

# Model 1605A

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## Horsepower Monitoring System

### DESCRIPTION

The Model 1605B universal power and torque measurement system consists of bolt-on shaft sensor units for shafts between 381 mm and 762 mm [15 in and 30 in], which can handle most diesel and turbine power plants. Most ranges of RPM and power are accommodated with large over range capability. The data band width is dc to 1000 Hz, allowing for torsional vibration measurement without a second monitoring system.

### FEATURES

- Enhanced stability
- Shaft sizes from 381 mm to 762 mm [15 in to 30 in]
- Uses the components 2100 system to gauge customer shaft assembly with the outputs of a 1602 receiver to measure torque and RPM

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## 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 (PTU to receiver)	Cables NOT included
Max. cable length (PTU 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
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

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## OPTION CODES

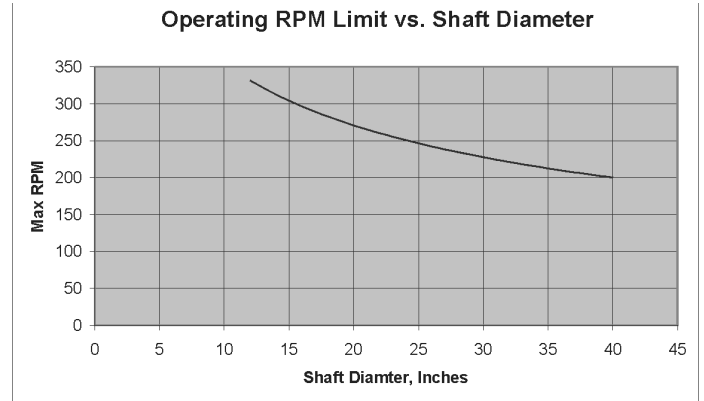
<b>Range Code</b>	Many range/option combinations are available in our quick-ship and fast-track manufacture programs. Please see <a href="http://sensing.honeywell.com/TMsensor-ship">http://sensing.honeywell.com/TMsensor-ship</a> for updated listings.
<b>RF operating frequency</b>	16 MHz <sup>1</sup>
<b>Display (receiver)</b>	<b>62c.</b> Remote display
<b>Collar material</b>	Zinc-plated steel
<b>Shock and vibration (PSU)</b>	<b>62j.</b> Vibration/shock rated PSU
<b>Analog output</b>	±10 Vdc @ 1 mA max. <b>62e.</b> 4 mA to 20 mA isolated output
<b>RPM sensor</b>	Optical RPM-multireading

1. Other frequencies available. Consult factory.

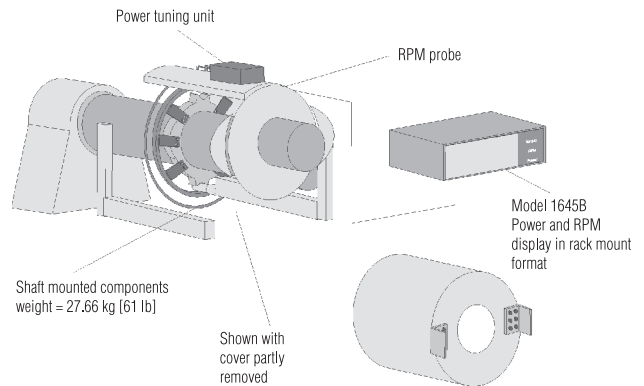
## MECHANICAL SPECIFICATIONS

Characteristic	Measure
Dimensions (collar cross section)	Varies with shaft diameter
Dimensions (receiver) (L x W x H)	431,8 mm x 457,2 mm x 133,35 mm [17 in x 18 in x 5.25 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)	Varies with shaft diameter
Shaft diameter limits (collar)	381 mm to 762 mm [15 in to 30 in]
Collar material	Zinc-plated steel

## RPM LIMITS GRAPH



## TYPICAL SYSTEM DIAGRAM



**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.

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Email inquiries to [info.sc@honeywell.com](mailto:info.sc@honeywell.com)

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**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.**