

# POSITION TRANSMITTER

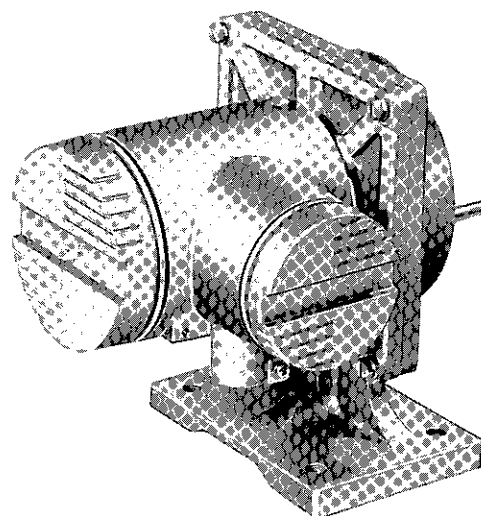
DATA SHEET

FNR

With its input shaft coupled with the shaft of the instrument to be measured, this position transmitter transfers the rotating angle of the input shaft to a non-contact induction potentiometer via a gear mechanism, and converts it by means of a transmitter into a current signal of 4 to 20mA DC proportional to the rotating angle so as to transmit the current signal to a receiver. This instrument is mainly used for transmitting valve and damper openings.

## FEATURES

- 1. High reliability**  
Use of non-contact induction potentiometer assures a long life and high reliability.
- 2. A variety of specifications can be satisfied**  
Instruments designed for flame-proofing, intrinsically safe explosion-proofing, and provided with an arrester or applicable to various rotating angles are available.



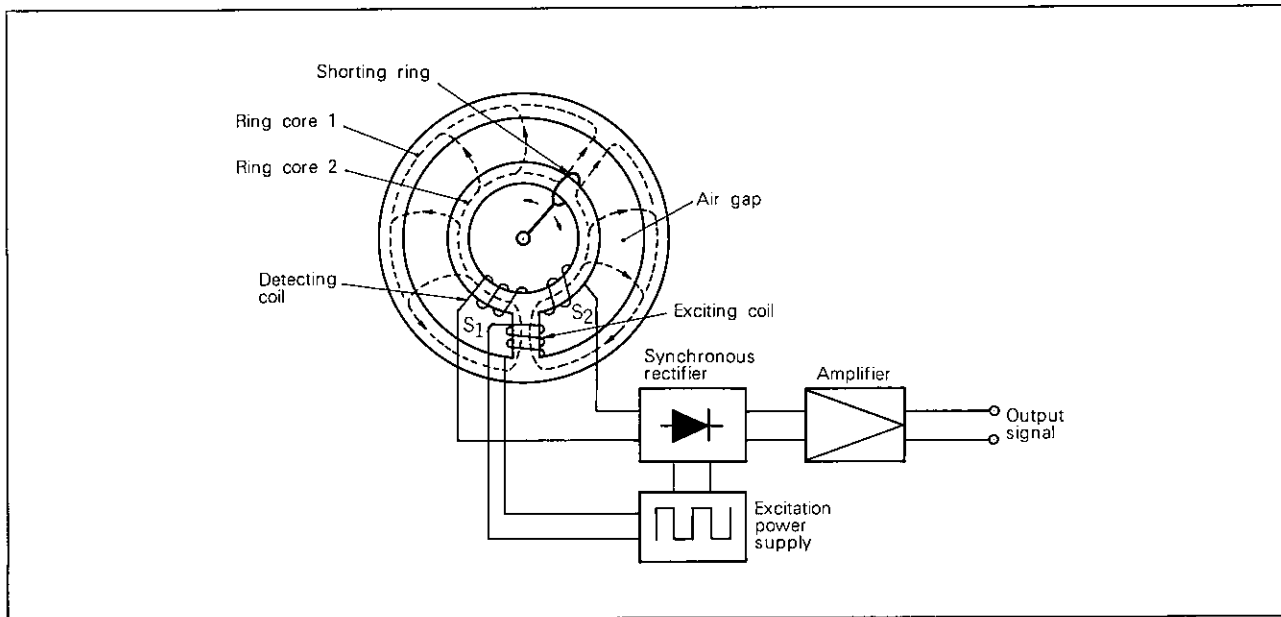
## SPECIFICATIONS

<b>Input rotating angle:</b>	0° to 60°, 0° to 90° or 0° to 120°		
<b>Rotating direction:</b>	Clockwise or counterclockwise		
<b>Output signal:</b>	4 to 20mA DC		
<b>Ripple content:</b>	1.5% P-P (Approx. 25 kHz)		
<b>Allowable load resistance:</b>	0 to 550Ω (at 24V DC)		
<b>Power supply:</b>	13V to 33V DC (26V DC or less in case of intrinsically safe explosionproof type) (27V DC or less when arrester equipped)		
	100V/24V AC ±10%, 50/60 Hz (see example of configuration on next page)		
<b>Ambient temperature:</b>	-30 to +80°C (50°C max. for intrinsically safe explosionproof type) (70°C max. for flameproof type) (60°C max. when arrester equipped)		
<b>Ambient humidity:</b>	Less than 95% RH		
<b>Enclosure:</b>	JIS C 0920 splash-proof type		
		<b>Arrester:</b>	Built in transmitter case when specified
		<b>Explosion-proof protection:</b>	Intrinsically safe explosionproofing;
			JIS i3nG5
		Flameproofing	JIS d2G4
		<b>Mounting posture:</b>	Horizontal
		<b>Conduit connection:</b>	PF1/2 internal thread
		<b>Finish color:</b>	Silver
		<b>External dimensions (HxWxD):</b>	210 x 183 x 257 mm
		<b>Mass:</b>	Approx. 4.5 kg
		<b>Allowance:</b>	Better than ±1% FS

### CODE SYMBOLS

1	2	3	4	5	6	7	8	Description
F	N	R					1	
<b>Rotating angle, rotating direction</b>								
1								0 to 60° } Clockwise (opposite to the shaft)
2								
3								
4								0 to 60° } Counterclockwise (opposite to the shaft)
5								
6								
<b>Explosion-proof protection</b>								
1								General use (non-explosionproof)
2								Intrinsically safe explosionproofing (i3nG5)
3								Flameproofing (d2G4, flameproof conduit type connection)
4								Flameproofing (d2G4, flameproof packing type connection)
<b>Arrester</b>								
Y								None
A								Equipped (impossible when "2" is specified in 5th digit)
<b>Treatment</b>								
Y								General use
B								Acid and alkali-proofing

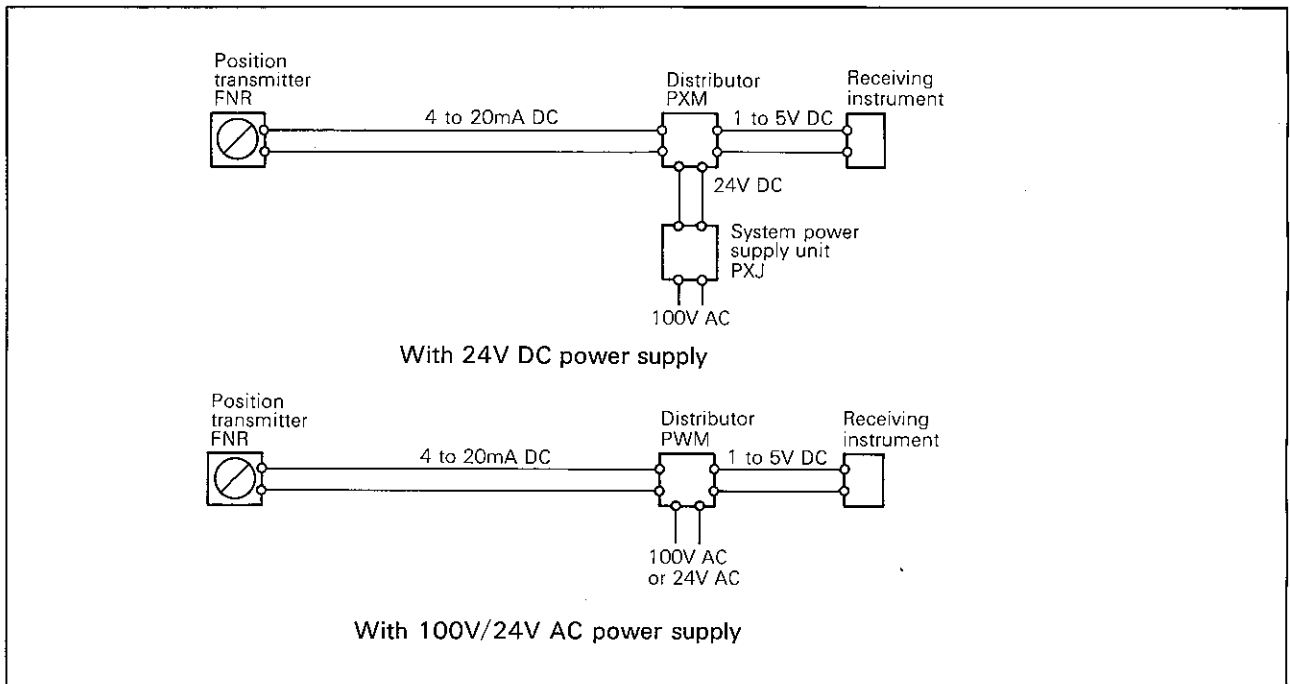
### PRINCIPLE of INDUCTION POTENTIOMETER



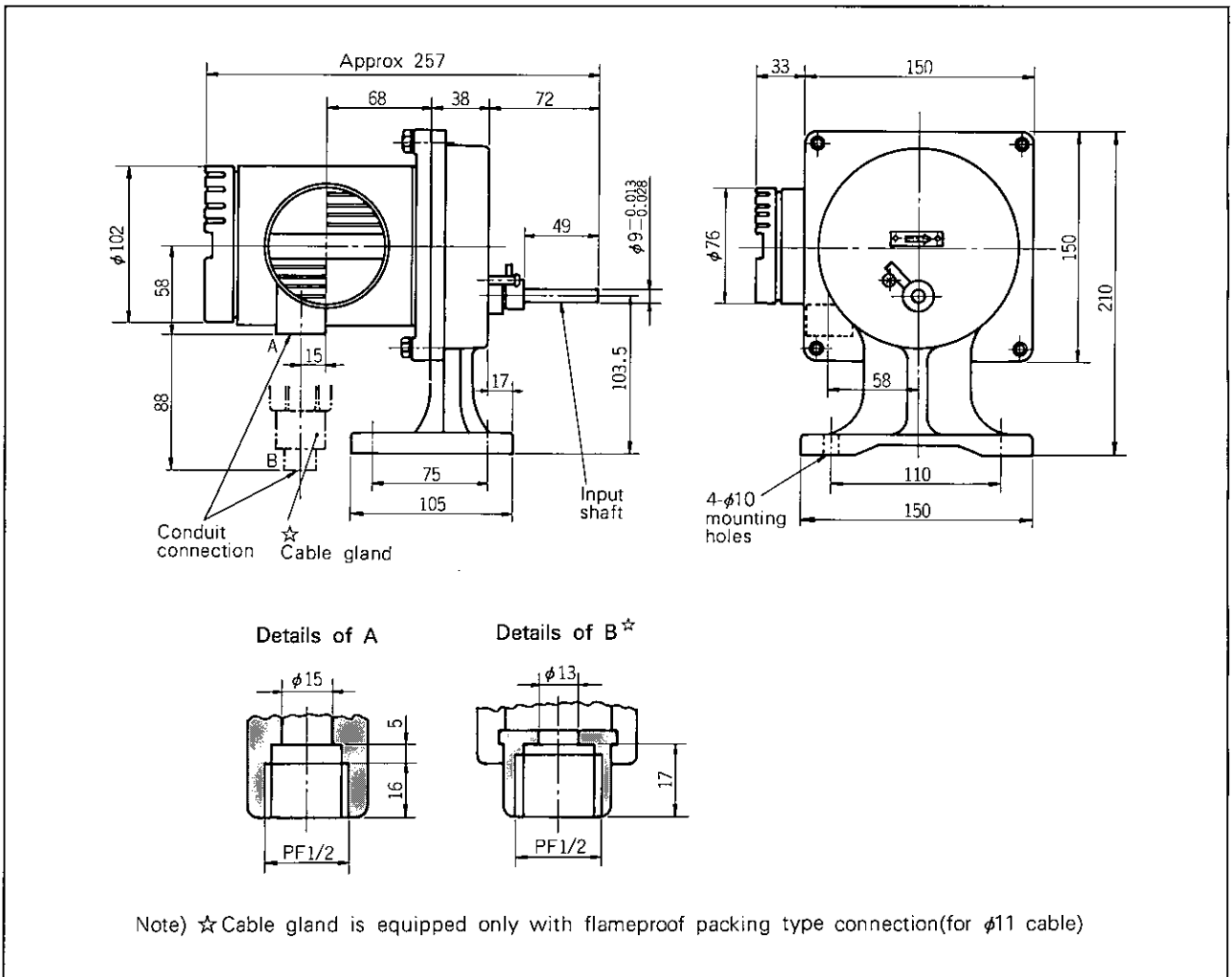
When the shorting ring is positioned at the center, the magnetic flux on left and right sides is equal, and the voltage generated at detecting coils  $S_1$  and  $S_2$  is also equal. But if the ring rotates to the right, then the magnetic flux

at  $S_1$  increases while that at  $S_2$  decreases. By utilizing this difference, an output voltage proportional to the ring displacement (or input rotating angle) is obtained.

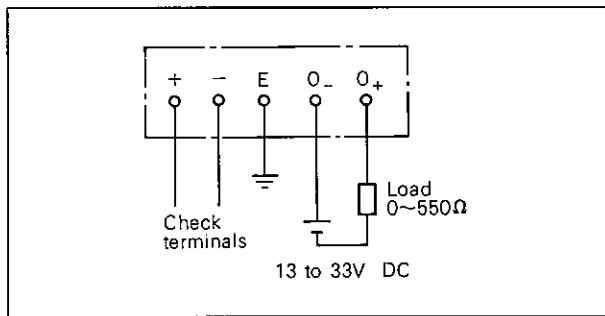
# CONFIGURATION ACCORDING to TYPE of POWER SUPPLY



## OUTLINE DIAGRAM (Unit:mm)



## CONNECTION DIAGRAMS



## SCOPE of DELIVERY

Position transmitter

## ORDERING INFORMATION

1. Product name
2. Code symbols
3. Rotating angle
4. Whether, explosionproofing, arrester required
5. Other requirements

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