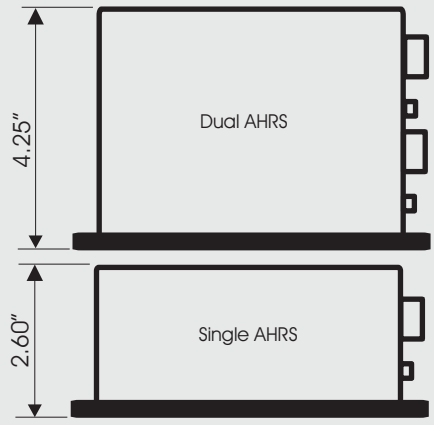
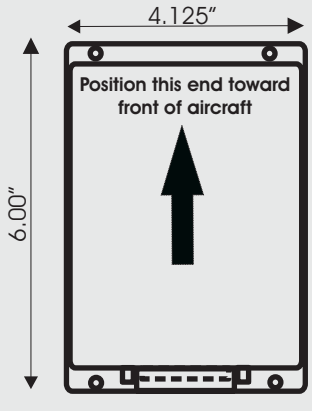
Horizon AD/AHRS

Air Data / Attitude/Heading Reference System

Features:

- No Moving Parts - MEMS Gyro and Accelerometer Technology
- No GPS Dependence
- Continuous Built-In Tests Detect 99% of all possible faults including gyro bias instability
- Fully Functional During Aerobatics
- Gyro-Stabilized Slaved Magnetic Heading
- Suitable for IFR Primary Attitude Reference





25 Pin Female D-sub

Horizon AD/AHRS

The GRT Avionics AD/AHRS incorporates solid-state MEMs type angular rate sensor and accelerometers, with an external 3-axis magnetometer to provide roll, pitch, and gyro stabilized magnetic-heading data designed specifically for use in aircraft applications. In addition, the sensor package provides indicated airspeed, pressure altitude, and outside air temperature with the accuracy required for IFR certification.

Unlike traditional spinning mass mechanical gyros, the accuracy of the attitude data is not significantly degraded by continuous circling or aerobatic flight, and "gyro lock" (attitude limits) do not exist. Accurate attitude data is maintained through aerobatic flight with no limitation other than the maximum angular rate that may be sensed by the angular rate sensor.

Built-in-test functions are executed at power-up, and during continuous operation. Attitude validity is provided continuously, and automatic recovery is provided is the maximum angular rates are exceeded.

In-flight alignment is allows full accuracy operation within 2 minutes after power interruptions in-flight.

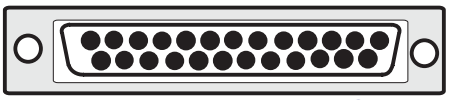
Dual Horizon Series I AD/AHRS

Utilizing the same footprint, and only 1 ½"taller, the Dual Horizon AD/ARHS incorporated two completely independent AD/AHRS systems into one compact enclosure, providing a simple upgrade path to a dual air data/attitude heading source.

Grand Rapids Technologies, Inc.
Automated instrumentation for aircraft
(616) 245-7700 fax (616) 245-7707 www.grtavionics.com

Specifications

Performance		
Max Angular Rate	200 deg/sec	All axis simultaneously
Update Rate	200 Hz	
Heading		
Accuracy	+/- 2 deg	External Magnetometer
Range	0-360 deg	
Attitude		
Static	+/- 0.5 deg	Roll and Pitch
Dynamic	+/- 2.0 deg	
Range	Unlimited	
Altimeter		
Range (feet)	-1000 to +32,000	
Airspeed		
Range (IAS MPH)	35-285/50-580	
Environment		
Temperature	-25 to +70	Operating
(deg C)	-55 to +80	Storage
Angular Rate	200 deg/sec	All Axis
Acceleration	+/- 10 g	Normal
	+/- 2g	Lateral
Electrical		
Power Required	9-32Vdc	
	250 mA	
Interface	4 RS-232 Outputs	
	1 Serial Input	
Physical		
Weight (lbs)	2.0/2.6	Single/Dual
Dim (Inches)	6.0 x 4.0 x 2.6	Single
	6.0 x 4.0 x 4.25	Dual



25-Pin Female D-Sub Connector

1	Serial Out 1
2	Serial Out 2
3	Serial Out 3
4	Serial Out 4
5	Serial In 1
6	Serial In -Reserved
7	Magnetometer In
8	Magnetometer in
9	Magnetometer In
10	Outside Air Temp
11	Supply B Status
12	Supply C Status
13	Ground
14	Magnetometer In
15	Reserved
16	Reserved
17	BIT Status
18	Magnetometer Out
19	Reserved
20	Reserved
21	Supply A Status
22	Magnetometer Power
23	Power Input A
24	Power Input B
25	Power Input C

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