ATi 2100/3100 SERIES

Digital Radio Telemetry System

Advanced Telemetrics International

Induction Powered, Digital Rotating Telemetry System

for Accelerometers, Strain Gages, Thermocouples, RTD's and Voltage Signals

FEATURES

- Transmits Sensor Signals via Digital Radio Transmitter to a Stationary Receiver.
- Transmitters available for Strain, Torque, Pressure, Voltage, Temperature, Vibration.... Most Any Type of Signal.
- No Shaft Modifications are Required.
- Clamp-on Collar houses Transmitter(s) and Inductive Power Conversion Circuitry. Contains embedded transmitting antenna.
- Eliminates Cumbersome Slip Ring Installation.
- Remote Shunt Calibration Available.
- Extremely Rugged. Can operate in the harshest of conditions.
- Immune to electromagnetic interference, dust, oil, moisture, etc.

Model 2125iR Receiver shown with Model 2110i Induction Powered Collar Assembly attached to shaft (2140i Transmitter installed).

2132I Antenna/IPS shown with 2125iD Receiver Unit

Miniature Digital Telemetry Transmitters Allow Sensors to be Wireless

ATi's 2100/3100 Series Digital Telemetry systems are ideal for ***transmitting data from rotating shafts or machinery*** to a stationary receiver. The 2140i Miniature Digital Strain Gage Transmitter can be connected to strain gages adhered to your shaft to transmit shaft torque and thrust, ***while the system is running.***

Power is supplied to the Transmitter Inductively for continuous, non-interrupted measurements. ***No batteries are required*** because the ***Induction Power Supply (IPS)*** delivers power through a stationary loop antenna to a rotating antenna. The rotating loop antenna and Induction Power Converter are embedded into the Model 2110i Collar Assembly. Single piece and split collars are available in most any size, which will clamp or bolt to any shaft size.

The 2125 Series Receivers use one or more single-channel Transmitters while the 3125 Series Receivers utilize multiplexing transmitters.

Induction Power Supplies Shown With Different Antenna Configurations

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The Model 2125iR and 3125iR Receivers feature a built-in IPS while the 2125i and 3125i Receivers utilize an external 2030i IPS. The 2030i is typically used when more than three channels per shaft are utilized, or long cable runs are required.

All Receiver models include a digital, multi-function backlit LCD display and provide one filtered 0-2, 0-5, 0-10, ±2, ±5, ±10 VDC analog output per channel. 0-20 and 4-20 mA output formats are optional. The unit can be powered from 12 VDC or an AC adapter.

Each system comes complete with all required accessories including antennas, AC power adapter or DC power cord for the Receiver, and all required cables.

Features and Specifications

SYSTEM

1 Channel ..... up to 6400 samples/sec
2 Channels ..... 3200 samples/sec/ch
4 Channels ..... 1600 samples/sec/ch
Resolution ..... 14 bits
(Other Rates and Resolutions are Available)
Integral Non-Linearity ..... ± 0.10%
Repeatability ..... ± 0.025%
Maximum Error ..... < 0.15% Full Scale

TRANSMITTER

Power ..... 500KHz Induction Power
Zero Drift ..... 0.02% / °C
Span Drift ..... 0.02% / °C
Operating Temperature Range ..... -40 to 100 °C
Size ..... Various Sizes and Shape Available

MODEL 2030i INDUCTION POWER SUPPLY

Power ..... Supplied by 2125i Receiver
Output ..... 500 kHz Induction Power
Size ..... 6.29”L x 2.95”W x 2.25”H

Multi-Channel Receivers are also available.

RECEIVER: Model 2125, 3125

Power ..... 12VDC / 110VAC
Output ..... 0-2, 5, 10; ± 2, 5, 10 VDC
(0-20 and 4-20 mA Optional)
Display ..... Multi-function Digital Backlit LCD
Output Ripple ..... < 2 mV
Size ..... 8.0”L x 5.0”W x 3.5”

ATi Transmitter Model Numbering Format

31 4 2 B – 4/J

Series	TX Type	Sensor Type	Power	Special (separate by “/”)
21=Single Channel 31=Multiplexed	4=Rotating 5=Point to Point	0=Strain Gage* 1=Voltage* 2=Thermocouple 3=Accelerometer* 5=RTD*	B = Primary Battery R = Rechargeable Battery I = Inductive	2,4,8 = Channel Count (31xx only) J,K,T = Thermocouple Type R = RMS Voltage

Standard Sensor Excitations: Types 0, 1, 5 (1.9 VDC), Type 3 (1 mA) Custom values are available.

Additional Features

*** Remote Calibration:** Pressing a button on the Receiver’s front panel places the Transmitter in CAL mode for approximately 15 seconds.

Strain Sensors - A shunt calibration resistor is connected to one leg of the bridge simulating a known load. (Sensor types 0, 1, 3 and 5 only)

Voltage Output Sensors - Sensor output voltage is replaced by a reference voltage to simulate the load.

Accelerometer/Current Output Sensors - A known constant current source is substituted for the current output sensor.

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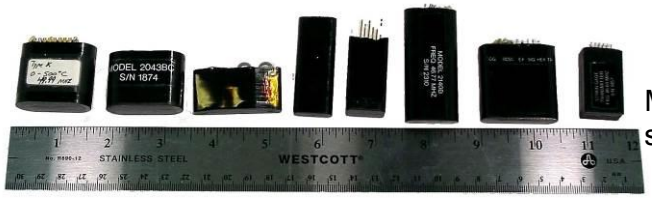
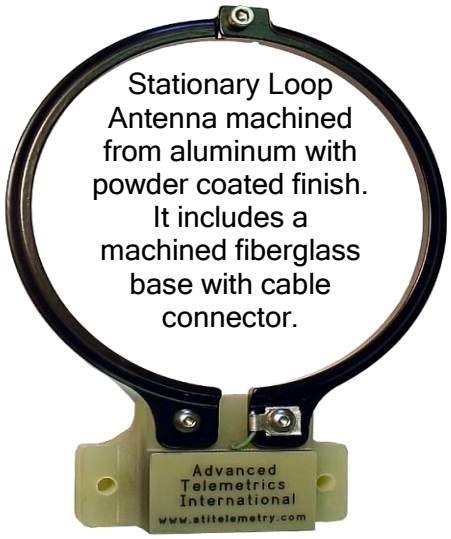
Inductively Powered Telemetry Collars are available in just about any shape and size to fit most any size shaft.

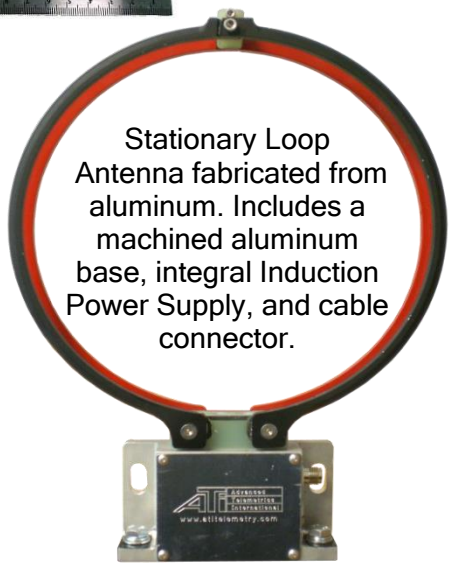
Inductively Powered Digital Telemetry System installed on a truck drive train.



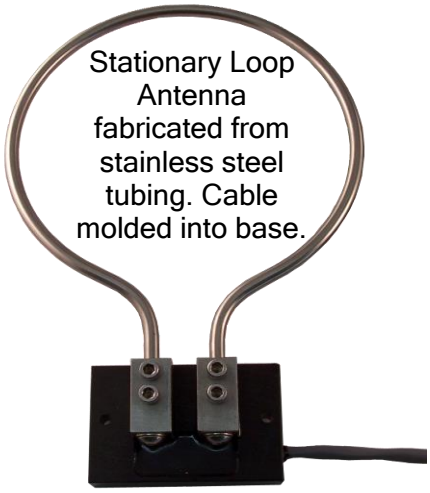
Miniature Digital Transmitters are available in many shapes and sizes to fit your application.



Stationary Loop Antenna machined from aluminum with powder coated finish. It includes a machined fiberglass base with cable connector.



Stationary Loop Antenna fabricated from aluminum. Includes a machined aluminum base, integral Induction Power Supply, and cable connector.



Stationary Loop Antenna fabricated from stainless steel tubing. Cable molded into base.

ATi Serves Almost Every Industry Around the Globe!

While viewing this PDF document, click on these hyperlinks to go direct to ATi's associated website pages.

Solve your telemetry problems today. Have ATi build a standard or custom Telemetry System for your application

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