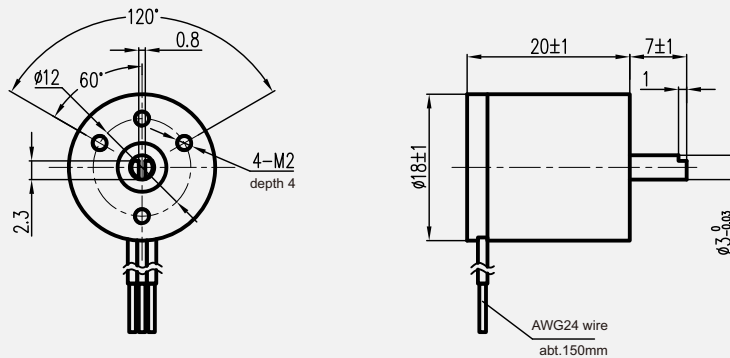


R18



- Hall effect
- High protection degree
- Small size (Housing dia.Φ18mm)
- With 1 set of precision ball bearings
- Screwmount

Standard Dimensions



Selection Guide

Example: R18 0505 W360

R	→ Series	R	High performance version
18	→ Dimensions	18	Housing diameter Φ18mm
	→ Output signal type	None None	Absolute analog signal Absolute digital signal
0505	→ Input voltage / Output signal	Absolute analog signal:	
		0505	5V±10% / 0 ~100%Vcc Note.1
		Absolute digital signal:	
		SER 3.3SER	5V±10% / SER 3.3SER: 3.3V±10% / SER
W	→ Output direction	W C	Clockwise Counterclockwise
360	→ Electrical angle	360	Electrical angle: 360° Note.2 Note.3

Note.1

Special output range

Any output range within 0% ~ 100% can be provided, as 10% ~ 90% etc.

Note.2

Special electrical angle

Available for special effective electrical angle within 360°, output within non-effective electrical angle can be held on high, low and both ends. If the effective electrical angle is less than 45°, independent linearity tolerance and resolution will be influenced. For more details, please contact with us.

Note.3

Customized signal characteristic

Available to set at most 6 rising or horizontal segment, please refer to "output characteristics" for details.

■ General Mechanical Specifications

Mechanical angle	360° (Endless)
Protection degree	IP67
Operating torque	<1mN.m
Max.speed	6000rpm
Life expectancy	100,000,000
Mass	Approx.20g
Housing material	Anodized aluminum alloy
Shaft material	Stainless steel

■ Environmental Specifications

Operating temperature range	-40°C ~ + 85°C
Storage temperature range	-40°C ~ + 85°C
ESD durability	(Contact discharge) ± 8KV, (Aerial discharge) ± 15KV, EN61000-4-2:2009
EMS durability	10V/m (80MHz ~ 1GHz, 1KHz 80% Amplitude modulation) EN61000-4-3:2006+A1:2010

■ General Electrical Specifications

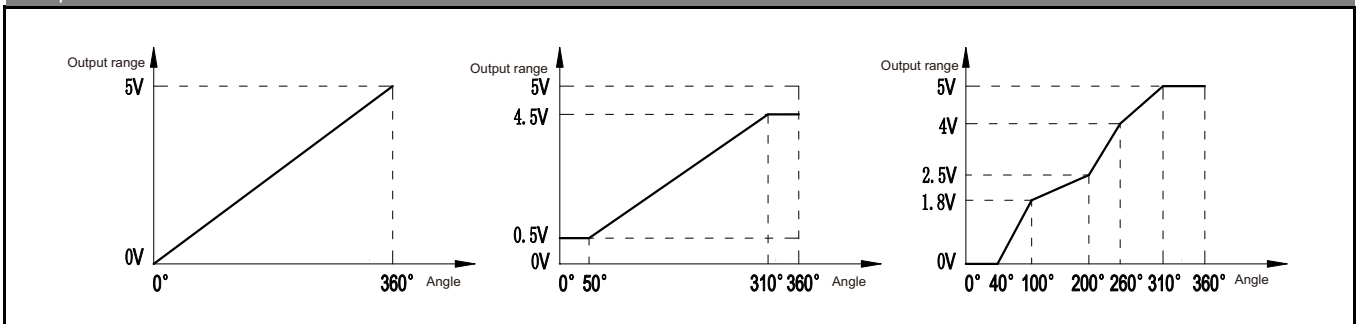
Absolute analog signal

Standard model	R18 0505 W360
Applied voltage	5V±10%
Output signal	0 ~ 100%Vcc
Current consumption (no-load)	<16mA
Output deviation of both ends	<%1.VCC
Load resistance	>10KΩ
Electrical angle	360°
Independent linearity tolerance	±0.3%
Resolution	4096 (12 Bit)
Update rate	0.3ms

Terminal connection instructions

Red	Black	White
VCC	GND	OUT

Output characteristics



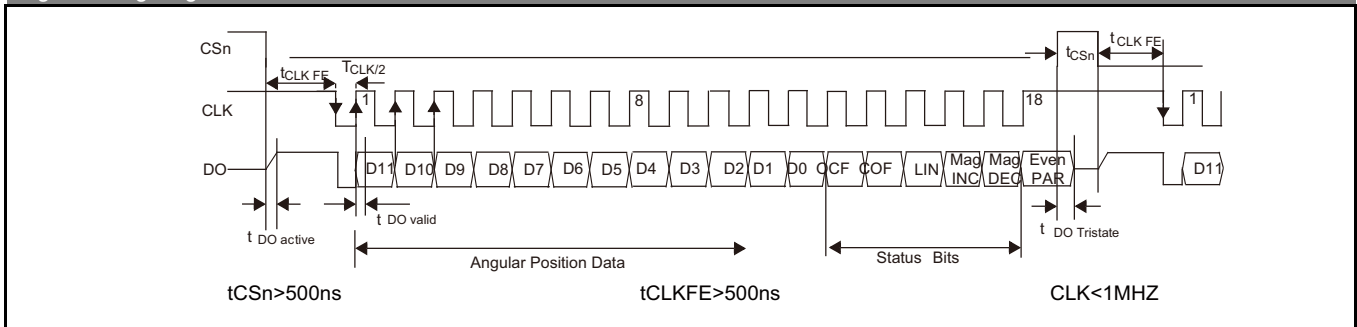
Absolute digital signal

Standard model	R18 SER W360	R18 3.3 SER W360
Applied voltage	5V±10%	3.3V±10%
Output signal	SER (With status bit data output like SSI)	
Current consumption (no-load)	<50mA	
Electrical angle	360°	
Independent linearity tolerance	±0.3%	
Resolution	4096 (12 Bit)	
Update rate	0.38ms	

Terminal connection instructions

Red	Black	White	Green	Yellow
VCC	GND	DO (Data output)	CS (Chip select signal)	CLK (Clock signal)

Signal timing diagram



■ Special Specifications Available

Other output signals	Available for incremental: PWM, SSI, SPI.
Special shaft	Special length of shaft, special diameter or special machining on shaft (like shaft slotted, fattened etc.)

* For other special requirements, please contact with us.

(In case of the potentiometer with special specifications, the general mechanical, electrical specifications and environmental specifications may change. Please consult with us in advance.)
 (All details given in this catalog may be subject to change without prior notice in order to continuously improve qualities and designs of our products.)