SYSTEMS FOR SINGLE CHANNEL TELEMETRY

ACCUMETRICS
AN AMPHENOL COMPANY

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REAL-TIME WIRELESS DATA

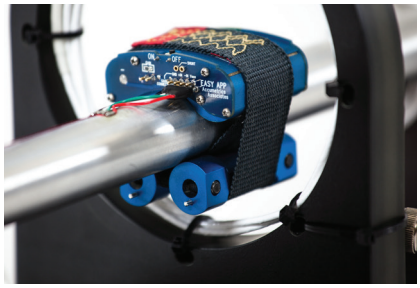
- Automotive
- Agriculture
- Industrial Equipment
- Aerospace and Defense
- Mining

Accumetrics offers a simple, accurate method of conditioning and transmitting strain, thermocouple, or voltage signals on rotating or moving machinery while operating in a completely contactless mode. Accumetrics' wireless telemetry systems amplify analog sensor signals on rotary shafts, then digitize and transmit the data from the rotor to the stationary receiver, providing a reliable, EMI resistant alternative to slip rings and older FM telemetry systems. This configuration allows users to measure torque or other parameters without modification to the existing shaft. Accumetrics' telemetry systems preserve data integrity under the most challenging conditions.

BENEFITS

- Validate designs
- Improve designs
- Troubleshoot problems
- Predict or detect failures in components

BATTERY POWERED SOLUTION: AT-5000 EASYAPP

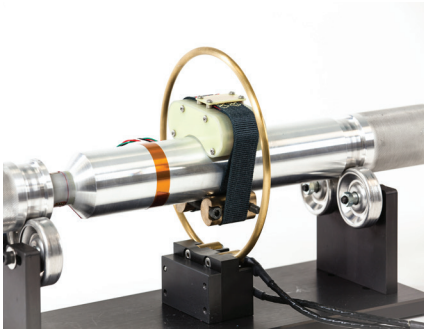


Need to take measurements for a temporary application or in small spaces? Our AT-5000 battery-powered digital telemetry systems are mounted to a shaft using a heavy-duty aramid fiber strap. It measures, digitizes, and transmits data wirelessly off rotating half shafts, drive shafts and rotors to a stationary receiver which converts the digital data to an analog output voltage. These systems are ideal for taking precise measurements for torque, temperature (Thermocouple and RTD), and electrical measurements on drive shafts or motor-generator field excitation.

HIGHLIGHTS

- High data integrity and noise immunity
- Easy installation
- Small size
- Long operating life from internal battery (50 to 150 hours)
- Manual shunt calibration invoked at transmitter
- Two systems can be used side-by-side without interference

INDUCTION POWERED SOLUTIONS: AT-4500 EASYAPP & AT-4400



Need to take highly precise measurements over a longer duration? We offer induction powered solutions ideal for long duration applications and permanent installations where accuracy, resolution, low drift, and low noise levels are critical. The induction power eliminates the need for batteries. Sensor data is directly measured and digitized on a rotating shaft then transmitted off-shaft using wireless technology.

These systems are ideal for taking precise measurements for torque, strain, temperature (RTD), and voltage on drive shafts or motor-generator field excitation. Designed for long term applications, the AT-4500 EasyApp mounts easily to the shaft with an aramid fiber strap. A single transmitter can be reused on varied shaft sizes. AT-4400 utilizes a rugged split clamp collar design which requires no maintenance, making it ideal for permanent installations.

HIGHLIGHTS

- EMI resistant digital data transmission
- No rotation required to power transmitter
- Remote shunt calibration invoked at receiver
- Environmentally rugged housing
- High sample rate
- Analog voltage output (adjustable up to +/- 10 volts)

RANGE OF SOLUTIONS

SINGLE CHANNEL COMPARISON			
	AT-5000 EasyApp	AT-4500 EasyApp	AT-4400
Power	Battery	Induction	Induction
Bandwidth	1.2 kHz (5 kHz optional)	2 kHz (up to 10 kHz optional)	2 kHz (up to 10 kHz optional)
Samples Per Second	Channel A – 7 812 Channel B – 11 718	26 485	26 485
Frequency Data	Channel A – 4 MHz Channel B – 6 MHz	13.56 MHz	10.17 MHz
Introduction Power Frequency	N/A	106 kHz	6.78 MHz
Strain	Yes	Yes	Yes
Temperature	RTD and thermocouple	RTD	RTD
Voltage	Yes	Yes	Yes
Outputs	±10 V Analog	±10 V Analog	±10 V Analog
Installation	EasyApp Aramid fiber strap	EasyApp Aramid fiber strap	Split clamp collar
Fits Shaft Sizes	0.9" and greater	2.0" and greater	0.9" and greater
Standard Pick-Up Antenna	24" flexible pickup loop (standard)/and ¼" available	¼" brass antenna	¼" brass antenna
Radial Envelope (typical)	3.0"	4.0"	4.0"
Digital Resolution	12-bit	16-bit	16-bit

ACCURATE, RELIABLE TELEMETRY SOLUTIONS

AGRICULTURAL EQUIPMENT MEASUREMENTS

- Measure power take off (PTO) shaft torque on a tractor
- Continuously monitor torque to determine the power delivered to the PTO shaft for maximum power efficiency

AUTOMOTIVE TORQUE MEASUREMENTS

- Monitor torque on a drive shaft, half shaft, or clutch assembly
- Determine torque spikes (for example, during piston firing or clutch engagement), horsepower, fuel efficiency, and power consumption
- Use data to prove out new designs or improve existing designs

INDUSTRIAL DRIVE PROCESS MONITORING

- Monitor torque on a reversing cold rolling mills' main drive for optimization of the milling process
- Allow for maximum steel throughput without damaging motors and shafts

COMMITMENT TO CUSTOMER SATISFACTION

As with all Accumetrics instrumentation, these telemetry systems are backed by our commitment to Total Customer Satisfaction with ongoing assistance from our application engineers and are backed by a no-risk policy that guarantees total customer satisfaction.

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MD-0333-revB-0819