

Zing™ HUMS  
1100 / 1200 / 1400 Series

**Honeywell**



## Next-Generation Health and Usage Monitoring System

**Diagnostic Solutions International LLC**

*HONEYWELL "CHADWICK" HUMS DISTRIBUTOR*

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**Honeywell**

Zing™ HUMS for helicopters, fixed wing aircraft, unmanned air vehicles, and ground vehicles



# A faster, better, proven next-generation embedded diagnostic solution.

The HUMS 1100 / 1200 / 1400 Series is an advanced line of health and usage monitoring systems (HUMS) featuring ground-breaking technology including field-programmable gate arrays (FPGA). With supercomputer-like processing speeds, HUMS 1100 / 1200 / 1400 Series can handle all of the diagnostics you need... and then some.



The HUMS 1100 / 1200 / 1400 Series product line is a revolutionary advancement in diagnostic technology for vehicle and aircraft condition-based maintenance (CBM) applications. The products are based on the highly successful, combat-proven 1209 Modern Signal Processing Unit (MSPU) selected by Bell Helicopter, Boeing, and the U.S. Army.

The patent-pending reconfigurable computing architecture offers faster than real-time processing using the latest Virtex4 FPGA and XTremeDSP (Digital Signal Processing) technology from XILINX Corporation.

The Series is compatible with existing software products, including; PC-GBS, iMDS Database Setup Tool, iMDS Server and the iMDS Matlab® Development Toolbox.

## Integrated Technologies

- Health monitoring, diagnostics and recording
- Advanced drive train diagnostics
- Greater than 100db dynamic range
- Advanced rotor track and balance
- Event processing and recording
- Flight regime recognition
- Engine health monitoring
- Helicopter Operation Monitoring Program (HOMP/FDM/FOQA) support
- Global Positioning System (GPS)
- 802.11 wireless communication interface
- Integrated inertial system using MEMS and GPS sensors
- Three embedded processors support partitioned DO-178B software functions and systems growth
- Up to 8GB of compact flash (non-crash survivable) for vehicle or flight data recording

	Model 1134	Model 1239	Model 1249	Model 1474
<b>Accelerometers</b> (# Simultaneous)	12-28* (8)	48 (8)	48 (8)	6-12* (8)
<b>Tachometers / Trackers</b>	4 / 1*	10 / 2	10 / 2	4
<b>Gen Purpose Analog &amp; Discrete In</b>	32	48	48	6*
<b>Gen Purpose Discrete Out</b> (Low/Hi)	0/2	16 / 4	16 / 4	0
<b>Internal Combustion Spark Sensor</b>	0	0	0	2
<b>Digital Communication</b>				
USB	1	2	2	1
CAN	1*	1	1	0
Ethernet	2	4	4	1
RS232 / 422 / 485	2	4	4	2
1394 Firewire	1	1	1	0
<b>Digital (Bus) I/O</b> 429 Transmit/Receive 1553 Dual Redundant	1/2 1 (Optional)	2/4 4	2/4 4	0 0
<b>Internal GPS</b>	Optional	Optional	Optional	Optional
<b>Inertial Navigation Functions</b> (MEMS sensors)	No	Optional	Optional	No
<b>Wireless</b> (802.11)	Optional	Optional	Optional	Optional
<b>Cockpit Control Head</b> (CCH)	No	Optional	Optional	No
<b>Internal Storage—Standard /Optional</b>	128MB/8GB	128MB/8GB	128MB/8GB	128MB/8GB
<b>Quick Access Recorder</b> – (Not Crash Survivable)	Optional	Optional	Optional	Optional
<b>Cockpit Voice &amp; Flight Data Recorder</b> (With CSMU)	No	No	Standard Recording Time: 25 hr Flight data 2 hr Voice data (4 Channels)	No
<b>Dimensions:</b> L x W x H inches	7.6 x 6.2 x 1.8	8.8 x 4.7 x 2.5	12.5 x 4.9 x 7.6	7.6 x 6.2 x 2.6
L x W x H (mm)	193 x 158 x 46	224 x 119 x 64	318 x 124 x 194	193 x 158 x 66
Weight (w/o Mounting HW)	2.5lb/1.13 kg	4 lbs/1.81kg	12 lbs/5.44 kg	2.5lb/1.13 kg
<b>Environmental:</b> Temperature	-40 to +71C	-40 to +71C	-40 to +71C	-40 to +71C
MIL-STD-810F, MIL-STD-461E	Yes	Yes	Yes	Yes
MIL-STD704A/D, DO-160D	Yes	Yes	Yes	Yes
<b>Software:</b> DO-178B	Yes	Yes	Yes	Yes
<b>Regulations:</b> CAP-739 (FDM), HOMP/FOQA	Limited	Yes	Yes	No
JAR-OPS3	Yes	Yes	Yes	No
CAP-753 (VHM)	Yes	Yes	Yes	Yes

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