

ROTATING TELEMETRY SYSTEM

FOR ACCELEROMETERS, STRAIN GAGES, THERMOCOUPLES, RTD'S AND VOLTAGE SIGNALS

FEATURES

- ATi Transmits Sensor Signals via Radio Transmitter to a Stationary Receiver
- ATi Transmitters available for Strain, Torque, Pressure, Voltage, Temperature.... Most Any Type of Signal
- ATi No Shaft Modifications Required
- ATi Clamp-on Collar houses Transmitter(s) and Battery. Contains embedded transmitting antenna
- ATi Eliminates Cumbersome Slip Ring Installation
- ATi Remote Shunt Calibration Available
- ATi Multi-Channel Systems Available
- ATi Does Not Require FCC License



Model 2025BP Receiver shown with 2040BC Transmitter and Model 2010B Battery Powered Collar Assembly attached to shaft (Transmitter installed).

TELEMETRY TRANSMITTERS ALLOW SENSORS TO BE WIRELESS

ATi's 2000 Series systems are ideal for transmitting coupled data signals from sensors, which are mounted on rotating shafts or machinery to a stationary receiver. The 2000 series Miniature transmitters modulate sensor signals from strain gage bridge circuits, thermocouples or voltage transducers onto a RF carrier and transmit them to a stationary receiver, **while the system is running**. The 2000 series receiver demodulates the signal and converts it to a $\pm 2V$, $\pm 5V$, $\pm 10V$ or 4-20mA analog output. Two analog outputs signals are available simultaneously. A wide band output provides frequency response from DC to 1100Hz with a 100 Hz filtered output for maximum stability.

The 2000 series transmitters incorporate a crystal oscillator that is tuned to a specific frequency eliminating the need for tuning by the end user. Transmitter frequencies can be staggered allowing multiple transmitters to be operated in close proximity with no interference. Multi-channel receivers are also available.

Transmitters are small enough in size to be taped / strapped to the rotating shaft or can be used with a 2010 Collar Assembly for quicker installations. Power to the Transmitter can be supplied by a nine-volt battery, a rechargeable Li-Ion battery pack or an Induction Power Supply for continuous uninterrupted monitoring. The Model 2010B Collar Assembly will clamp directly to a shaft and house the Transmitter and battery (inductive power circuit) as well as house the integral transmitter antenna.

These transmitters operate in a frequency band, which **does not require an FCC license**.

Custom Collars available for most any shaft size. Multiple transmitters can be housed in one collar. (Refer to 2010B specification sheet for further information.)



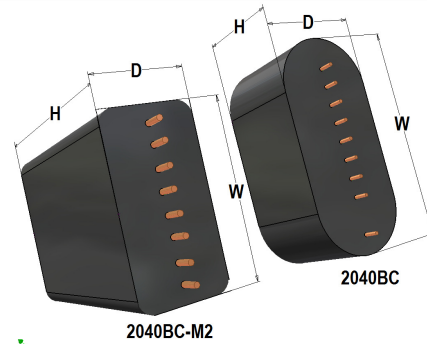
Specifications

SYSTEM

Bandwidth..... DC to 100 Hz
 DC to 1100 Hz
 Integral Non-Linearity..... $\pm .10\%$
 Repeatability..... $\pm .05\%$
 Maximum Error..... $<.25\%$ Full Scale

RECEIVER: Model 2025BP

Power..... 120 Volts AC
 and 12 Volts DC
 Output 0-2, 5, 10; $\pm 2, 5, 10$ VDC
 (0-20, 4-20 mA Optional)
 Display..... 3½ Digit Backlit LCD
 Output Ripple..... < 2 mV (Filtered)
 < 15 mV (Wide band)
 Size..... 5.5"L x 4.2"W x 2.5"H



MINIATURE CRYSTALLINE TRANSMITTERS:

Power..... 9 Volts or 500KHz
 Induction Power
 Zero Drift..... $.02\%$ / Deg C
 Span Drift..... $.02\%$ / Deg C
 Operating Temperature Range.. -40 to 140 Deg C

Model	Transmitter Type	Dimensions (inches)			Input	Excitation
		H	W	D		
2040BC	Strain Gage	0.85	1.47	0.68	4 arm Wheatstone Bridge (>120 ohms)	5 Volts DC
2040BC-M2	Strain Gage	1.25	0.75	0.50	4 arm Wheatstone Bridge (>120 ohms)	5 Volts DC
2041BC	Voltage	0.85	1.47	0.68	± 50 mV to 10 Volts Full Scale	5 Volts DC
2041BC-M2	Voltage	1.25	0.75	0.50	± 50 mV to 10 Volts Full Scale	5 Volts DC
2042BC	Thermocouple	0.85	1.47	0.68	Type J or K Thermocouples, Specify Measurement Range	--
2042BC-M	Thermocouple	0.70	1.70	0.375	Type J or K Thermocouples, Specify Measurement Range	--
2043BC	Acceleration	0.85	1.47	0.68	Compatible with most ICP type accelerometers	1mA constant current
2043BC-M	Acceleration	1.25	0.75	0.50	Compatible with most ICP type accelerometers	1mA constant current
2045BC	RTD	0.85	1.47	0.68	100 Ohm Platinum RTD – 3 Wire	≈ 2 mA or Tuned to Mfr. Spec.

- Remote Calibration Option:** Terminals provided on top of Transmitter for mounting shunt calibration resistor. Positive and Negative Cal buttons on the front panel of the Receiver cause Transmitter's shunt cal resistor to be connected to the appropriate leg of the bridge for 15 seconds.
- Automatic Power Activation Option:** Conserves battery power. Provides power activation to the transmitter based upon shock or rotation. Turns Transmitter off after 20 minutes of inactivity.

Custom Collars available for most any shaft size. Multiple transmitters can be housed in one collar. (Refer to 2010B specification sheet for further information.)



Multichannel Receivers available when multiple torque measurements are required; such as with 4-wheel drive vehicles.

