

Zing™ HUMS

1100 / 1200 / 1400 Series

Honeywell



Next-Generation Health and Usage Monitoring System

Honeywell



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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
Accelerometers (# Simultaneous)	12-28* (8)	48 (8)	48 (8)	6-12* (8)
Tachometers / Trackers	4 / 1*	10 / 2	10 / 2	4
Gen Purpose Analog & Discrete In	32	48	48	6*
Gen Purpose Discrete Out (Low/Hi)	0/2	16 / 4	16 / 4	0
Internal Combustion Spark Sensor	0	0	0	2
Digital Communication				
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
Digital (Bus) I/O 429 Transmit/Receive 1553 Dual Redundant	1/2 1 (Optional)	2/4 4	2/4 4	0 0
Internal GPS	Optional	Optional	Optional	Optional
Inertial Navigation Functions (MEMS sensors)	No	Optional	Optional	No
Wireless (802.11)	Optional	Optional	Optional	Optional
Cockpit Control Head (CCH)	No	Optional	Optional	No
Internal Storage—Standard /Optional	128MB/8GB	128MB/8GB	128MB/8GB	128MB/8GB
Quick Access Recorder – (Not Crash Survivable)	Optional	Optional	Optional	Optional
Cockpit Voice & Flight Data Recorder (With CSMU)	No	No	Standard Recording Time: 25 hr Flight data 2 hr Voice data (4 Channels)	No
Dimensions: 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
Environmental: 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
Software: DO-178B	Yes	Yes	Yes	Yes
Regulations: 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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