

## Rugged ALL-weather DUAL Axis Inclinometer provides a Pulse Width Modulated (PWM) Output per Axis over $\pm 22^\circ$ Range.



### DESCRIPTION

This sensor provides dual axis inclination sensing in a rugged environmentally protected housing. This unit incorporates a MEMS (Micro-Electro-Mechanical Systems) sensing element referenced to gravity with integrated temperature compensation over the industrial operating range of  $-40^\circ$  to  $+85^\circ\text{C}$ . The PWM (Pulse Width Modulated) output is linear with respect to the input angle directly.

Small dimensions and common footprint make it easy for field replacement.

### MOUNTING INSTRUCTIONS

1. Sensor is designed to mount horizontally. Zero output occurs when mounted on a flat horizontal surface such as a tabletop - *see Figure 1*.
2. Rotation of the sensor toward the Positive Axis directions will cause the output to increase.

### FEATURES

- Dual Axis Angle Measurement
- Range:  $\pm 22^\circ$
- Temperature Compensated Output
- Vibration and shock resistant
- Environmentally sealed to IP66
- Rugged die-cast zinc housing
- EMC protected
- Mechanical Zero adjustment

### APPLICATIONS

- Leveling and Tilt/Slope Monitoring
  - Aerial Lifts/Scissor Lifts
  - Cranes and Derricks
  - Platform Leveling
  - Material Handling/Process Control Equipment
  - Vehicles
- OEM Ready



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# H4PD1-22

## Specifications Brochure

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INPUT PARAMETERS		
SUPPLY VOLTAGE	+8...30 VDC Non-Regulated	
SUPPLY CURRENT	13mA Nominal	
MEASURING RANGES	±22°	
INPUT PROTECTION	Reverse Polarity	
OUTPUT PARAMETERS		
OUTPUT TYPE	Pulse Width Modulated (PWM)	
PERIOD	100Hz	
SENSITIVITY	0.7% / ° Nominal	
NULL (0°)	50% Nominal	
OUTPUT VOLTAGE	5VDC Nominal - Independent of Supply Voltage	
RESOLUTION	0.06°	
NULL REPEATABILITY	±0.1°	
FREQUENCY RESPONSE	0.50Hz	
OUTPUT SINK CURRENT	100mA Max	
TEMPERATURE RANGES		
OPERATING TEMPERATURE	-40°C to +85°C (-40°F to +185°F)	
STORAGE TEMPERATURE	-45°C to +90°C (-49°F to +194°F)	
TOTAL ERROR OVER FULL TEMPERATURE SPECIFICATION		
0° TO ±5°	±0.4°	
±5° TO ±10°	±0.6°	
±10° TO ±15°	±1.5°	
±15° TO ±22°	Monotonically Increasing	
MECHANICAL CHARACTERISTICS		
HOUSING	Die Cast Zinc	
MOUNTING HOLES	Two #6-32	
MOUNTING PLANE	Horizontal Surface (i.e. flat table top)	
OUTLINE DIMENSIONS	Ø1.95" x 1.1" (Ø49.5 x 28mm) See Drawing	
ELECTRICAL CONNECTION	10" (254mm) Teflon Cable	
WEIGHT	8 ounces (227 grams)	
ELECTRICAL CONNECTIONS FOR PIGTAIL LEADS		
WIRE COLOR	FUNCTION	TERMINATION
RED	8-30VDC NON-REGULATED INPUT SUPPLY	PIGTAIL
GREEN	PWM Signal Output Axis X	PIGTAIL
WHITE	PWM Signal Output Axis Y	PIGTAIL
BLACK	GROUND	PIGTAIL

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 FORM NUMBER: H40014\_10/08 UPDATED: --

34 MOUNT PLEASANT ROAD • ASTON • PA • 19014 • USA

610-500-2000

fax: 610-500-2002

info@riekerinc.com

www.riekerinc.com



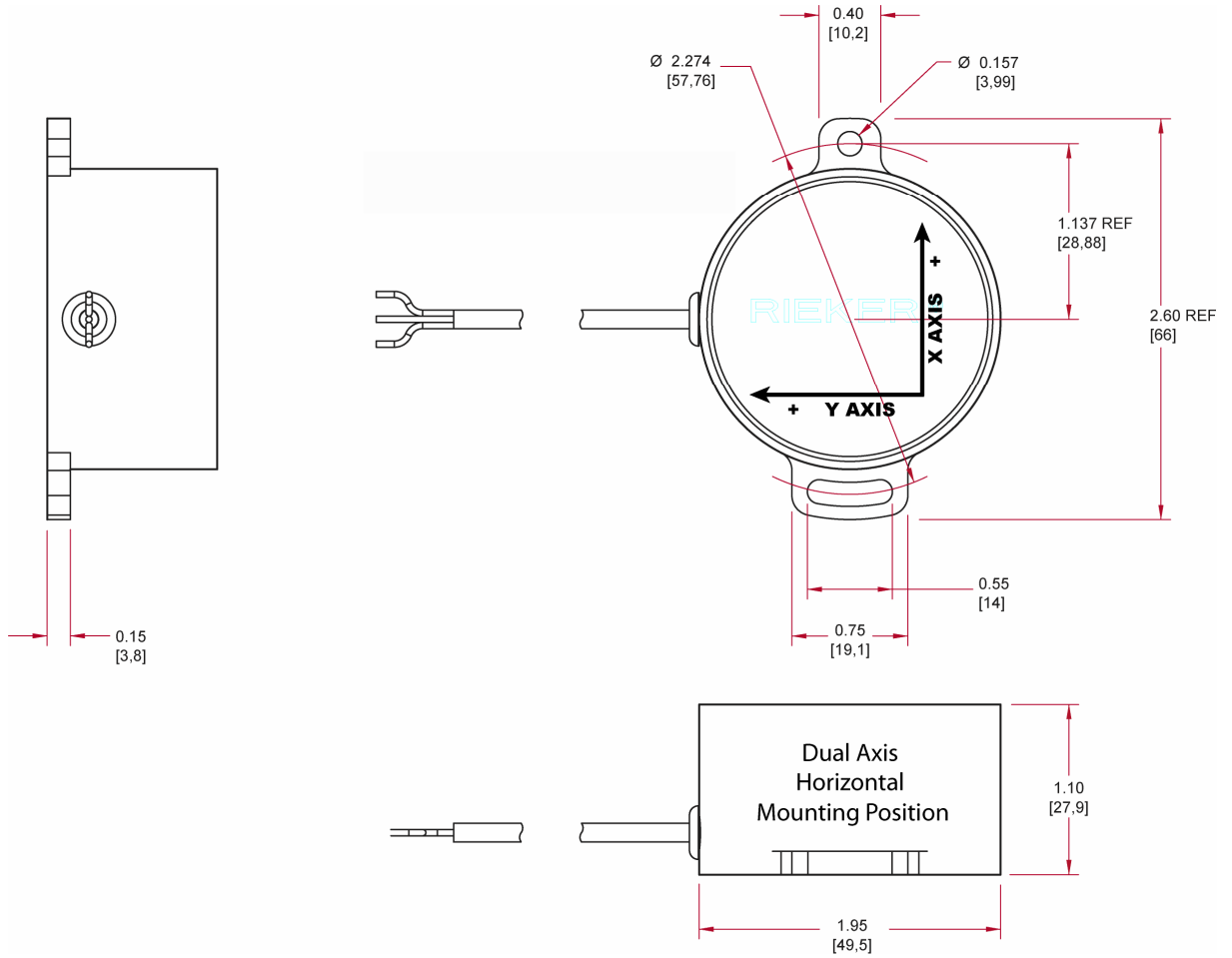
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**FIGURE 1:** Dimensions (inches [mm]) and Mounting Position



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