



JR55



JR205

Magnetic Rotary Encoder - Solution for harsh environment.  
Compact, flat design, easy direct mounting on a shaft.

## Magnetic Rotary Encoder

AB Digital Signals  
**JR 55** SERIES

Refer to JR205 brochure for ABZ signals.



IEC



### Features

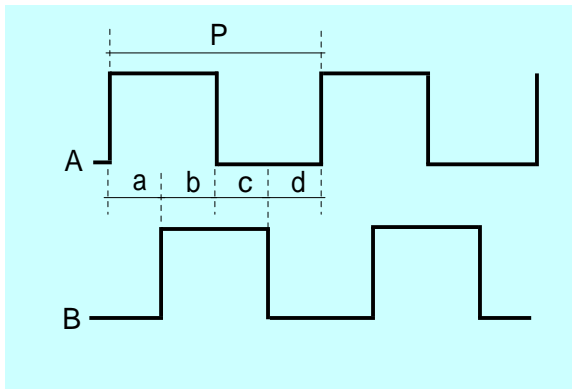
- Easy direct mounting on motor shaft without coupling.
- No adjustment like difficult shaft alignment is required for mounting.
- Magnetic encoder exceeds optical encoder in resistance against harsh environment.
- Strong resistance against vibration and shock..
- Extended line-up JR55 and JR205 series to meet wide range applications.
- Conforming to EC Directive to be accepted in European market also.

**TAIHO PRODUCT CO., LTD.**

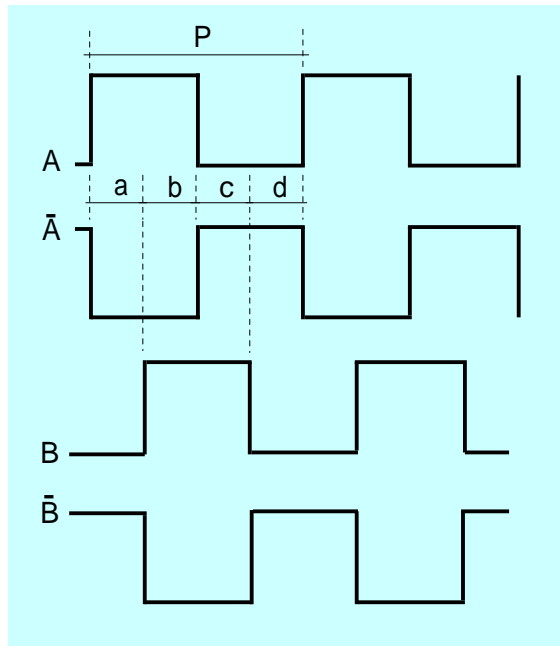
High reliability, that's a must for an encoder.  
 You asked for it.....now you got it.

## Output waveforms

JR55A/JR55C



JR55D



### Output specification

$$a, b, c, d = P/4 \pm P/8$$

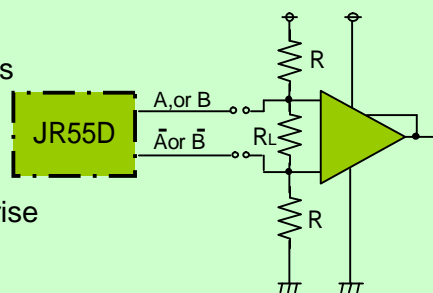
$$0.4 \leq (a+b)/(a+b+c+d) \leq 0.6$$

$$P = 1 \text{ pulse (elec. } 360^\circ) = 1/\text{pulse number per } \dots$$

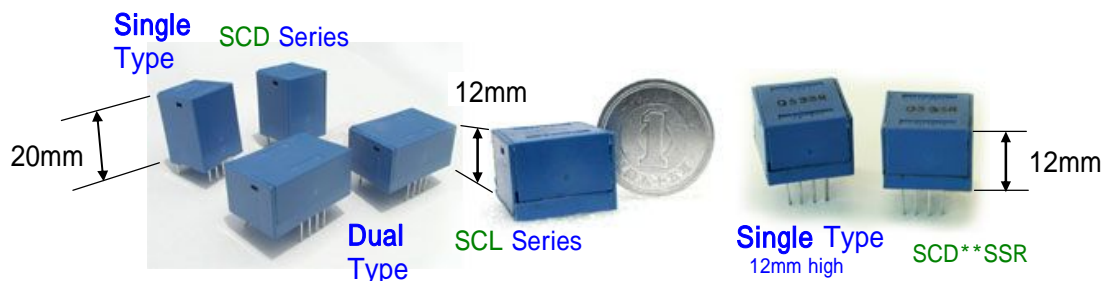
$$\text{Absolute pitch error} = P/10$$

Clockwise direction viewed from mounting bracket side is supposed to be the ordinary revolution.

In the case of D type, current consumption and "signal rise and fall times" are measured with the receiving circuitry shown at the right.



Related products, Current Sensor SCL Series and others, for motion controls are available.  
 Open Loop Type for 1.5A - 30A

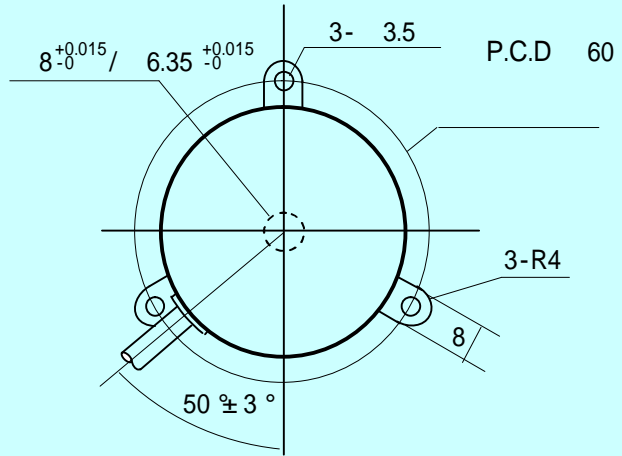
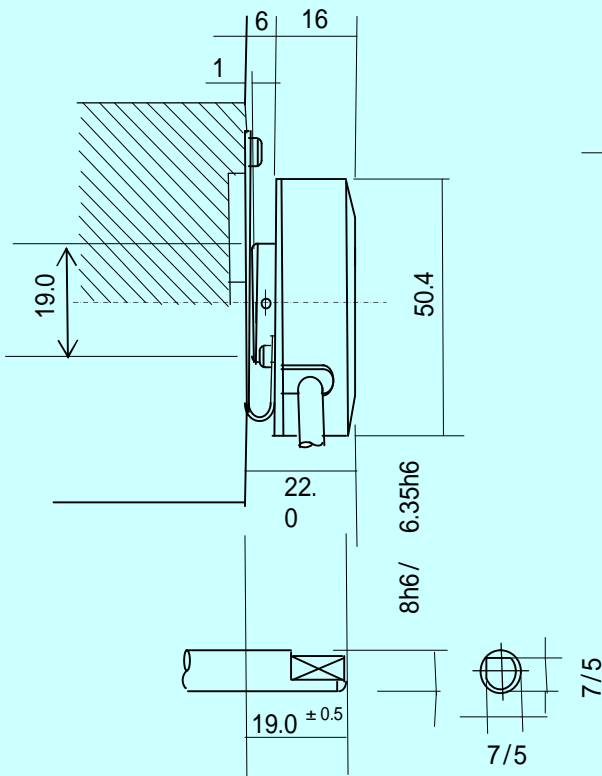


Line-up to meet wide range applications.  
High temperature resistance, fast response speed.

## Specification

| Model                              | JR55A  | JR55C   | JR55D   |
|------------------------------------|--|---|---|
| Resolution<br>pulse per revolution | 300, 360, 500, 600 ppr   |   |   |
| Input voltage                      | DC4.75V - 26.4V<br>at the end of standard cable                                      | JR55C : DC 4.75V - 5.25V<br>JR55-12C: DC 4.75 - 13.2V<br>JR55-24C: DC21.6 - 26.4V<br>at the end of standard cable | DC4.75V-5.25V<br>at the end of standard cable       |
| Current consumption                | DC13.2V, 30mA max. DC26.4V, 60mA<br>max.   |   | DC5.25V, 90mA max.<br>refer to the left page bottom |
| Output signals                     | A, B phases  |   | A, $\bar{A}$ , B, $\bar{B}$ phases                  |
| Output types                       | Open collector<br>(positive logic)   | Voltage output (positive logic)<br>(output pull-up resistance: 2k $\Omega$ )                                      | Line driver output                                  |
| Circuitry<br>withstanding voltage  | +30 V max.   | —   | —   |
| Sink current                       | 20 mV  | —   | —   |
| Frequency response                 | Electric Circuitry 0 ~ 100kHz, Actual max. is 60kHz in the case of 600ppr x 6000rpm. |   |   |
| Signal rise and fall               | 1 $\mu$ sec. max.  |   | 1 $\mu$ sec. max.<br>refer to the left page bottom  |
| Operating temperature              | -10 ~ +80 No dew condensation permit   |   |   |
| Storage temperature                | -30 ~ +85  |   |   |
| Permissible vibration              | 1 hour each in X,Y, and Z directions under 50Hz/10G's                                |   |   |
| Permissible shock                  | 3 times in X,Y and Z directions under 100G/11msec.                                   |   |   |
| Starting torque                    | 30g·cm max.  |   |   |
| Permissible shaft load             | Radial direction : 1Kg, Axial direction : 0.5N                                       |   |   |
| Moment of inertia                  | 40g·cm <sup>2</sup> max.   |   |   |
| Slew speed                         | 6000rpm  |   |   |
| Hollow shaft bore                  | 8.00mm <sup>+0.015</sup> <sub>-0</sub> / 6.35mm <sup>+0.015</sup> <sub>-0</sub>      |   |   |
| Standard cable length              | 500mm  |   |   |
| Weight                             | 100g (including mounting bracket, dust cap and standard cable)                       |   |   |

# JR55 Drawing for Installation (unit: mm)

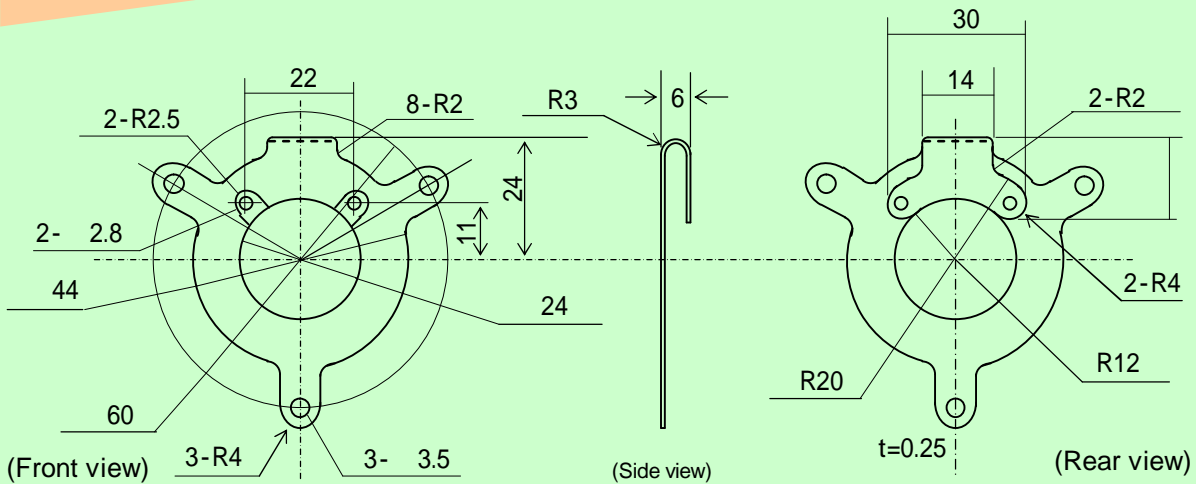


## Mounting shaft specification

- (1) Shaft diameter: 8mm h6/ 6.35mm h6
- (2) Shaft length: 19<sup>0</sup>/<sub>±0.5</sub> mm
- (3) Shaft deflections: 0.05mm max
- (4) Shaft end play: Recommended: ±0.1mm  
Permissible: ±1.0mm
- (5) Perpendicularity between shaft and mounting surface: 0.1mm max

# JR55

## Standard bracket dimensions (unit: mm)



Marketed by  
**ASTEC Co., LTD.**

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Manufactured by  
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