

RADIO TELEMETRY SYSTEM FOR STRAIN GAGES, THERMOCOUPLES, AND VOLTAGE SIGNALS

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RX20B-M, receiver with display, with TX20B-S1, strain gage module, and TX-BCA-100, clamp assembly, shown smaller than actual size.

TX20B



OMEGACARESM extended warranty program is available for models shown on this page. Ask your sales representative for full details when placing an order. OMEGACARESM covers parts, labor and equivalent loaners.

- ✓ Eliminates Cumbersome Slip Ring Installation
- ✓ Does Not Require FCC License
- ✓ Small, Lightweight
- ✓ Wireless Sensor Interface
- ✓ Battery-Powered or Induction-Powered Models Available

OMEGA's TX20B radio telemetry system is ideal for transmitting signals from sensors that are mounted on rotating shafts. The TX20B Series miniature transmitters

modulate sensor signals from thermocouples, voltage transducers, or strain gage bridge circuits onto an RF carrier and transmit them to a stationary receiver. The RX20B receiver demodulates the signals and converts them into $\pm 2V$ analog output. Two analog output signals are available simultaneously. A wideband output provides frequency response from DC to 1250 Hz. For maximum stability of the signal, a filtered output is also available with a 0 to 10 Hz bandwidth.

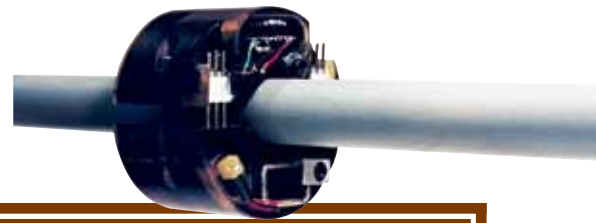
TX20B transmitters incorporate a crystal oscillator that is tuned to a specific frequency, eliminating

the need for tuning by the operator. Transmitter frequencies can be staggered, allowing multiple transmitters to operate in proximity with no interference. Multichannel receivers are available.

Transmitters are small enough to be taped or strapped to the rotating shaft, and they can be powered by a 9V battery. For applications in which continuous uninterrupted monitoring is necessary, an inductively coupled power supply and transmitter are also available.

The TX20B operates in a band that does not require an FCC license.

RADIO TELEMTRY SYSTEM ORDERING GUIDE AND SPECIFICATIONS



SYSTEM SPECIFICATIONS

Accuracy: $\pm 0.25\%$ FS

Non-Linearity: $\pm 0.1\%$ FS

Repeatability: $\pm 0.05\%$ FS

Modulation Type: FM

TRANSMITTER SPECIFICATIONS

Input Types: 120 Ω to 1 k Ω
strain gage bridge, DC voltages,
J or K thermocouples

Bridge Excitation: 5 Vdc
(strain gage only)

Power Source: 9V battery
(included) or induction power

Operating Temp: -40 to 130°C
(-40 to 266°F)

Zero Temp Drift: 0.02%/°C

Span Temp Drift: 0.02%/°C

Dimensions:

37.5 W x 20.3 H x 17.3 mm D
(1.48 x 0.80 x 0.68")

RECEIVER SPECIFICATIONS

Frequency Response: Wideband,
DC to 1250 Hz; filtered, DC to 10 Hz

Output Ripple: Wideband,
<15 mV; filtered, <5 mV

Dimensions:

89 H x 211 W x 203 mm L
(3.5 x 8.3 x 8")

To order typical battery-powered system:

1. Select transmitter module
2. Select clamp assembly with 9V battery housing
3. Select receiver

To order typical induction-powered system:

1. Select transmitter module
2. Select clamp assembly with built-in induction power supply circuitry
3. Select stationary loop induction power supply
4. Select receiver for use with stationary loop induction power supply

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CUSTOM-BUILT TO ORDER

To Order

TRANSMITTER MODULES

MODEL NO.	INPUT RANGE	DESCRIPTION
TX20B-S1	0.3 mV/V	Strain gage transmitter
TX20B-S2	1.0 mV/V	Strain gage transmitter
TX20B-S3	2.0 mV/V	Strain gage transmitter
TX20B-S4	3.0 mV/V	Strain gage transmitter
TX20B-E1	0.1V	Voltage transmitter
TX20B-E2	1.0V	Voltage transmitter
TX20B-E3	5.0V	Voltage transmitter
TX20B-E4	10.0V	Voltage transmitter
TX20B-J1	-17 to 93°C (0 to 200°F)	Type J T/C transmitter
TX20B-J2	-17 to 204°C (0 to 400°F)	Type J T/C transmitter
TX20B-J3	-17 to 427°C (0 to 800°F)	Type J T/C transmitter
TX20B-J4	-17 to 538°C (0 to 1000°F)	Type J T/C transmitter
TX20B-K1	-17 to 260°C (0 to 500°F)	Type K T/C transmitter
TX20B-K2	-17 to 538°C (0 to 1000°F)	Type K T/C transmitter
TX20B-K3	-17 to 816°C (0 to 1500°F)	Type K T/C transmitter
TX20B-K4	-17 to 1093°C (0 to 2000°F)	Type K T/C transmitter

CLAMP ASSEMBLIES

BATTERY POWER	INDUCTIVE	DESCRIPTION mm (in)
TX-BCA-100	TX-ICA-100	Clamp assembly for 25.4 (1) shafts
TX-BCA-125	TX-ICA-125	Clamp assembly for 31.8 (1¼) shafts
TX-BCA-150	TX-ICA-150	Clamp assembly for 38.1 (1½) shafts
TX-BCA-175	TX-ICA-175	Clamp assembly for 44.5 (1¾) shafts
TX-BCA-200	TX-ICA-200	Clamp assembly for 50.8 (2) shafts
TX-BCA-250	TX-ICA-250	Clamp assembly for 63.5 (2½) shafts
TX-BCA-300	TX-ICA-300	Clamp assembly for 76.2 (3) shafts
TX-BCA-400	TX-ICA-400	Clamp assembly for 101.6 (4) shafts
TX-BCA-500	TX-ICA-500	Clamp assembly for 127.0 (5) shafts
TX-BCA-600	TX-ICA-600	Clamp assembly for 152.4 (6) shafts

RECEIVERS

MODEL NO.	DESCRIPTION
RX20B-M	Receiver for battery-powered systems
RX20B-I-M	Receiver for induction-powered systems
SL20	Stationary loop for induction-powered systems
RX24B-BP	4-channel plug-in receiver backplane
RX28B-BP	8-channel plug-in receiver backplane
RX22	Plug-in receiver module (battery transmitter)
RX22-I	Plug-in receiver module (induction transmitter)

Comes complete with 9V battery and operator's manual.

Ordering Example: TX20B-J1 + TX-BCA-100 + SL20 + RX20B-I-M, complete induction-powered system for 1" shafts for -17 to 93°C (0 to 200°F) Type J thermocouple.

