A63-APS360-LACB1E

Angular Position Sensor

- **Programmed 0-360 degree angular position sensor**
- **Regulated & load dump protected input**
- **Analog output**
- **Aluminum 5/8-18 x 1.75" housing**
- **4 pin male micro connector on 11" jacketed pur cable**



CUSTOMER FOCUSED ENGINEERING + MODULAR DESIGN

Part Description: A63-APS360-LACB1E

Housing	Sensor Type & Function	Electrical Option	Connection Type
A = Aluminum Black Anodized 5/8-18 x1.75"	Angular Position Sensor Output Over 360° of Rotation	Linear Analog Output	4 Pin Male Micro Conn. on 11" Jacketed Pur Cable

Modify, update, or enhance any sensor with our modular features and functionality.

HOUSING *- Aluminum, stainless steel, plastic, threaded, flange mount, customer specific*

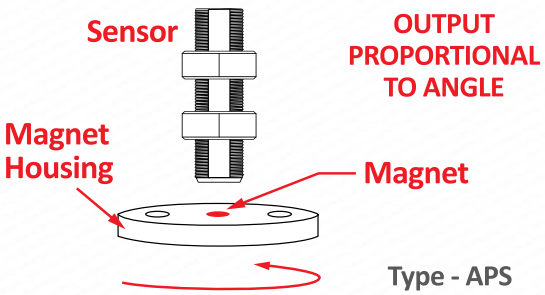
ELECTRICAL *- Every sensor function available in various electrical options (NPN, PNP, TTL, etc.)*

CONNECTION *- Deutsch, Amphenol, many other brands, free end wires, pigtails, any length*

Need a Custom Sensor Solution?... Send us your application specific requirements at *sensorso.com*

'Angular Position Sensors'

Sensor and Target Sold Separately



DESCRIPTION

- Sensor provides 0-5V analog output over 360 degrees of rotation.
- Non-contact sensor detects marked magnet to define orientation.
- Load dump protected circuit operates from 8-32VDC
- Ratiometric output to internal 5V regulator, analog ref. output wire can be connected for regulator tolerance.
- Operate gap range dependent on target magnet, refer to specifications chart for magnet options and gap ranges.
- Provided lock nuts used to set air gap and orientation to magnet.

FEATURES

- Non Contact
- Resistant to Shock & Vibration
- Linear Voltage Output
- Output Over 360 Degrees of Rotation
- 5V or Regulated Versions

Sensor Solutions
A STANDEX ELECTRONICS COMPANY

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TARGET SPECIFICATIONS NOTICE

The "Discontinuity Point" is the angle where the output changes from 0V to 5V. This is intentionally programmed to be as far away from the actual Linear Range as possible. With this, if the magnet goes past 0 degrees the sensor output will go up to 5V and if the magnet goes past 360 degrees the output drops to 0V.

Note: Check our website or contact us to compare all our angular position sensors.

Electrical Specifications	Conditions	Min	Typ	Max	Unit
Temperature Range*	Operating	-40	-	+110*	°C
Supply Voltage, Vcc	For specified accuracy	+8	-	+32	VDC
Supply Current	Into Vcc, Rl > 10k	+8	+10	+16	mA
Recommended Load-Gnd	Allows max output swing	-	> 100k	Inf.	Ohms
Analog Sat. Voltage Low	Rl >100k, Vcc = 24V,	-	.010	.050	Volts
Analog Sat. Voltage High	Rl >100k, Vcc = 24V,	4.900	4.960	-	Volts
Power Up Time	Any Angle	-	12	15	mS
Sampling Rate, Slow Mode	Factory Standard	-	600	-	µS
Sampling Rate, Fast Mode	High Speed Option	-	200	-	µS
Step Response Time, Slow	Factory Standard	-	-	4.0	mS
Step Response Time, Fast	High Speed Option	-	400	600	µS
ANALOG Vout SPECS AT Vcc = 24V, See graph below.					
Vout @45°C, Final Test Fixture	100% test, room temp .35" gap	2.400	2.500	2.600	Volts
Slope in Linear Range	From 4 to 356 Degrees	13.8	13.89	14.0	mV/Deg
Linearity Error	4-356 Deg, Accurate Gap Range	-1	.2	+1	%
Overall Error to +5V out **	4-356 Deg, Accurate Gap Range	-5	±2	+5	Deg
Overall Error to +5V out **	4-356 Deg, Ext. Gap Range	-7	±4	+7	Deg
Discontinuity Point	Programmed at Factory	-	360	-	Deg

* 125°C max available with "L" version & HIGH TEMP upgrade, contact factory.
** Ratio metric to 5V output, contact factory.

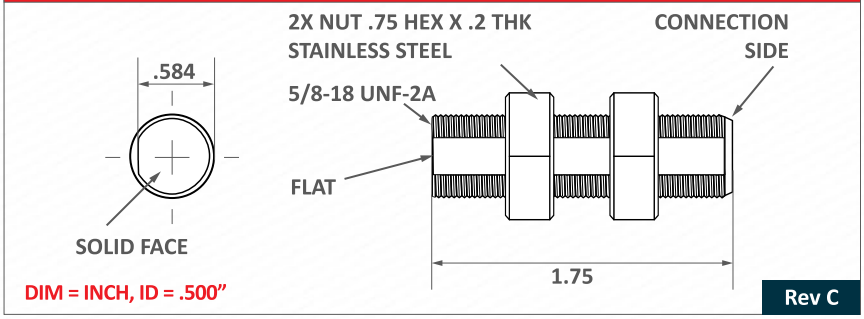
Rev A

Absolute Max Limits	Min	Max	Unit
Supply Voltage, Vcc	-35	+35	Volts DC
Voltage Applied to Output	-0.3	5	Volts
Current Into/Out of Output	-30	+30	mA
Magnetic Flux Density	-7000	+7000	Gauss
Load Dump Surge, 100 mS Rs = 25 ISO 7637	-	200	Volts

Environmental Specifications	
Corrosion Resistance	500 hours salt spray ASTM B-117
Installation Torque	18.5 Foot-Pounds Maximum
Enclosure	Nema 1,3,4,6,13 & IEC IP67
Vibration	10 G's 2 to 2000 Hz Sinusodal
Mechanical Shock	100 G's, 11 mS Half-Sine

Magntic Characteristics	Min	Typ	Max
Outputs will respond outside of the denied ranges, but with reduced accuracy			
Air Gap Range: Raw NEO Magnet Part # 300-01-071	.050"	.225"	.375"
Air Gap Range: Raw SmCo Magnet Part # 300-04-021	.050"	.100"	.150"
Air Gap Range: Raw SmCo Magnet Part # 300-04-022	.100"	.150"	.200"

A63, Black Anodized Aluminum 5/8" Housing



DIM = INCH, ID = .500"

Rev C

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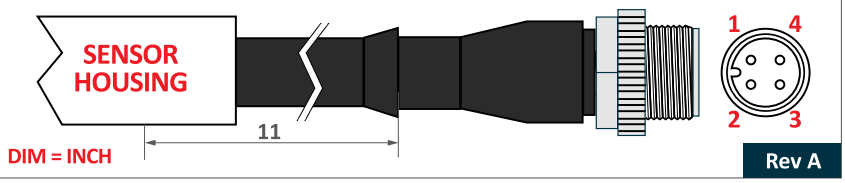
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CB1E, 4 Pin Male 12mm Micro Connector w/11" Pur Cable

CONNECTOR: 4 PIN MALE M12 STRAIGHT OVERMOLD
CABLE: 22AWG, STRANDED, PUR JACKET & INSULATION

PIN 1 = RED
PIN 2 = BLACK
PIN 3 = WHITE
PIN 4 = GREEN



DIM = INCH

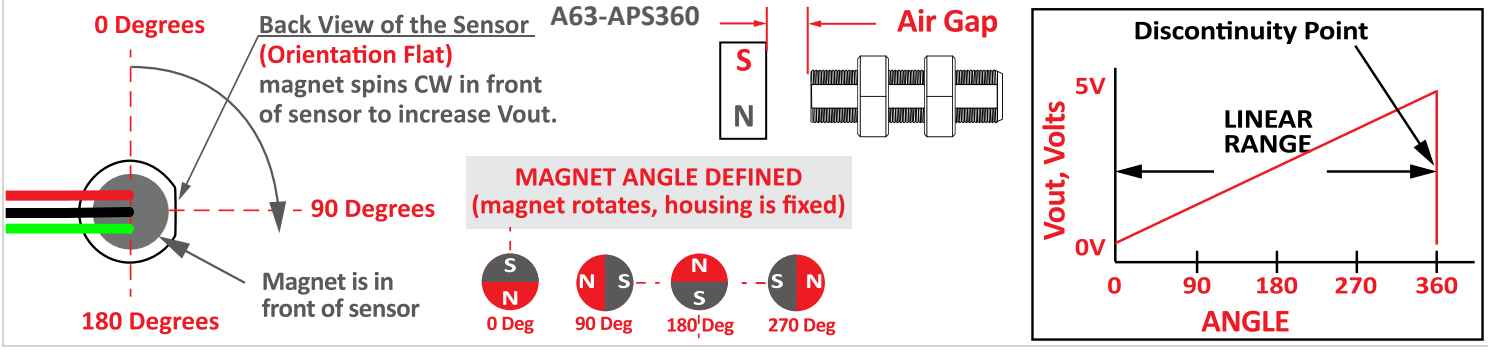
Rev A

Connections Chart

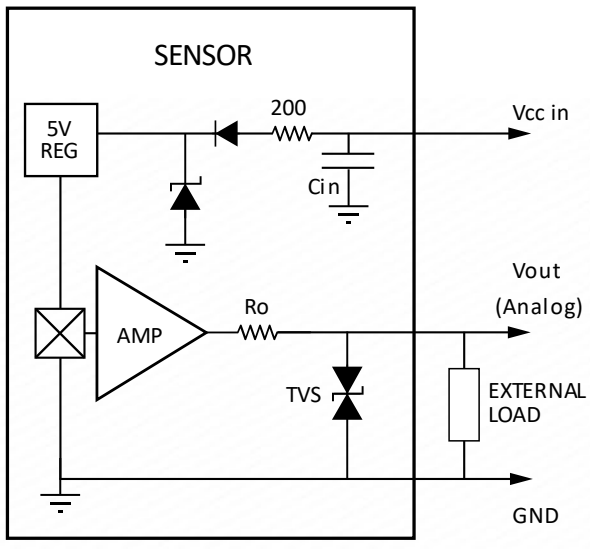
Pin 1 (Red) Vcc	Pin 3 (White) +5V Ref.
Pin 2 (Black) Ground	Pin 4 (Green) Analog Vo
CB1E-APS360	

Caution: *A short from the Pin 3 (White) +5V wire to either Pin 1 (Red) Vcc or Pin 2 (Black) Ground wire will cause component failure.*

Sensor Function



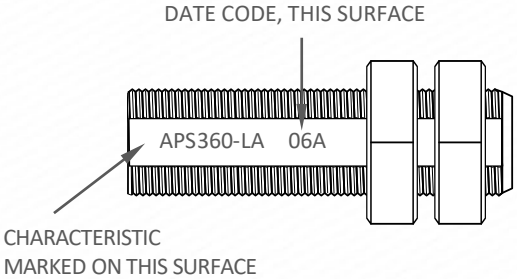
LA, Protected Input, Analog Output



Date Code 'YYM' YY = YEAR, M = MONTH

A JAN	D APR	H JUL	L OCT
B FEB	E MAY	J AUG	M NOV
C MAR	G JUN	K SEP	N DEC

Marking



Please note: All technical specifications on this series datasheet refer to the standard product range. Modifications in the sense of technical progress are reserved. For general information only. For more specific information, please consult the product datasheet, available upon request.

This series datasheet could contain technical inaccuracies or typographical errors. Changes are periodically made to the information herein. These change will be incorporated in future revisions.

For deviating values, most current specifications and products please contact your nearest sales office.

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