



## *High Resolution/ High Bandwidth Four Channel Rotor Telemetry*

*(Preliminary Datasheet)*

### *AT-7600 EasyApp*

## *High Resolution/ Bandwidth Multi-channel Digital Telemetry*

Four channel high speed, high resolution, and high bandwidth digital wireless telemetry for demanding dynamic measurement applications. Using our high strength Kevlar™ strap mounting design, the induction powered **AT-7600 EasyApp** replaces sliprings for reliable sensor data transfer off of rotating structures, while allowing the transmitter to be reused on many shaft diameters by changing a high strength Kevlar™ strap.

### **Applications:**

#### **Rotating shaft sensor applications:**

- **Strain and Torque characterization**
- **RTD temperatures**
- **Pressure sensor data**
- **Field Voltages and Currents**
- **Engine monitoring**
- **MEMS accelerometers**

### **Benefits:**

- **Four input channels for on-rotor measurements in a versatile mounting package**
- **Dependable wireless replacement for sliprings**
- **Induction powered (no batteries)**
- **Kevlar strap mounting**
- **Environmentally sealable front cover**
- **Input wiring to front cover**
- **Rugged construction for rugged applications**
- **16 bit resolution**
- **Simultaneous high speed sampling**
- **High bandwidth output signals**

Building on Accumetrics' AT-7000 system capabilities, the **AT-7600 EasyApp** provides:

- Induction powered (no batteries) multi-channel telemetry.
- Four channels of sensor inputs for dynamic and static strain gages, pressure sensors, RTD's, differential voltage/ current.
- Simple Kevlar strap mounting for varied shaft diameters
- Anti-alias filtering and digitizing on the rotor, with 16 bit resolution.
- Simultaneous sampling on all channels.
- High bandwidth output data; over 4 kHz.
- Instrumentation grade measurements; high accuracy data.
- Continuous high data throughput (over 10000 samples per second digitizing on each channel simultaneously).
- Auto-balance remote control for sensor bridges.
- Digital data transmission off the rotating shaft providing signal robustness and EMI resistance.
- Analog voltage or optionally digital data outputs from a remote receiver (providing compatibility with data acquisition systems.)

#### **Overview:**

Sensor signals are amplified, anti-alias filtered and 16 bit digitized while on the rotor. A data stream of digital pulse code modulated data is wirelessly transferred off rotor by close proximity RF transformer coils (no rotation is needed; these same coils provide power to the transmitter and gages). The digital data streams are carried by a coaxial cable to the remote receiver for conversion to analog voltage (+/- 10V typically), or for optional digital output. Software can be provided for control and data archiving.



## AT-7600 EasyApp Telemetry System

4 channel digital telemetry with high resolution and bandwidth,

### **Receiver**

- Receives digital data from stationary pickup coil structure
- Converts data to individual Analog voltages or standard digital data
- Provides control communication
- Provides RF Power to stationary pickup coil
- Can be provided in NEMA enclosure

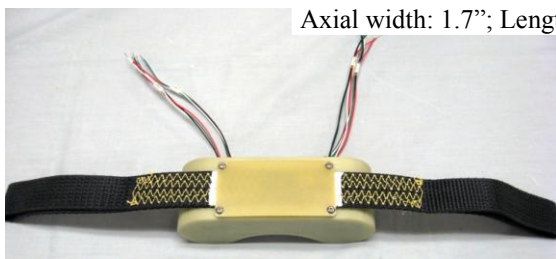


Stationary **pickup** coil with RF tuning enclosure for wireless power and data transfer

Data and power cables

4 channel **transmitter**, shown with input wires to a replaceable environmental front cover, Kevlar strap, and tension/ counterweight yokes

Transmitter ID is for shaft diameters of 3" or larger;  
Axial width: 1.7"; Length: 5.1"; Height (without strap retention): 1.75" on flat surface



Top view of transmitter, showing strap retention plate



Transmitter with front input lead/ environmental cover removed



Front view of transmitter, with 4 sets of strain gage input wires



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