ASTEC
ACTUATOR & SENSOR TECHNOLOGY

Magnetic rotary encoder – Solution for Harsh Environment.
Compact, flat design, easy direct mounting on a shaft.

Magnetic Rotary Encoder

JR205 SERIES
JR215
JR305

IP 54 IEC

CE Marking

Features

- Easy direct mounting on motor shaft without coupling.
- No adjustment like difficult shaft alignment is required at mounting.
- Magnetic encoder exceeds optical encoder in resistance against harsh environment.
- High frequency response up to 200kHz for high speed revolution.
- Extended line-up to meet wide range applications.
- Conforming to EC Directive to be accepted in European market also.

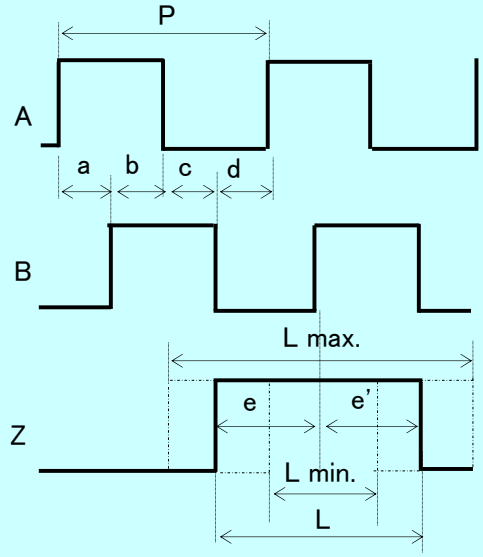
TAIHO PRODUCT CO.,LTD.

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

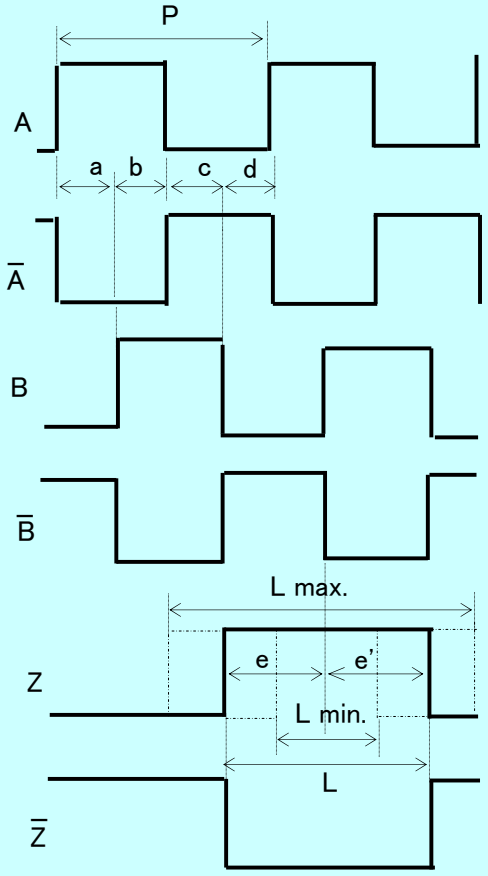
Output waveforms

CW rotation : as viewed from mounting bracket side.

JR205A/JR215A
JR205C/JR215C
JR205-24A/JR205-24C
JR215-24A/JR215-24C



JR205D/JR305D

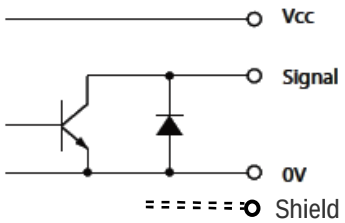


Output specification

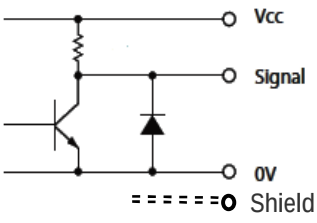
- Z signal :1 pulse per revolution
- a, b, c, d = P/4 ± P/8
- 0.4 ≦ (a+b)/(a+b+c+d) ≦ 0.6
- P/2 ≦ L < 3P/2
- Absolute pitch error ≦ P/20
- The position of Z phase against A,B phase is not specified.

Output circuit diagram

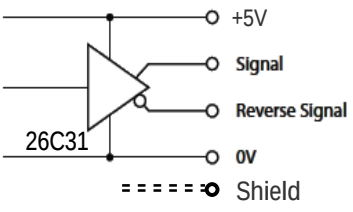
JR205A
JR215A



JR205C
JR215C



JR205D
JR305D



Special specification on request

- The position of Z phase against A,B phase is specified.
  Example : P/4 ≦ e', e ≦ 3P/4
- Negative logic Z signal
  (for open collector or voltage output type)
- Extentended cable length. (Standard 500mm+ 500mm × n)

Notes: In the case of D type,

- A capacitor (0.01 μF) is connected betwwen 0V and encoder case (frame ground).
- Current consumption and "signal rise and fall times" are measured using "the parallel method" which have the parallel termination consists of a 110Ω resistor connected across the differential inputs at the RS422 receiver (26C32).

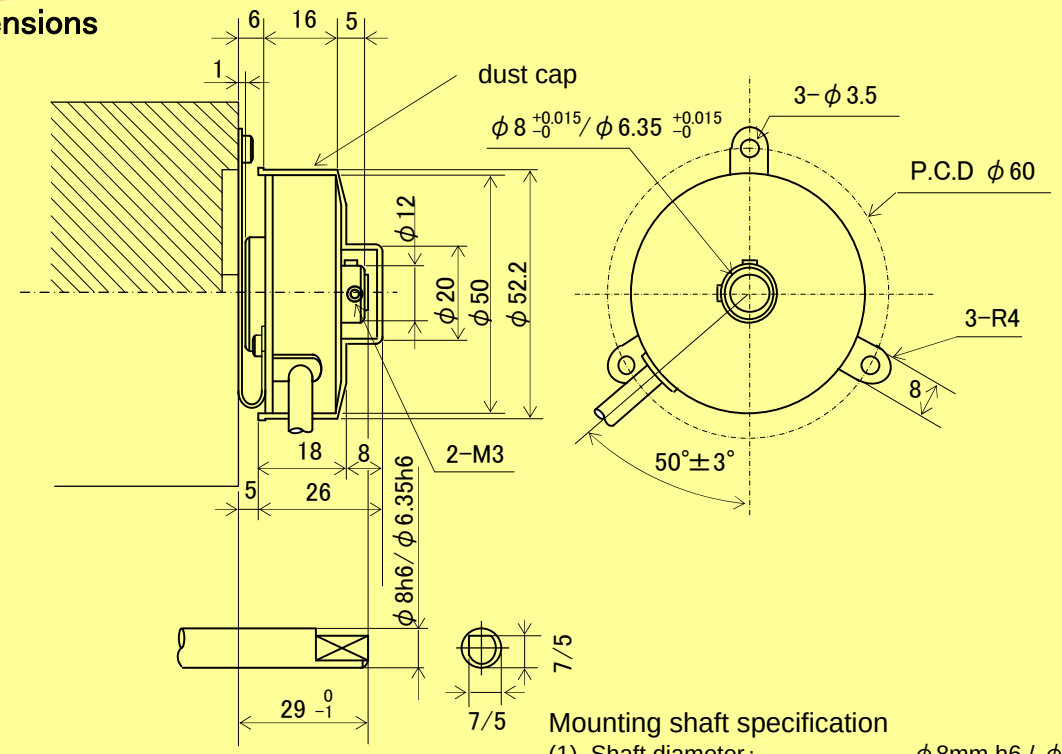
Line-up to meet wide range applications.
High temperature resistance, fast response speed.

Specification

Model name / Specification	JR205A JR215A	JR205C JR215C	JR205D	JR305D
Resolution (pulse per revolution)	JR205 : 300、360、500、1000、1024、2000、2048 JR215 : 300、360、500、1000、1024			500, 1000, 1024
Input voltage	JR205A/C : DC4.75V ～ 13.2V JR215A/C : DC4.75V ～ 13.2V JR205-24A/C : DC21.6V ～ 26.4V JR215-24A/C : DC21.6V ～ 26.4V at the end of standard cable		DC4.75V ～ 5.25V at the end of standard cable	
Current consumption	DC13.2V, DC26.4V : 60mA max. excluding sink current		DC5.25V : 140mA max. refer to the left page bottom	
Output signals	A、B、Z phases		A、$\overline{A}$、B、$\overline{B}$、Z、$\overline{Z}$ phases	
Output types	Open collector (NPN, positive logic)	Voltage output (NPN, positive logic)	Line driver output (26C31 equivalent)	
Output capacity	+30 VDC max. (applied voltage)			
Sink current	35 mA max.		High level : Io=-20mA max. Low level : Is=20mA max.	
Frequency response	0 ～ 200kHz (to be determind by the resolution and maximum speed)			
Signal rise and fall times	1 μ sec. max.		1 μ sec. max. refer to the left page	
Operating temperature	JR205 : - 20℃ ～ +90℃ JR215 : - 20℃ ～+115℃ No dew condensation permitted.			- 30℃ ～ +90℃ Dew condensation permitted.
Storage temperature	JR205/JR305 : - 30℃ ～ +90℃ JR215 : - 30℃ ～ +115℃			
Vibration resistance	2 hours each in X,Y, and Z directions under 58～500Hz/98m/s^2, 0～58Hz/1.52mm(p-p)			
Shock resistance	980m/s^2 for 11msec duration applied 3 times each in X,Y and Z directions			
Starting torque	3×10^{-3}N·m max.			
Permissible shaft load	Radial direction : 9.8N max., Axial direction : 4.9N max.			
Moment of inertia	3.5×10^{-6} kg/m^2 max.			
Permissible speed	6000rpm max.			
Hollow shaft bore	$\phi 8.00\ mm^{+0.015}_{-0}$ / $\phi 6.35\ mm^{+0.015}_{-0}$			
Standard cable length	500 mm			
Weight	120g (including mounting bracket, dust cap and standard cable)			

JR205,215,305 Drawing for Installation (unit: mm)

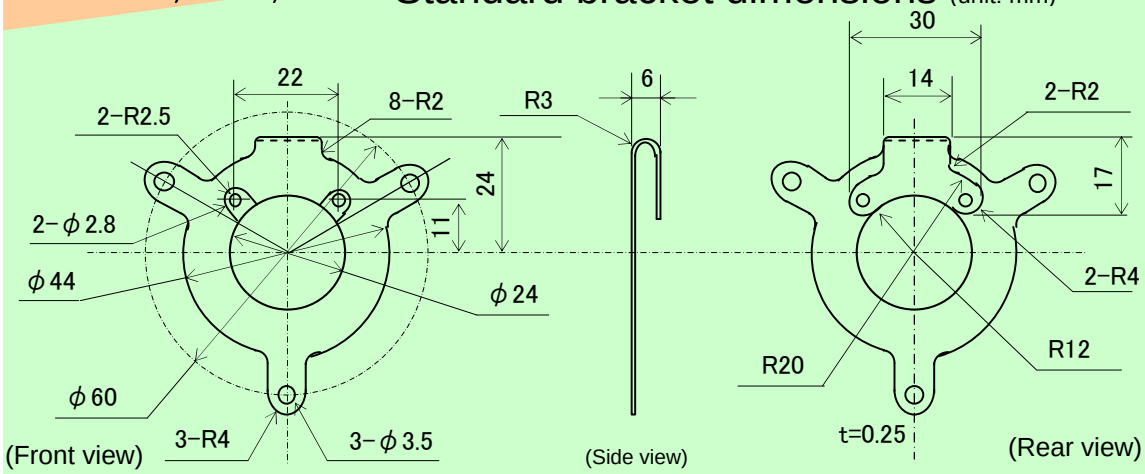
Dimensions



Mounting shaft specification

(1)	Shaft diameter:	φ8mm h6 / φ6.35mm h6
(2)	Shaft length:	29 0 −1 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

JR205,215,305 Standard bracket dimensions (unit: mm)



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