



Flex Series H4360

General Information Brochure

**Accurate, Rugged,
ALL-weather 360 Degree
inclinometer provides
Analog Current 4..20mA
& Digital RS485 outputs.**



Description

The highly accurate H4360 inclinometer provides 360 degree total measurement along a single axis in a rugged environmentally protected metal housing. The sensing package incorporates a MEMs sensing element and integrated temperature compensation over the industrial operating range of -40° to +85° C.

This sensor is available with analog current 4..20mA and digital RS485 outputs. These outputs are linear with respect to the input angle directly. Depending on the required angle range, the H4360 measuring range can be scaled anywhere along the range.

The output parameters can be modified at the factory to meet your specifications (ie range, polarity). We also offer the Flex Series Development Kit allowing the end customer to modify the sensor as needed right from a PC - providing full flexibility for R&D and OEM production lines.

Features

- Single Axis Angle Measurement
- Measuring Range: ±180 (360° Full Scale)
- Fully Temperature Compensated
- Analog Current 4..20mA Output
- Serial RS485 Output
- Vibration and shock resistant
- Environmentally sealed to IP68
- Rugged die-cast Zinc housing
- EMC protected
- Over voltage/overcurrent protection
- Mechanical Zero adjustment
- Common footprint for easy field install

Applications

- Platform Leveling
- Solar Panel Array Alignment
- Antenna Positioning
- Boom Angle Indicating
- Process Machinery

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Technical Specifications

INPUT PARAMETERS	
MEASURING RANGE	360° (optional scaled ranges)
MEASUREMENT AXIS	Single
POWER SUPPLY	4..20mA
	RS485
	11..36VDC Non-Regulated
	11..36VDC Non-Regulated
OUTPUT PARAMETERS	
SENSOR ELEMENT RESPONSE TIME	< 0.3 Sec
START-UP TIME	< 1 Sec
TEMPERATURE RANGE	
OPERATING TEMPERATURE	-40°F..+185°F (-40°C..+85°C)
STORAGE TEMPERATURE	-49°F..+194°F (-45°C..+90°C)

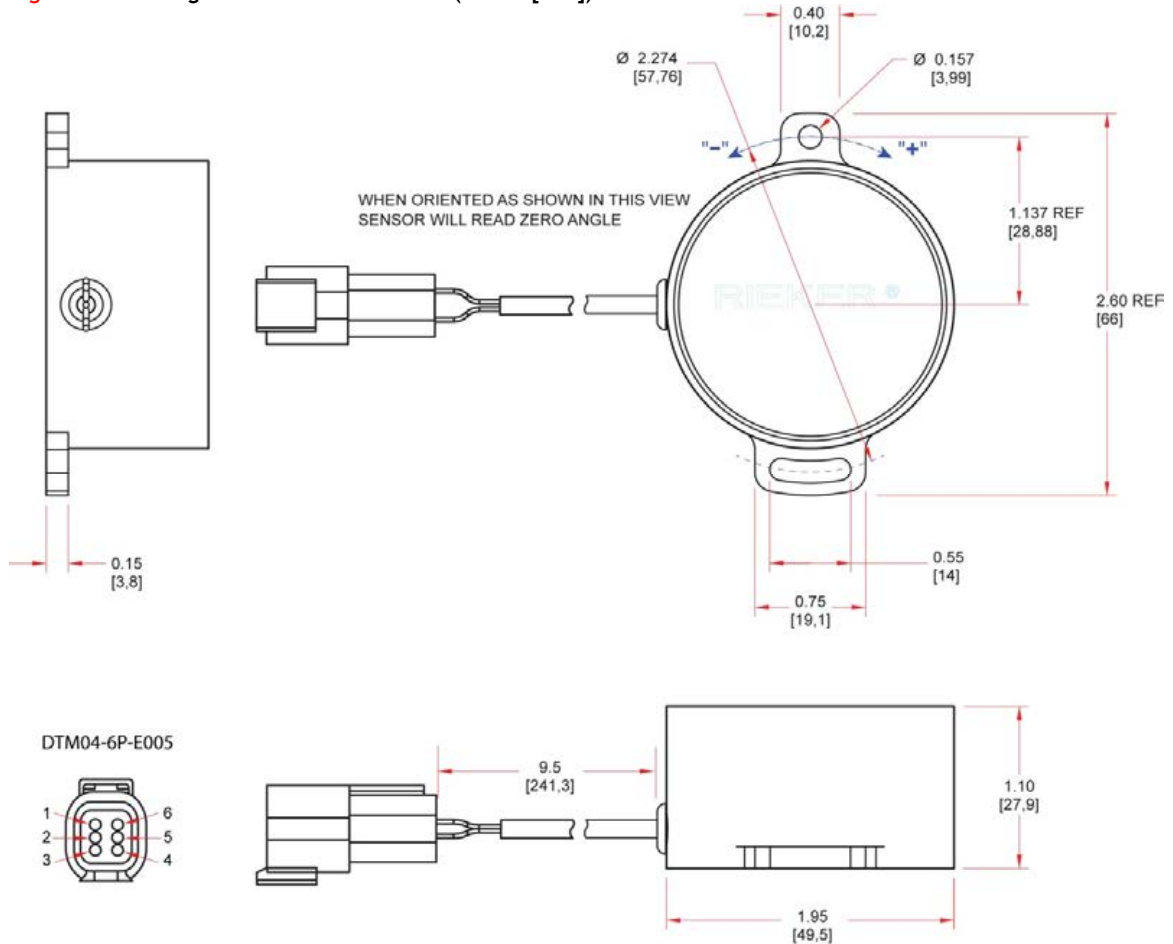
ANALOG CURRENT 4-20mA	Temperature Compensated Output	
ZERO OFFSET	12mA	
OUTPUT (LINEAR RANGE)	4..20mA	
OUTPUT CURRENT SENSITIVITY	Relative to scaled degree range	
ACCURACY OVER TEMPERATURE	±0.1 ° Typical / ±0.2° Max	
RESOLUTION	0.05°	
CURRENT CONSUMPTION (NO LOAD)	37mA @ 12VDC	23mA @ 24VDC
DIGITAL RS485	Temperature Compensated Output	
ISOLATION	Non-isolated, -7..+12VDC common mode	
H4360 BAUD RATE	125 Kilobaud	
DATA BITS	8	
PARITY	None	
STOP BITS	1	
CHECKSUM	CRC16	
INFORMATION RATE	Polled	

MECHANICAL CHARACTERISTICS	
HOUSING	Die Cast Zinc, IP67
MOUNTING HOLES	Two #6-32
MOUNTING PLANE	Vertical Surface
OUTLINE DIMENSIONS	Ø1.95" x 1.1" (Ø49.5 x 28mm) See Drawing
ELECTRICAL CONNECTION	10" Shielded TFE Teflon 6 conductor 22 AWG Cable
CONNECTOR	Deutsch DTM04-6P-E005
MATING CONNECTOR	Deutsch DTM06-6S-E005
WEIGHT	8 ounces (227 grams)
Notes: Output is linear with respect to the input angle directly.	

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



CONNECTOR WIRING TABLE:

COLOR	FUNCTION	PIN
RED	SUPPLY VOLTAGE +11 TO +36VDC	1
BLACK	POWER/SIGNAL COMMON	2
WHITE	4..20MA OUTPUT	3
ORANGE	RS485-A	4
GREEN	RS485-B	5
BLUE	NO CONNECTION	6

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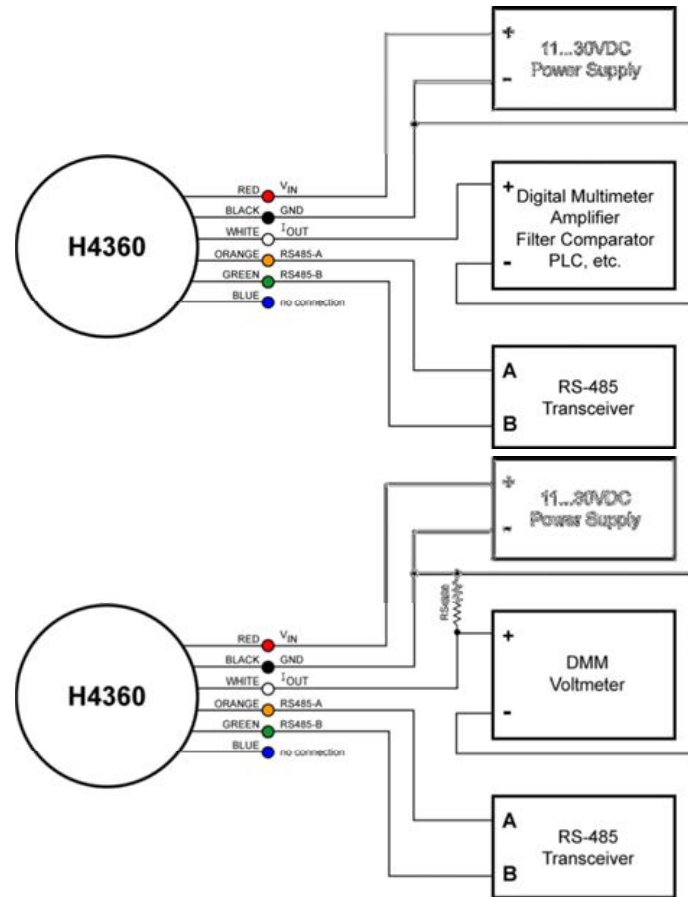
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Figure 2: Wiring Diagram



H4360 CURRENT SENSE		
<p>R_{sense} is dependent upon supply voltage and cable/wire resistance. Ensure the following equation is met:</p> $R_{sense} \leq \frac{V_{supply} - 2.5}{0.020} - R_{wire}$	QUICK REFERENCE	
	SUPPLY VOLTAGE	SENSE RESISTOR
	12V	200-350 OHMS
	24V	200-1000 OHMS
	28V	200-1000 OHMS

ACCESSORIES AVAILABLE (Sold Separately)

- Interface Cable
 - Input power / outputs
 - Stock lengths and OEM custom lengths available
 - Includes mating connector to sensor, with pigtail leads
- Flex Series Development Kit
 - Flexware™ Toolkit Application
 - USB Interface Cable from Sensor to PC
 - AC Wall Adaptor

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