

\*RoHS COMPLIANT



**BOURNS®**

## Features

- Non-contacting magnetic technology
- Highly resistant to vibration/shock
- Highly resistant to fluid/dust ingress
- Programmable at factory for zero position
- Robust design for industrial applications
- Highly repeatable

- RoHS compliant\*

## AMS22B Non-Contacting Analog Rotary Position Sensor

### Electrical Characteristics<sup>1</sup> (@ 25 °C)

VDD Supply Voltage	5 V ± 10 %
Supply Current <sup>2</sup>	
For Low Speed Processing (Code L)	10 mA max.
For High Speed Processing (Code H)	20 mA max.
Output Signal (Single)	Analog
Independent Linearity	±0.5 % (±0.3 % available on request)
Hysteresis	0.2 % VDD max.
Effective Electrical Angle <sup>3</sup>	340 °
Programmable Electrical Angle	10 ° to 360 ° (10 ° increments)
Voltage Output (Programmable)	1 to 99 % VDD ±1 %
Output Resolution	12 bit @ 360 °
Load Resistance Recommended	10K ohms to ∞
Overvoltage Protection	+20 VDC
Reverse Voltage Protection	-10 VDC

### Environmental Characteristics

Operating Temperature	-40 ° to +125 °C
Moisture Resistance	MIL-STD-202, Method 106
Insulation Resistance @ 500 VAC	500 MΩ min.
Rotational Life (Shaft Revolutions)	50 million
Vibration	15 G
Shock	50 G
IP Rating	IP50
ESD Rating	2 kV max.

### Mechanical Characteristics (@ 25 °C)

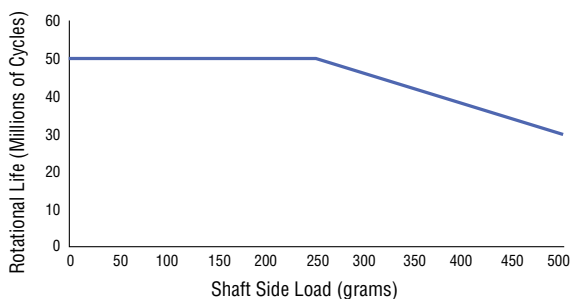
Mechanical Angle	Continuous (340 ° +4/-0 stops available)
Shaft/RPM	500 RPM max.
Torque	
Starting & Running	1.06 N-cm. (1.5 oz-in.) max.
Mounting	170-200 N-cm (15-18 lb-in.) max.
Shaft Material	Stainless steel
Terminals	Brass / 100 % matte tin over Ni Strike (e3)
Bearing	Bronze sleeve
Soldering Condition	
Manual Soldering	96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin cored wire; 370 °C (700 °F) max. for 3 seconds
Wave Soldering	96.5Sn/3.0Ag/0.5Cu solder with no-clean flux; 260 °C (500 °F) max. for 5 seconds
Wash processes	Not recommended

<sup>1</sup>At room ambient: +25 °C nominal and 50 % relative humidity nominal, except as noted.

<sup>2</sup> See "Processing Speed" in How to Order selection guide.

<sup>3</sup> Other Effective Electrical Angles available. See How to Order selection guide.

### Rotational Life vs. Side Load



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

Specifications are subject to change without notice.

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time.

Users should verify actual device performance in their specific applications.

### Product Dimensions

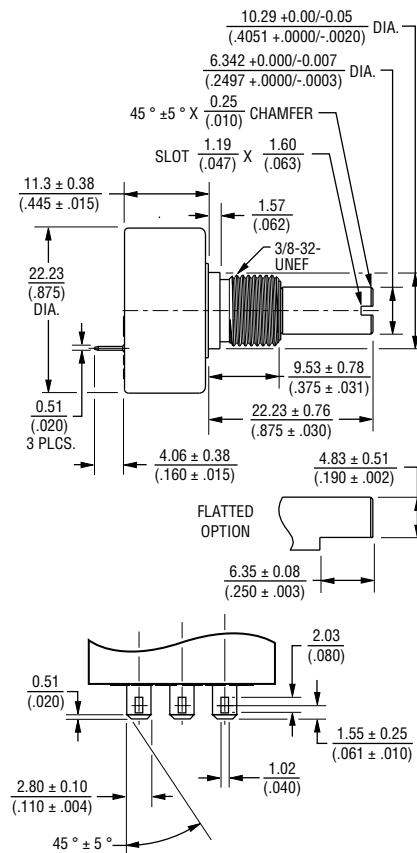
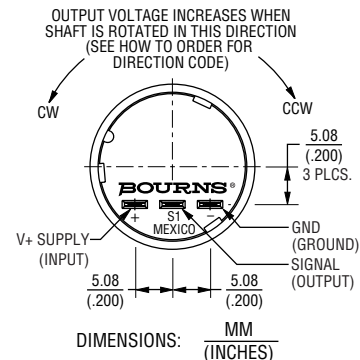
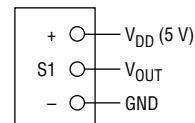


Figure 1



### Schematic



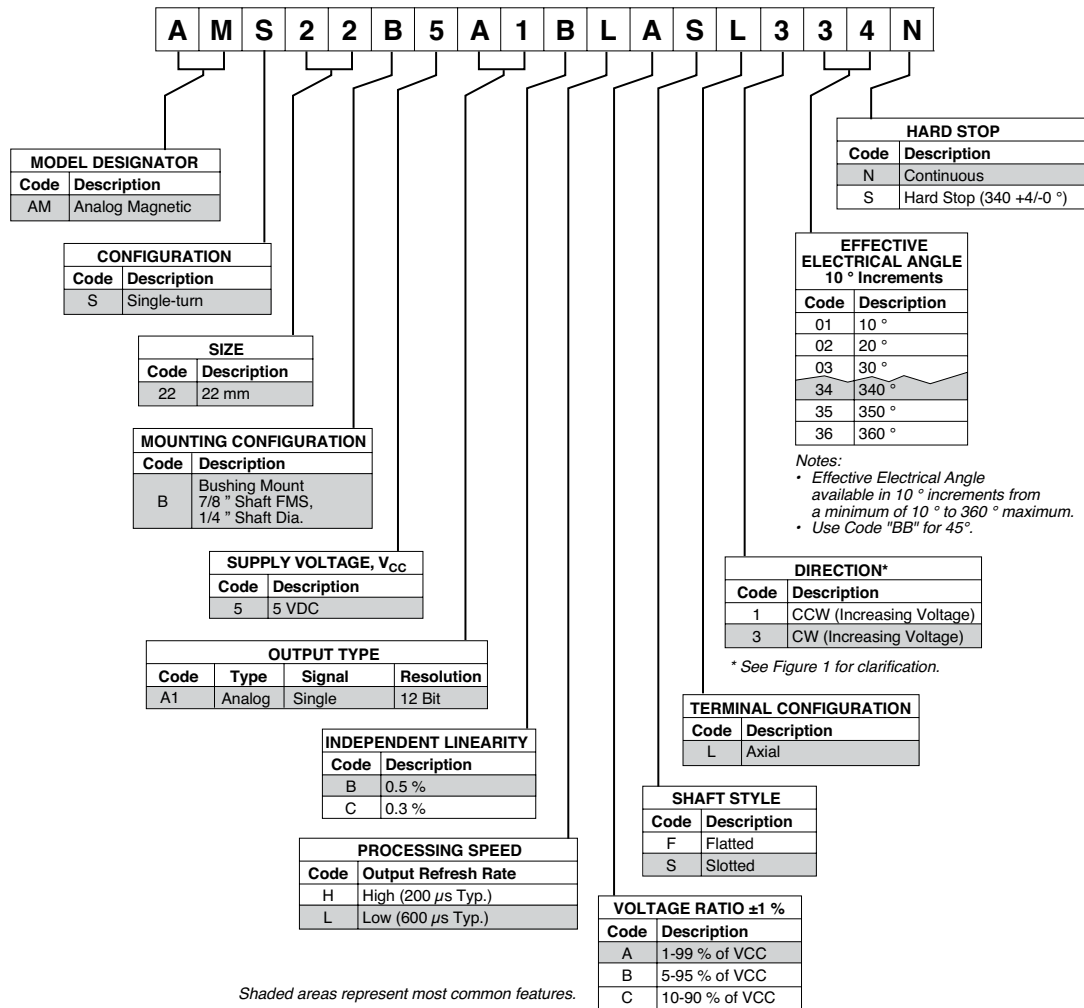
## Applications

- Patient platform positioning feedback
- Pneumatic control valve position feedback
- Draw wire position sensors
- Remote communications antenna positioning
- Actuator motor position feedback
- Automated manufacturing robotics
- Tilt control and tilt positioning feedback
- Foot pedal, steering, lift-and-shuttle and suspension systems

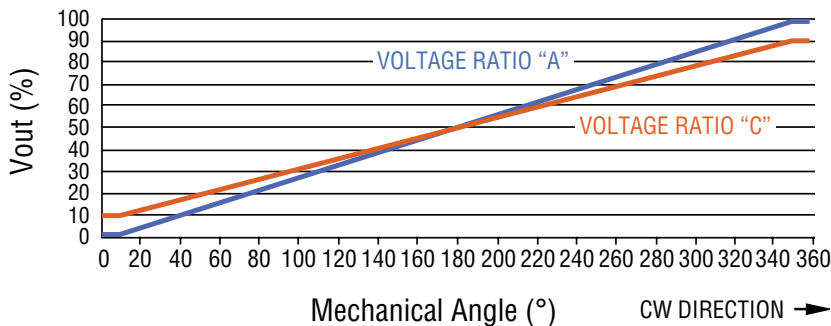
# AMS22B Non-Contacting Analog Rotary Position Sensor

# BOURNS®

## How To Order



## Standard Output: 1-Turn CW Increasing (Code 334 Shown)



# BOURNS®

### Asia-Pacific:

Tel: +886-2 2562-4117  
Fax: +886-2 2562-4116

### EMEA:

Tel: +36 88 520 390  
Fax: +36 88 520 211

### The Americas:

Tel: +1-951 781-5500  
Fax: +1-951 781-5700

[www.bourns.com](http://www.bourns.com)

REV. 02/16

The device characteristics and parameters in this data sheet can and do vary in different applications and actual device performance may vary over time. Users should verify actual device performance in their specific applications. Specifications are subject to change without notice.