



# HP-Guard

## On-Guard® module for reciprocating compressor cylinder-end monitoring

### Key Features at a Glance

- Utilizes Windrock's "smart" Transmitter
- Monitors performance of up to 6 cylinders per module via pressure and temperature inputs
- Alarms on excessive rod load or lack of rod load reversal
- Modular System Architecture that can be configured with other On-Guard® family modules to meet your monitoring requirements
- Installation is simple, fast and inexpensive
- Can be mounted on the machine deck to reduce the length of cable runs
- Optional On-Guard® Diagnostic software for monitoring, analysis, reporting, and trending
- On-Guard® Software available in single user, and multi-user network license versions

### What's New

- Ethernet communication through device server.
- Automated diagnostics with use of On-Guard® software

### HP-Guard

The HP-Guard "smart" transmitter, a member of our On-Guard® family, is Windrock's online solution for continuous indicated horsepower monitoring. The transmitter was designed for those users who want to "safely" maximize throughput on their reciprocating compressors.

The HP-Guard allows a level of control for reciprocating compressors not previously possible. For example, by knowing the actual horsepower load, the user knows whether or not the machine is functioning at an overloaded or underloaded condition.

If more compression is needed, the operator knows, without relying on inaccurate load curves, how much additional load the machine can carry.

Rod loads and percentage of rod reversal are also continuously monitored so the user can assess the amount of tension and compression that the rod is undergoing. This is extremely important information especially on high-speed compressors that, if ignored, can lead to catastrophic damage.



### Data Acquisition

The HP-Guard transmitter accepts up to twelve dynamic pressure sensors (six double-acting cylinders) plus crank angle referenced speed/phase input signals.

The internal processor calculates cylinder end IHP, total load, dynamic rod loads, percentage of rod reversal, and cylinder end volumetric efficiencies. This calculated data, along with suction and discharge pressure and speed, is communicated to the user's PLC/DCS system via standard RS-485 com link.

On-Guard® software can be supplied to provide a local user display for monitoring and trending the compressor performance data.

An optional relay is also available for remote alarm indication.

If suction and discharge temperatures are available in the user's PLC/DCS, the data can be transferred to the HP-Guard transmitter via RS-485 com link. With these temperatures available, the HP-Guard can calculate capacity, flow balance, theoretical discharge temperatures, and calculated clearances.

*Modular design allows mounting on the machine deck reducing installation costs.*

### Questions? Contact us today:

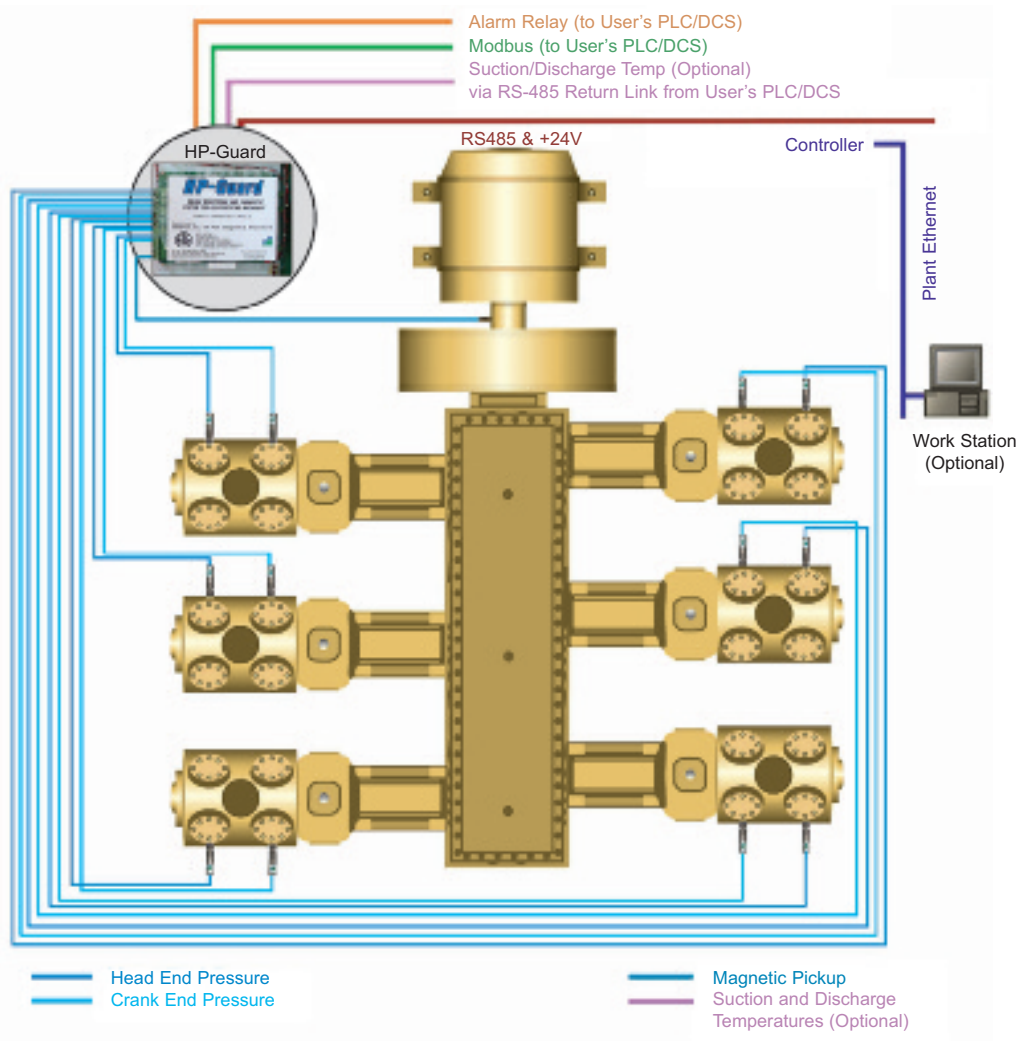
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## Specifications

Size:	8 inches high x 10 inches wide x 2 inches deep
Weight:	Less than 3 pounds
Number of Channels:	12 pressure inputs (6 double-acting cylinders) plus speed / phase reference inputs (once per turn and once per degree)
Hazardous Area Ratings:	Suitable for Class I, Div 2, Groups A, B, C, D areas Sensors rated for Class I, Div 1, Groups A, B, C, D areas
Outputs:	PLC / DCS Interface - standard integer-based modbus RS-485 Analog - 4 - 20mA isolated, loop-powered, scalable (user-defined range) Alarm Relay - Hermetically sealed, selectable N.O. or N.C. output logic
Power:	20 - 30 VDC, 250 mA
Environmental Limits:	-25 degrees F to +150 degrees (operating); -40 degrees F to +185 degrees (storage) up to 95% humidity (non-condensing)



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