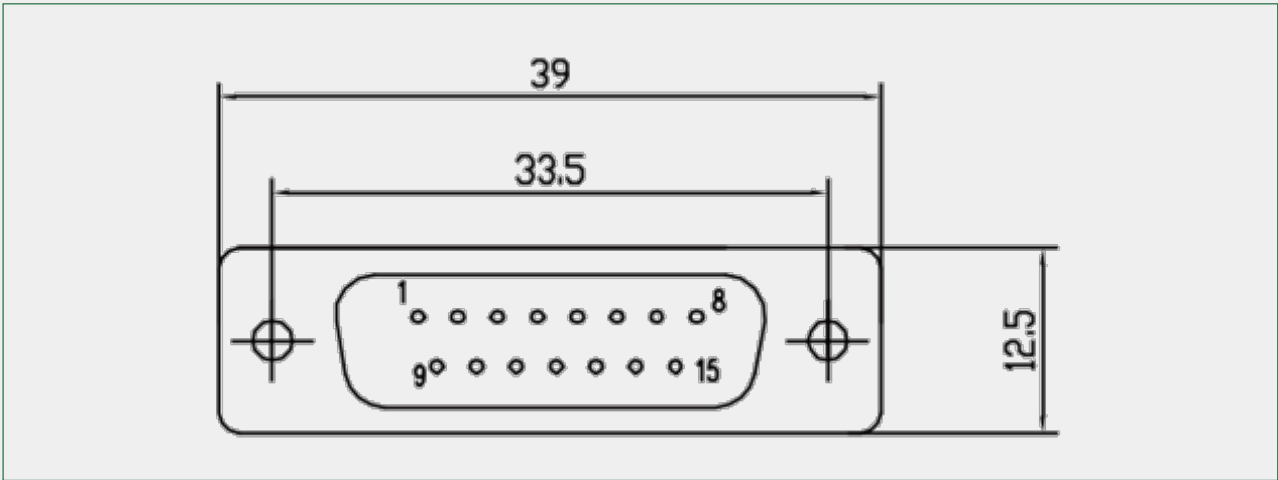
内六角螺钉 M4×20
(Inner Hexagon Screw M4×20)



Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

15 Pins DB Computer Plug

Pins No.	7	5	4	2	11	13	14	10	8
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Shield
E (Voltage)	Vcc	Z	B	0V	A				G
F (Push Pull)	Vcc	Z	B	0V	A				G
C (Open Collector)	Vcc	Z	B	0V	A				G
L, A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	G



产品选型手册

Product selection guide



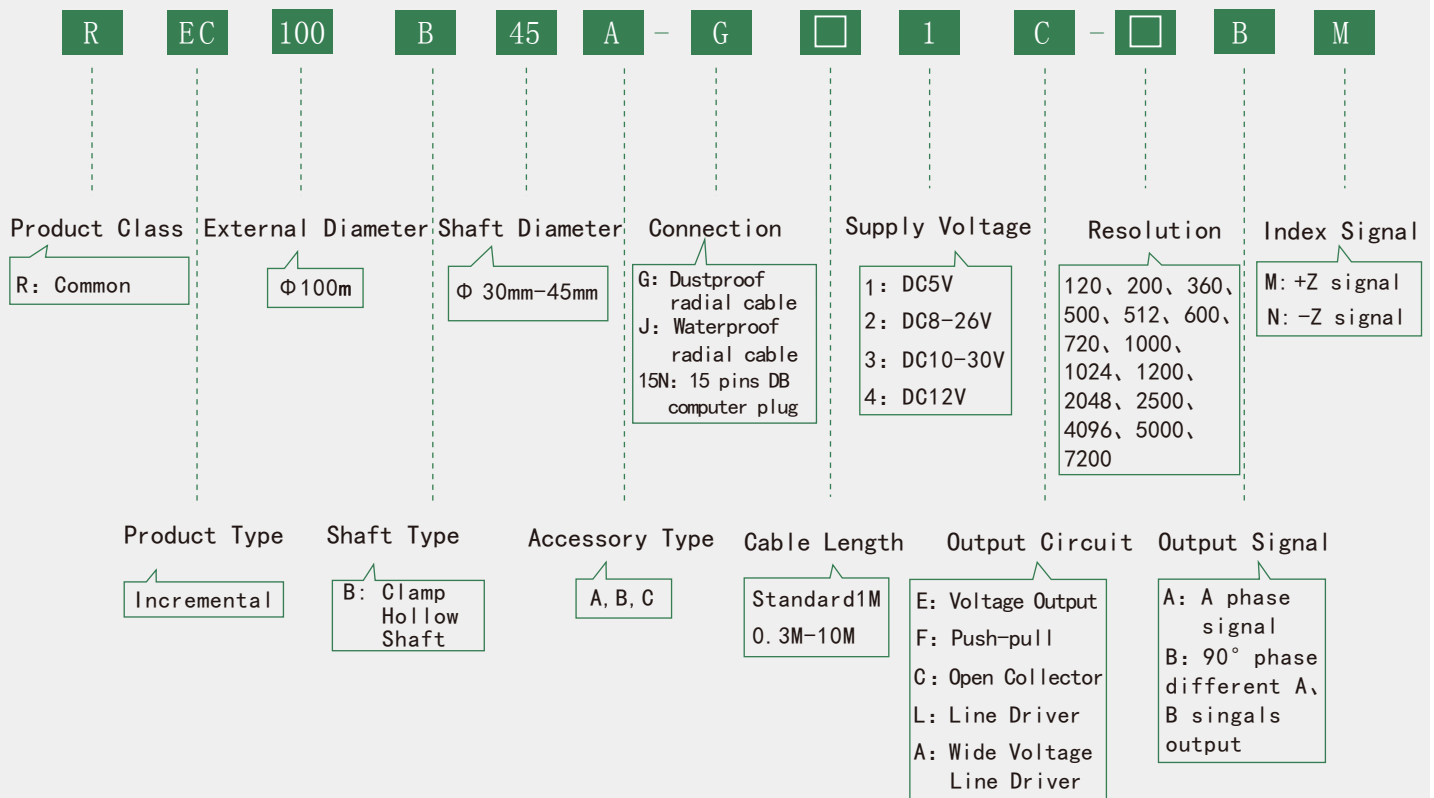
REC100B45 · Series

Applications & Features



The product uses ultra-thin design, saving space. Using the plate spring connections, more tight. The products are widely used in automatic control, automatic measurement, remote control, computer technology as well as for measuring the angle and the vertical axis on CNC machine tools, especially for the use of the elevator industry. All imports of high photoelectric device ensure the reliability, long life, anti-jamming capability, a wide range of temperature.

Part Number



Electrical Specifications

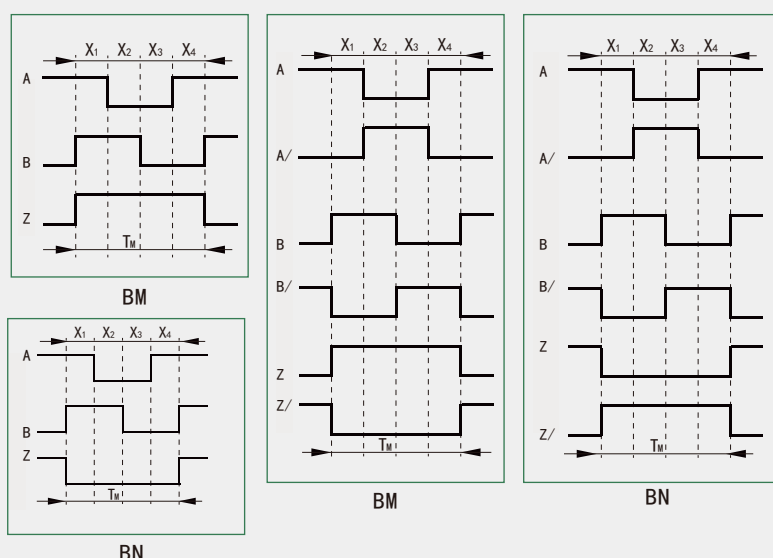
Output Circuit	Supply Voltage DC (V)	Current Requirement (mA)	(Output Voltage V)		Rise Time (ns)	Fall Time (ns)	Frequency Response (kHz)
			V _H	V _L			
E (Voltage)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
F (Push-pull)	5±0.25	≤80	>3.5	≤0.7	≤500	≤100	0-300
	8-26	≤120	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						
C (Open Collector)	5±0.25	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	8-26						
	10-30						
	12						
L (Line Driver)	5±0.25	≤100	>3.5	≤0.7	≤200	≤200	0-300
A (Wide Voltage Line Driver)	8-26	≤60	>VCC-2.5	≤0.7	≤500	≤100	0-300
	10-30						
	12						

Output Circuit

E (Voltage)		F (Push-pull)		C (Open Collector)	L, A (Line Driver)
5V	8-26V	5V	8-26V		
					L: 26C31 A: ET7272B

Note: C, F output is shorted to ground protection diode.

Output Waveform



Wave Ratio : $X1+X2=0.5T \pm 0.1T$
 $X2+X3=0.5T \pm 0.1T$

Phase Different : $Xn \geq 0.125T$ ($n=1, 2, 3, 4$)

Absolute Angle Error: $\leq 0.2T$

Cycle Error : $\leq 0.05T$

$T=360^\circ / N$ (N =lines count per revolution)

Width of Z signal

1、 $T_m=1T \pm 0.5T$
 $T_m=nT \pm 0.1T$ ($n \geq 2$)

The phase relationship of Z signal and A, B signal is not stipulated.

2、 $T_m=0.5T \pm 0.25T$
 $T_m=0.25T \pm 0.125T$
 $T_m=0.25T \pm 0.125T$

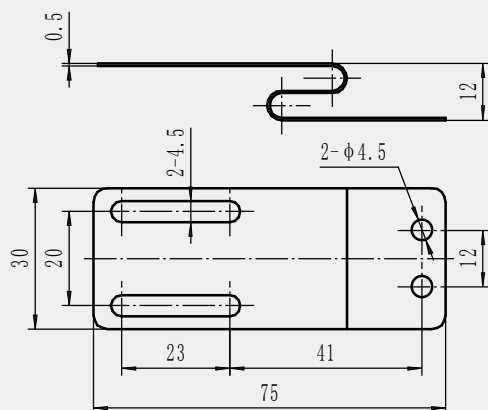
The picture shows the clockwise (CW) waveform from the shaft side.

Mechanical Specifications

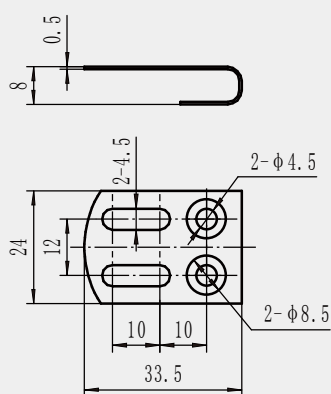
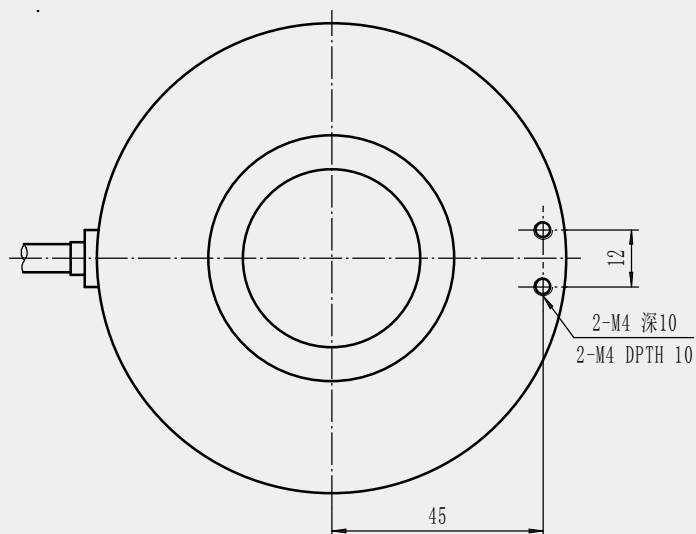
Max Speed (r/min)	Starting Torque (N. M)	Max Load (N)		Rotary Inertia (kgm ²)	Weight (kg)
		Radial	Axial		
4000	5×10^{-2}	40	20	1×10^{-5}	≈ 0.65

Environmental Specifications

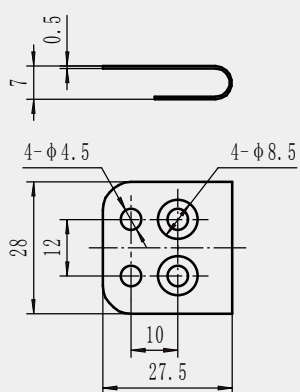
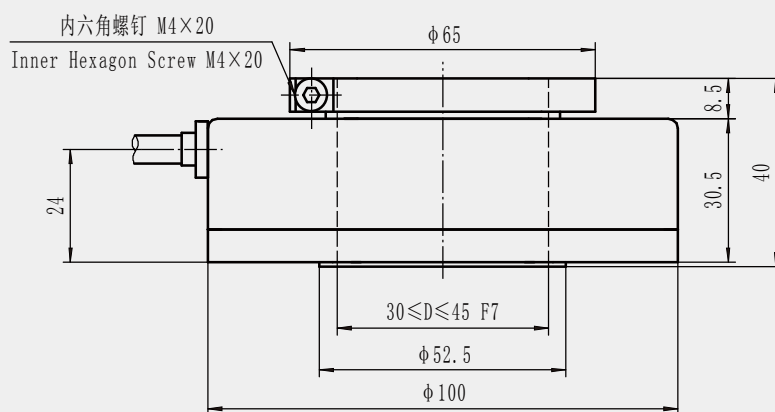
Operating Temperature (°C)	-20~+85
Storage Temperature (°C)	-30~+95
Relative Humidity	35~85%RH no condensation
Impact Resistance (m/s ²)	980 (Three times each on x, y, z directions, each time lasts 6ms)
Vibration Resistance (m/s ²)	50 (10 ~200Hz, 2h on x, y, z directions)
Protection Class	Common IP54 Reinforced IP65



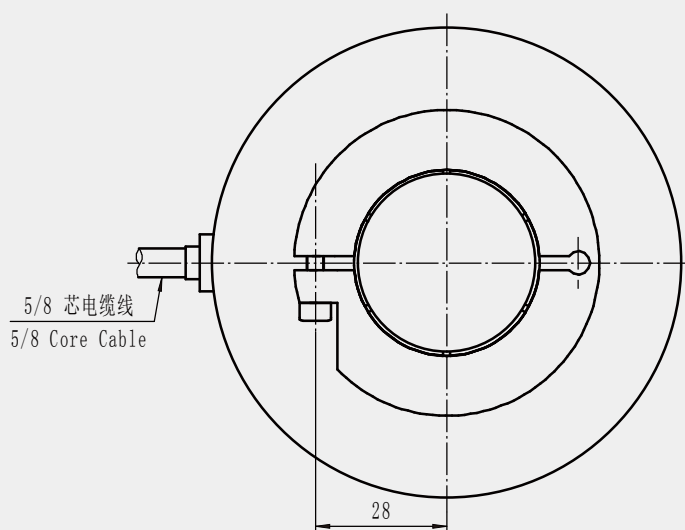
附件A (Accessory A)



附件B (Accessory B)



附件C (Accessory C)



Cable Color	Red	Black	Green	Brown	White	Gray	Yellow	Orange	Shield
E (Voltage)	Vcc	0V	A		B		Z		G
F (Push Pull)	Vcc	0V	A		B		Z		G
C (Open Collector)	Vcc	0V	A		B		Z		G
L, A (Line Driver)	Vcc	0V	A	A/	B	B/	Z	Z/	G

15 Pins DB Computer Plug

Pins No.	7	5	4	2	11	13	14	10	8
Cable Color	Red	Yellow	White	Black	Green	Gray	Brown	Orange	Shield
E (Voltage)	Vcc	Z	B	0V	A				G
F (Push Pull)	Vcc	Z	B	0V	A				G
C (Open Collector)	Vcc	Z	B	0V	A				G
L, A (Line Driver)	Vcc	Z	B	0V	A	B/	A/	Z/	G

