

Tele thermo R – Rotating Telemetry

Customization Examples

[Ring Antenna Induction Power Transfer]

Easy Measure

【Measurement Made Easy】

Ready to use
Easy to use for anyone
Carry & use anywhere

[General]

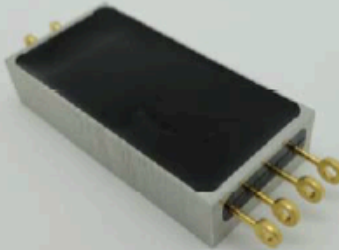
Easy Measure's rotating telemetry, **Tele thermo R**, has been used in wide industry areas for its easy installation, excellent wireless performance, and high precision & strong noise resistance.

“Want to measure continuously without changing batteries”, “Want to install by ourselves in the field”, “Need a power transfer tracking up-and-down movement of the shaft.” The ring antenna type can satisfy these requirements.



Ring Antenna

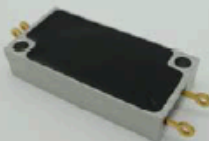
Telemetry Transmitter



Power Receiving Coil
(Three layers around the shaft)



Power Transfer Driver



Rectifier

Telemetry Receiver



[Customization Examples]

- Ring antenna design to respond to the up-and-down movement of the shaft
- Input
Multiple channels and mixture of different sensors.
Strain: from $\pm 10,000\mu\epsilon$ [standard] to $\pm 50,000\mu\epsilon$
Thermocouples: N/K/E/J/T/R/B/S
- Power:
Input power to the power transfer (AC100V/DC12V/DC24V)
- Low noise: less noise interference from the induction power transfer
- CAN / LAN outputs for measured data

[Ring Antenna Induction Power Transfer – 4-ch Strain (Example)]

Wireless Common Specifications

Items	Specifications
Configuration	1 Transmitter, 1 Receiver
Wireless	2.4GHz advanced low-power data communication
Diversity	Yes
Distance	5m (free space)

Transmitter Specifications

Items	Specifications	
Channels	4 channels (bridge connection)	
Input	Measurement Range	±10,000µε
	Auto Zero Range	±5,000µε
	Resolution	1.0µε
	Accuracy	±0.05%FS
	Gauge Resistance	120 – 1,000Ω
Bridge Voltage	1.25V Output	
Connection	Direct soldering to terminal pins	
Sampling	2,000 times/s	
Antenna	Built-in	
Power	3.2V/ < 90mA for 4 channel gauges	
Operating Temp.	-20 to +80 deg.C	
Operating Humidity	10 to 85%RH (no condensation)	
Dimensions	25[W] x 40[D] x 13[H] mm (excluding protruding parts)	

Power Transfer Driver Specifications

Items	Specifications
Transfer Frequency	1.5MHz
Input Power	AC100V ± 5%
Power Consumption	< 150W
Operating Temp.	0 to +50 deg.C
Operating Humidity	10 to 85%RH (no condensation)
Dimensions	230[W] x 231[D] x 88[H] mm (excluding protruding parts)
Weight	< about 3500g

Rectifier Specifications

Items	Specifications
Connection	Direct soldering to terminal pins
Operating Temp.	-20 to +80°C
Operating Humidity	10 to 85%RH (no condensation)
Dimensions	25[W] x 40[D] x 10[H] mm

Receiver Specifications

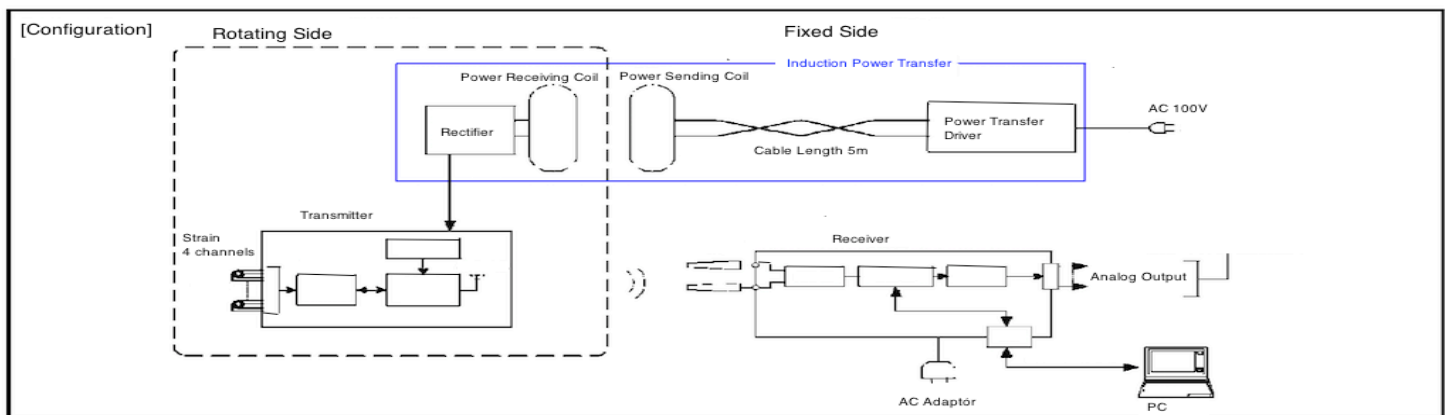
Items	Specifications
Analog Output	Digital data received by wireless is converted to analog.
Channels	4 channels
Output Format	Single-end analog output
Output Range	±10V maximum. Range can be set by software.
Output Terminal	BNC Connector
Allowable Load Resistance	2kΩ
Output Impedance	< 100Ω
DA Conv. Resolution	14bit. ±0.05%FS (@±10V full scale)
Data Updates	2,000 Hz
PC Interface	USB2.0
Auto Zero	Executed for all channels at once.
Data Retention	Keeps previous data when transmission stops.
Output Range	Setting by PC software
Wireless Channel	Setting by PC software
Digital Monitor	Displays channel values and power voltage.
Input Power	DC 8 -18V or dedicated AC adaptor (12V/1A)
Power Consumption	5W (typ.) when dedicated AC adaptor is used.
Operating Environment	0 to +50 deg.C/ 10-85%RH (no condensation)
Dimensions/Weight	130[W] x 95[D] x 46[H] mm /about 300±10g

Power Sending Coil Specifications

Items	Specifications
Configuration/Material	Copper Plate (thermal shrinkage tube for insulation) Dedicated stand to fix the case
Operating Temp.	-10 to +80°C
Operating Humidity	10 to 85%RH (no condensation)
Dimensions	Left and right gaps between the sending coil and the receiving coil must be less than 15mm.

Power Receiving Coil Specifications

Items	Specifications
Material	Copper tape + Teflon. Length depends on the shaft size.
Connection	Direct soldering a wire to the rectifier
Connection wire to the rectifier	2x 0.3mm ² (coated wires)
Operating Temp.	-20 to +80 deg.C
Operating Humidity	10 to 85%RH (no condensation)
Dimensions	-
Weight	-



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Customization services are available. Please contact us.

Sensor is source of technology
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