

# ILAPS™

# AN1 Series

Intrinsically Linear Angular Position Sensor



## Description

The devices specified in this product specification are non-contact angular position sensors, which utilize ZFE ILAPS technology. The sensors operate through the use of Hall Effect technology with magnetic fields generated by rare earth magnets. These sensors provide a linear change in voltage output (ratio metric to the input voltage) corresponding to an angular rotation of the input shaft.

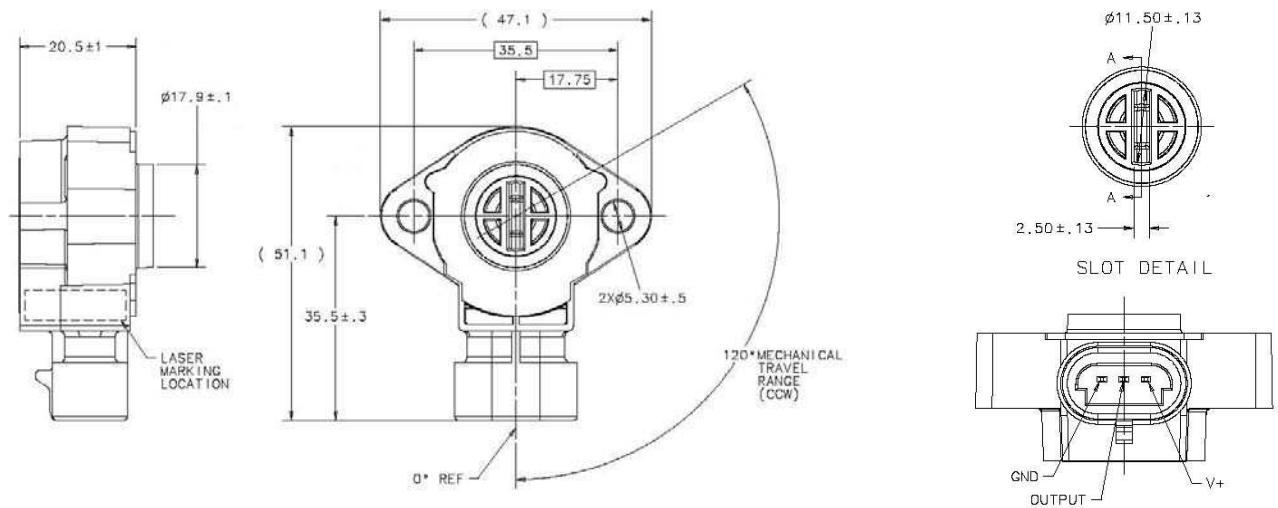
## Features and Benefits

- Patented non-contact angular position sensor
- Magnet/sensor orientation provides intrinsically linear output over 80 degrees of electrical rotation (120 degrees mechanical rotation) without need for electrical compensation
- Return spring provides resistance to CCW motion
- Fully encapsulated electronics
- Tested to SAE J1113 standards for EMI/ESD Protection
- CW version AN102101 available

## Applications

- Throttle and valve position sensing
- Pedal position sensing
- Joystick position
- Gear Position

## Dimensions mm



Intrinsically Linear Angular Position Sensor

# AN101101

## Mechanical Specifications

<b>Mechanical Travel</b>	120° CCW maximum
<b>Return Spring Torque</b>	5 in-oz min to 30 in-oz
<b>Mass</b>	24 grams
<b>Life</b>	+ 10 million full cycles
<b>Mating Connector</b>	Delphi Metri Pack 150 series <b>Housing:</b> 12162185 <b>Terminal:</b> 12124075 / 12047680

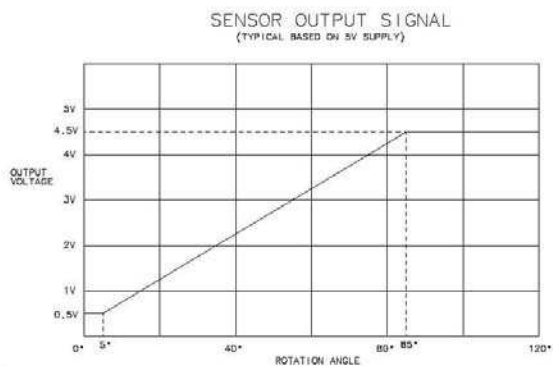
## Electrical Specifications

<b>Effective Rotational Sensing Range</b>	5° to 85°
<b>Input Voltage</b>	Regulated supply voltage of $5 \pm 0.5$ Volts
<b>Input Current</b>	8 mA at 5 VDC
<b>Output Shorted to Ground</b>	12mA max
<b>Maximum Overvoltage</b>	16 VDC
<b>Sensor Output @ 5VDC (Ratiometric to Input Voltage)</b>	0.5 to 4.5V max.
<b>Output Linearity @ 5VDC (Analog Output)</b>	$\pm 2.0\%$ of full scale
<b>Resolution</b>	Analog
<b>Electrostatic Discharge</b>	SAE J1113-13; Contact +/- 8kV, Air +/- 15kV
<b>Radiated Immunity</b>	SAE J1113-21 10kHz -18GHz, 100 V/m
<b>Immunity to Magnetic Fields</b>	SAE J1113-22 Class C, 200 $\mu$ T AC Field 45Hz to 2kHz 10 Gauss, 800A/m DC Field
<b>Conduction and Coupling</b>	SAE J1113-12 Test Level C, Region 1
<b>Immunity to AC Fields</b>	SAE J1113-26 Class C 15,000 V/m
<b>Radiated Emissions</b>	SAE J1113-41 Class 4

## Environmental Specifications

<b>Vibration</b>	8 G nominal, 20 Hz to 2KHz
<b>Drop</b>	1 meter onto concrete
<b>Operating Temperature</b>	-40°C to +125°C
<b>Storage Temperature</b>	-40°C to +135°C
<b>Salt Spray</b>	MIL-STD-202F, Method 101, Test Condition A
<b>Dust</b>	SAE J1455, Section 4.7.3

### Output Voltage % of Supply



Specifications subject to change without notice.

### Contact

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