Bourns — in — Motion

Rotary Position Feedback

AMS22U Rotary Position Sensor

Introduction

Bourns Sensors & Controls product line announces the release of the Model AMS22U Series single-turn rotary magnetic sensor. The Bourns® AMS22U rotary sensor is designed to meet the requirements of heavy-duty applications with long cycle life, high reliability, precision and flexibility. The AMS22U features dual ball bearings with standard electrical angles from 10 ° to 360 ° and factory programmable for zero position.

Basic Functions

- Functions as electromechanical linkage to the system
- Relays changes in angular position and direction
- Provides the required communication protocol (analog or digital)

Features

- Non-contacting magnetic technology
- Highly resistant to vibration/shock & fluid/dust ingress
- Factory programmable for zero position
- Highly repeatable (hysteresis 0.2 % V_{DD} max.)
- Excellent performance with up to 500 g side load max.
- RoHS compliant*

Benefits

- Superior performance in harsh environments
- Reduction in field repairs and system downtime compared to typical contacting solutions
- Cost-effective upgrade to existing designs
- World-class technical support
- Global supply chain

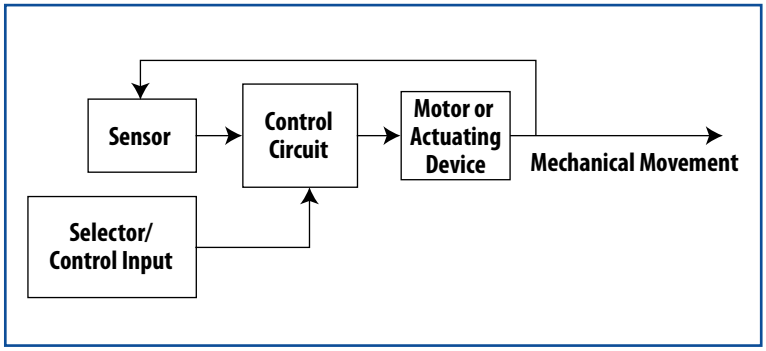
Applications

This product is designed to provide an electrical ratiometric signal, synchronized to the rotational movement of the shaft.

Typical applications include:

- Aviation payload displacement
- Clean energy equipment
- Automated assembly equipment
- Automated machining equipment
- Mobility enhanced vehicles
- Factory automation

Cost-effective Solution for Heavy-duty Rotary Position Sensing Applications



Discovery Questions

- Which features and/or benefits are most important when selecting a feedback sensor?
- What is the average expected life from an assembly that includes the sensor?
- Is the system self-learning/self-calibrating, or does the sensor require calibration at startup?

* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

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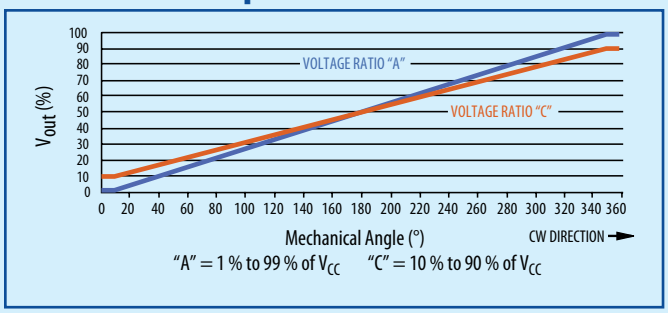
Incremental Output



Factory Available Options

- Custom electrical angle and linearity
- Communication protocols
- Custom shafts and bushings
- Brackets, adapters and cables/connectors
- Programmer and software

To request samples or for additional information, contact your Local Bourns Sales Representative.

Sales Tools and Collateral

- **Data Sheet**:
  - AMS22U Non-Contacting Single-Turn Rotary Position Sensor
- **Short Form Brochure:**
  - Non-Contacting Position Sensors & Rotary Controls
- **White Papers:**
  - Selecting the Appropriate Position Feedback Sensor for Factory Automation Valve Designs
  - Selecting the Right Rotary Position Sensor for a Draw Wire Transducer in Industrial Applications
- **Application Notes:**
  - Enhancing the Operational Reliability of Material Handling Equipment Using Non-Contacting Rotary Position Sensors
  - Using Rotary Position Sensors for Accurate, Long-Term Measurement in Electronic Linear Actuators
- **Training Module:**
  - AMS22U Non-Contacting Analog Rotary Position Sensors

FAQs

Concern	Bourns Response
I will have to change my layout to accept the AMS22U.	The AMS22U is a form and fit replacement for any potentiometer with a 7/8 " diameter servo mount.
I have a non-standard configuration in my application.	The AMS22U can be customized to meet the mounting configuration of the application.
I have several different electrical angles that I order.	The AMS22U has a programmable feature that allows you to change the electrical angle prior to installation.
My application requires a redundant output for safety.	The AMS22U is configured as a 5 V, 12 bit analog output sensor and is available in single or redundant output.

How to Order

A	M	S	2	2	U	5	A	1	B	L	A	R	L	3	3	4

MODEL DESIGNATOR

Code	Description
AM	Analog Magnetic

CONFIGURATION

Code	Description
S	Single-turn

SIZE

Code	Description
22	22 mm

MOUNTING CONFIGURATION
Servo Mount Options

Code	Description
U	Dual Ball Bearing 1/2 " Shaft FMS, 1/8 " Shaft Dia.

SUPPLY VOLTAGE, V_{CC}

Code	Description
5	5 Vdc

OUTPUT TYPE

Code	Type	Signal	Resolution
A1	Analog	Single	12 Bit

INDEPENDENT LINEARITY

Code	Description
B	0.5 %
C	0.3 %

PROCESSING SPEED

Code	Output Refresh Rate
H	High (200 µs Typ.)
L	Low (600 µs Typ.)

VOLTAGE RATIO ±1 %

Code	Description
A	1-99 % of Vcc
B	5-95 % of Vcc
C	10-90 % of Vcc

SHAFT STYLE

Code	Description
F	Flatted
R	Round

TERMINAL CONFIGURATION

Code	Description
L	Axial

DIRECTION*

Code	Description
1	CCW (Increasing Voltage)
3	CW (Increasing Voltage)

EFFECTIVE ELECTRICAL ANGLE
10 ° Increments

Code	Description
01	10 °
02	20 °
03	30 °
34	340 °
35	350 °
36	360 °

Notes:
- *E ective Electrical Angle available in 10 ° increments from a minimum of 10 ° to 360 ° maximum.*
- *Use Code "BB" for 45°.*

Shaded areas represent most common features.

Joint Call Strategy

Target Account:	Assigned to:	When:
•	•	•
•	•	•
•	•	•
•	•	•

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