

Model 1603A/1603A-01*

Propulsion Monitoring System (without cover)

DESCRIPTION

The model 1603A and 1603A-01 power measurement system is identical to the model 1602A system except for the elimination of the cover over the shaft sensor unit which enables installation in tight spaces such as under existing covers or deck plates. The system fits shaft sizes from 63,5 mm to 391 mm [2.5 in to 15.4 in] in diameter. The system has an electronics readout assembly in a water tight enclosure. These units together provide means for measuring shaft torque and RPM. Digital readouts are available

to display torque, RPM and computed horsepower. Built-in calibration check circuitry can be activated at any time to verify that all local displays and outputs are functional. Enhanced stability and reduced maintenance are the payback for selecting this system. The model 1603A and 1603A-01 systems can be used in a variety of potential applications including fuel conservation programs, hull and propeller fouling, power plant monitors and sea trial torsion meters.

FEATURES

- Enhanced stability
- Enables installation in tight spaces
- Converts any shaft into a torque transducer
- Ideal for short-term and long-term testing and monitoring
- Shaft sizes from 63,5 mm to 391 mm [2.5 in to 15.4 in]
- Suitable for harsh environments and high vibration

* 1603A and 1603A-01 are identical except that 1603A-01 is for torque measurement only.

Model 1603A/1603A-01

PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Torque range	Varies on application; consult factory
Frequency response	dc to 1000 Hz
Sensitivity (transmitter)	300 microstrain
Number of channels	1 to 3 (Torque, RPM, HP)
Sampling rate	5 kHz
Receiver readout display type	3.5 digit 7 segment red LED

ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating (transmitter)	-15 °C to 75 °C [5 °F to 167 °F]
Temperature, operating (receiver/IPS/PSU)	10 °C to 50 °C [50 °F to 122 °F]
Temperature, compensated (transmitter)	5 °C to 60 °C [40 °F to 140 °F]
Temperature, compensated (receiver)	10 °C to 50 °C [50 °F to 122 °F]
Static G force (rotating components)	100 G
RPM limits (rotating components)	See graph - depends on shaft diameter
Vibration (rotating components)	10 G to 1 kHz
Collar weight	Varies with shaft diameter
Electronics weight (not including cables)	Receiver and PSU 14,69 kg [33 lb]

ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Induction power source	160 kHz \pm 6 %
Cable length (PSU to receiver)	Cables NOT included
Max. cable length (PSU to receiver)	100 ft
Power supply voltage (receiver)	115 Vac to 230 Vac (user-selectable)
Power consumption (receiver)	100 VA max.
RF operating frequency	16 MHz
RF modulation type	FSK
Max. analog output (receiver)	\pm 10 Vdc @ 1 mA max.
Output impedance (receiver)	< 1 Ohm
Electrical termination (receiver output)	Screw terminal

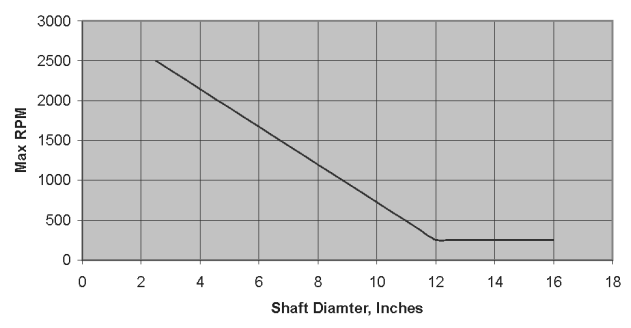
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OPTION CODES

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.
Totalizer	62a. Horsepower-hour totalizer 62b. Revolutions totalizer
RF operating frequency	16 MHz ¹
Display (receiver)	62c. Remote display
Analog output (receiver)	62e. 1 Channel 4 mA to 20 mA isolated output 62f. 2 Channel 4 mA to 20 mA isolated output
Filter (receiver)	62d. EMI filter for analog outputs
RPM sensor	62m. Optical 62l. Magnetic
System material	62k. Non-magnetic
Shock and vibration	62g. Heavy duty shield and receiver

1. Other frequencies available. Consult factory.

RPM LIMITS GRAPH



MECHANICAL SPECIFICATIONS

Characteristic	Measure
Dimensions (collar cross section)	Varies with shaft diameter
Dimensions (receiver) (L x W x H)	406,4 mm x 508 mm x 254 mm [16 in x 20 in x 10 in]
Dimensions (PSU) (L x W x H)	152,4 mm x 101,6 mm x 50,8 mm [6 in x 4 in x 2 in]
Rotational clearance (collar)	63,5 mm [2.5 in] all around
Shaft diameter limits (collar)	63,5 mm to 391 mm [2.5 in to 15.4 in]
Collar material	Phenolic/steel

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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.**

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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.

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