

E-GYRO

MicroHorizon Turn and Pitch Alert
by PCFLIGHTSYSTEMS



PCFLIGHTSYSTEMS E-GYRO

MicroHorizon Turn and Pitch Alert

The PCFLIGHTSYSTEMS E-GYRO is a low cost, miniature Turn and Pitch indicator developed specifically for general aviation applications. Now any aircraft can have an electronic turn and pitch indicator.

The E-GYRO MicroHorizon utilizes state-of-the-art solid state electronic devices to perform the functions provided by conventional mechanical attitude/artificial horizon gyros. The system consists of a self powered electronic gyro module with a built in turn and pitch light bar display. The display is color coded so high turn rates and pitch angles cause a RED light to indicate the direction of the high turn and/or pitch angle, alerting the pilot to a potentially dangerous attitude.

- Color Coded Light Bar Displays Turn Rate/Pitch
- Portable – Pocket Sized
- Battery Powered – Solid State
- High Reliability Electronic Gyros
- Low Cost
- Works In All Aircraft
- No Vacuum System Required
- No Electrical System Required
- No External Connections
- Fully Self Contained



WWW.PCFLIGHTSYSTEMS.COM

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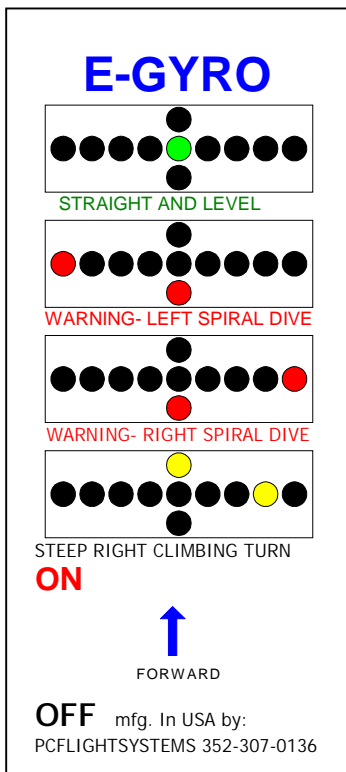
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General Description

The E-GYRO MicroHorizon system is designed to provide a self contained turn and pitch indicator which can be used in any aircraft. The E-GYRO MicroHorizon contains a light bar display which consists of 9 horizontal lights to depict turn rate and two lights in the center of the display to depict pitch angle. The E-GYRO label, below, provides some examples of the display in different turn rate and pitch angle conditions. Note that the end lights of the horizontal bar are red and yellow and the center lights are green. This is intended to alert the pilot to potentially unsafe flight conditions, and provide immediate feedback on the direction of the unsafe condition. The center lights of the horizontal bar are green. The pitch indicators are above and below the center of the horizontal bar. The upper light indicates a nose up pitch condition. A minor pitch up will cause the light to illuminate green, as the pitch angle increases the light will change from green to amber and then to red. The light below the horizontal bar is used to indicate nose down pitch angle and works in the same manner as the pitch up light. A minor nose down pitch angle will cause the lower light to illuminate green, steeper nose down pitch will illuminate the light amber, and even steeper will illuminate the light red.



The E-GYRO is powered by a single internal 9 volt battery, but can also be powered with an external 8-17 volt power source. A 9 volt battery will typically last over 10 hours. The E-GYRO should be attached to the glare shield of the aircraft with the long axis of the enclosure parallel to the longitudinal axis of the aircraft. Velcro is the recommended mounting material as it allows the gyro module to be easily removed for portable applications. The E-GYRO should be mounted in a position that allows the pilot to easily view the light bar display.

The E-GYRO utilizes state-of-the-art electronic solid state gyroscopes and accelerometers to implement the same functions as conventional mechanical gyroscopic instruments. The electronic components utilized do not wear. This eliminates the reliability problems associated with conventional mechanical gyroscopes. The system is totally electrically powered, eliminating all problems associated with unreliable vacuum systems. The E-GYRO MicroHorizon module contains a microprocessor that uses digital signal processing algorithms to process the solid state gyroscope and accelerometer signals. The signal processing algorithms convert the sensor signals to roll, turn rate, and pitch information. The microprocessor uses this information to control the light bar display.

The system is not TSO'd or approved in any way for permanent installation into certified aircraft. The system is intended solely for use in VFR conditions. The system is not intended for, and should not be used for, IFR flight.

Since the system is portable and self powered it can be used in any aircraft including certified aircraft without a TSO or STC.

The retail price of the E-GYRO MicroHorizon is \$495.00. Orders may be placed by specifying the E-GYRO MicroHorizon and sending a check or money for \$495 (plus tax if you are located in Florida) to: Sellers Aviation Inc. , 9625 SE 70th Terrace, Ocala, FL. 34472. We also accept all major credit cards and orders may be placed by calling at 352.804.7217 or you may order directly from our website at www.pcflightsystems.com.

E-GYRO Micro Horizon Specifications

Physical Enclosure

Dimensions 4.9" x 2.7" x .9"

Weight - 5 oz.

Power Supply

Battery

Standard 9 Volt Battery(10+ hours from a single battery)

External Power (Auto switches to battery if external power fails

8 to 17 Volts @ less than 20 ma.

User Controls

On/Off Toggle Switch

(Unit auto calibrates after power on)

Method of Attachment to Airframe

Velcro

Must be aligned parallel to the aircraft longitudinal axis

Display

LED Light bar

9 lights for turn rate (2 red, 2 amber, 5 green)

2 light for pitch angle (multicolor – green, amber, red)

Sensor Specifications

Startup time

Less than 2 minute

Max roll and pitch rate

60 degrees per seconds

Environmental

Operating Temp Range

-10 to +75 C

Storage Temp

-40 to +90 C

MTBF > 50,000 hours