

Model 2101 to 2106

Rotary Measurement System, 1 to 6 Channel System

DESCRIPTION

The 2100 series rotary torque measurement systems are often well suited for both short and long term testing and monitoring of torque or strain on rotating applications where other measurement methods are affected by vibration, dust, moisture, high RPMs, and large axial/radial shaft movements.

Utilizing an existing customer gage shaft assembly, the Honeywell Model 2100 Series Rotary Torque Measurement System takes the strain data from a rotating bridge assembly and converts it to a high level output via wireless telemetry.

A combination of up to six transmitters and receivers operating on different frequencies will provide up to six points of measurement on the same shaft. Please contact the factory if more than six points of measurement are required.

A scalable analog output and numeric display readout on the receiver provides an electrical and visual indication of the measurement. The receiver provides controls for gain and zero adjustments, display scaling, and IPS power setting.

FEATURES

- Quick short-term installation
- 1 to 6 channels of measurement
- Induced power, no batteries required
- Wireless telemetry
- Custom machined, clamp-on collar machined to fit each application
- Custom machined collar assembly, stationary loop antenna, induced power supply (IPS), and receiver are pre-tested as a set at the factory, enabling quick installation and setup of the system for the user

Model 2101 to 2106

PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Frequency response	dc to 1000 Hz
Sensitivity (transmitter)	175 microstrain (0.5 mV/V)
Number of channels	See order codes
Sampling rate	10 kHz
Receiver readout display type	3.5 digit 7 segment LED

ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating (transmitter)	-55 °C to 125 °C [-67 °F to 257 °F]
Temperature, operating (receiver/IPS)	-15 °C to 65 °C [5 °F to 149 °F]
Temperature, compensated (transmitter)	0 °C to 75 °C [32 °F to 167 °F]
Temperature, compensated (receiver)	0 °C to 53 °C [32 °F to 127 °F]
Static G force (rotating components)	15000 G
RPM limits (rotating components)	See graph - depends on shaft diameter
Vibration (rotating components)	100 G to 1 kHz
Collar weight	Varies with shaft diameter
Electronics weight (not including cables)	See order codes table

ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Induction power source	160 kHz \pm 6 %
Cable length (IPS to receiver)	4,57 m [15 ft] std ¹
Max. cable length (IPS to receiver)	30,48 m [100 ft]
Power supply voltage (receiver)	120/240 Vac user-selectable
Power consumption (receiver)	200 VA max.
RF operating frequency	Factory set, 13 MHz to 22 MHz, 1 MHz steps
RF modulation type	PWM
Signal strength indicator (receiver)	LED bar graph
Analog output (receiver)	\pm 10 Vdc @ 1 mA max.
Output impedance (receiver)	< 1 Ohm
Electrical termination (receiver output)	BNC female
Mating connector (receiver output)	BNC male
Electrical termination (transmitter)	9 pins, 0,64 mm [0.025 in] diameter pins
Output filter capability (receiver)	User selectable 1000, 500, 200, 100, 1 Hz

1. Consult factory for other cable lengths.

Rotary Measurement System, 1 to 6 Channel System

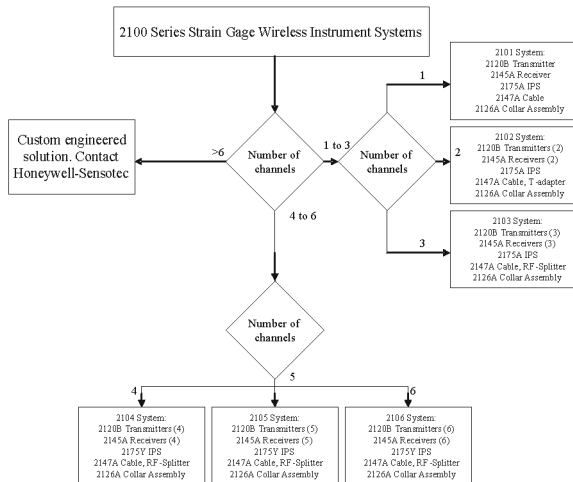
OPTION CODES

Range Code	Many range/option combinations are available in our quick-ship and fast-track manufacture programs. Please see http://sensing.honeywell.com/TMsensor-ship for updated listings.
Compensated transmitter temperature	62s. 100 °C [212 °F]
Environmental protections	62h. NEMA IPS
Receiver power supply	62v. dc (specify 12 Vdc or 24 Vdc)
Voltage pin access	62t. Unregulated voltage (no tie pin)

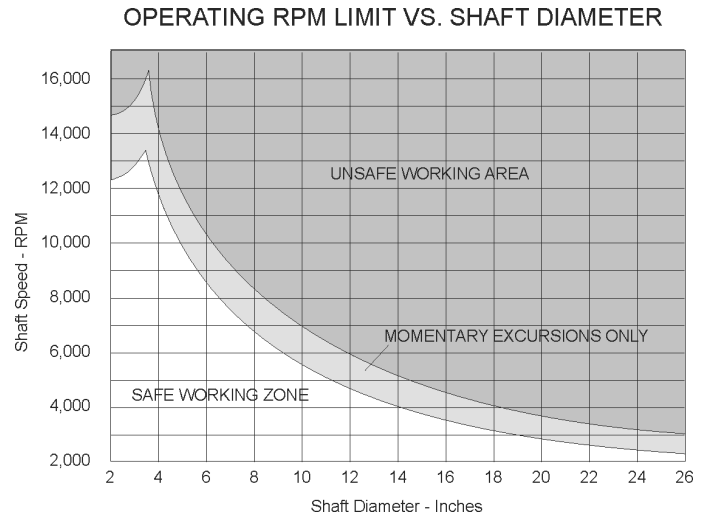
MECHANICAL SPECIFICATIONS

Characteristic	Measure
Dimensions (collar cross section)	31,75 mm x 31,75 mm [1.25 in x 1.25 in] typical (152,4 mm [6 in] OD min.)
Dimensions (receiver) (L x W x H)	292,1 mm x 218,44 mm x 88,9 mm [11.5 in x 8.6 in x 3.5 in]
Dimensions (IPS) (L x W x H)	152,4 mm x 101,6 mm x 63,5 mm [6 in x 4 in x 2.5 in]
Shaft diameter limits (collar)	50,8 mm to 1066,8 mm [2 in to 42 in]
Collar material	Type G-11 glass epoxy

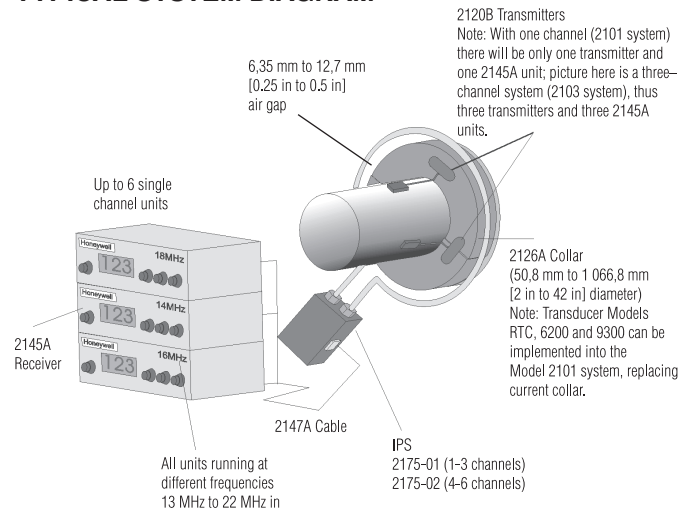
SELECTION GUIDE



RPM LIMITS GRAPH



TYPICAL SYSTEM DIAGRAM



Model 2101 to 2106

Rotary Measurement System, 1 to 6 Channel System

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

For more information about Sensing and Control products, visit www.honeywell.com/sensing or call +1-815-235-6847

Email inquiries to info.sc@honeywell.com

 **WARNING**
PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

 **WARNING**
MISUSE OF DOCUMENTATION

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

Sensing and Control
Automation and Control Solutions
Honeywell
1985 Douglas Drive North
Golden Valley, MN 55422 USA
+1-815-235-6847
www.honeywell.com/sensing

008796-1-EN IL50 GLO
June 2008
Copyright © 2008 Honeywell International Inc. All rights reserved.

Honeywell