



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

- Dual ball bearing
- RoHS compliant*

AMS22U Non-Contacting Analog Rotary Position Sensor

Electrical Characteristics¹ (@ 25 °C)

| | |
|---|---------------------------------|
| VDD Supply Voltage | 5 V ± 10 % |
| Supply Current ² | |
| 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 ³ | 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) | 100 million |
| Vibration | 15 G |
| Shock | 50 G |
| IP Rating | IP50 |
| ESD Safe | 2 kV max. |

Mechanical Characteristics (@ 25 °C)

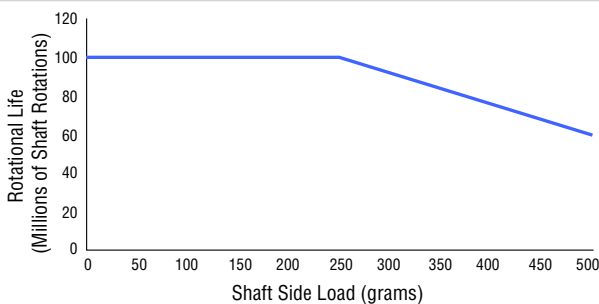
| | |
|-----------------------------|--|
| Mechanical Angle | Continuous |
| Shaft/RPM | 1000 RPM max. |
| Torque (Starting & Running) | 1.06 N-cm. (1.5 oz-in.) max. |
| Shaft Material | Stainless steel |
| Terminals | Brass / 100 % matte tin over Ni Strike (e3) |
| Bearing | Dual ball bearing |
| Soldering 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 |

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

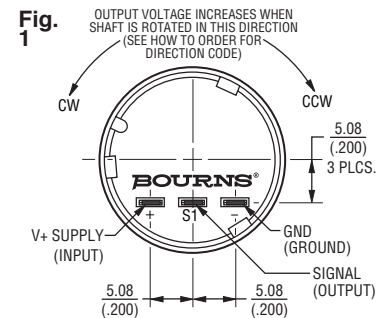
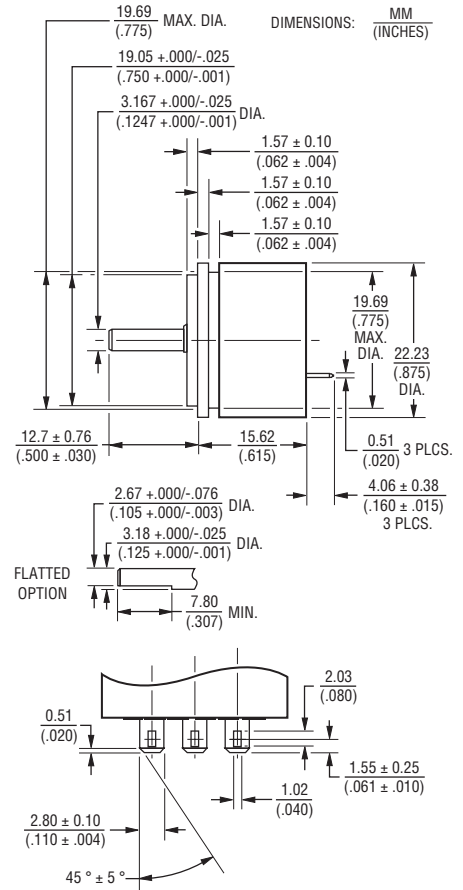
² See "Processing Speed" in How to Order selection guide.

³ Other Effective Electrical Angles available. See How to Order selection guide.

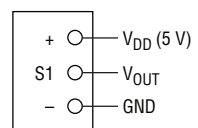
Rotational Life vs. Side Load



Product Dimensions



Schematic



*RoHS Directive 2015/863, Mar 31, 2015 and Annex. Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.

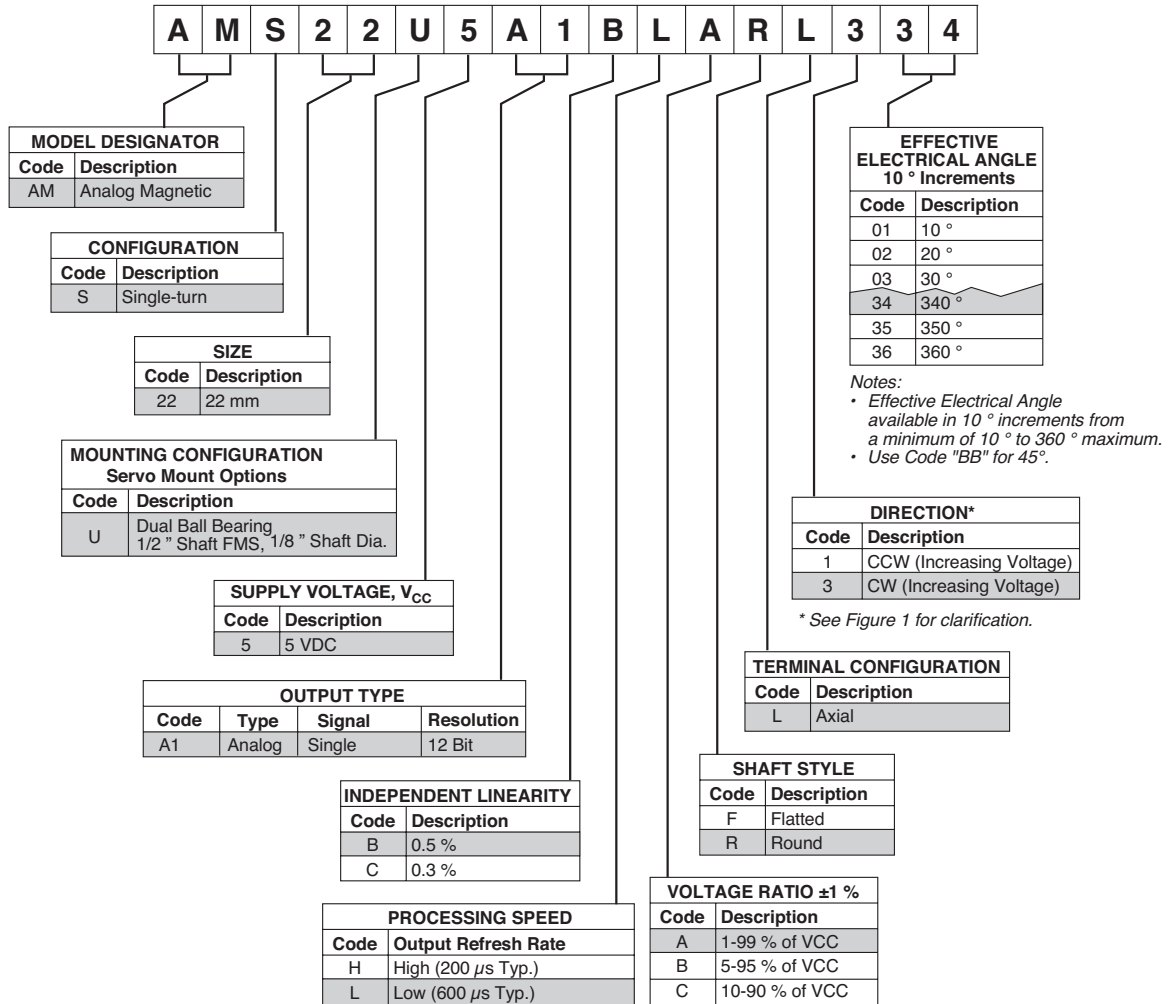


WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

AMS22U Non-Contacting Analog Rotary Position Sensor

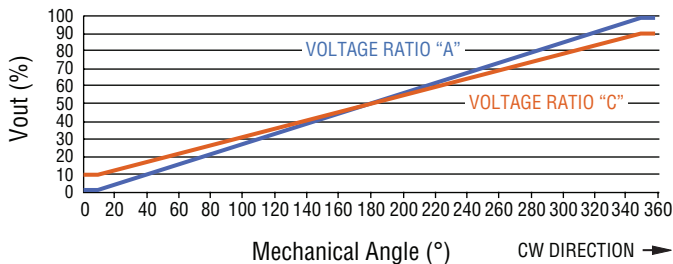
BOURNS®

How To Order



Shaded areas represent most common features.

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



Resolution

| EEA | Resolution | EEA | Resolution | EEA | Resolution |
|-----|------------|-----|------------|-----|------------|
| 10 | 114 | 130 | 1479 | 260 | 2958 |
| 20 | 228 | 140 | 1593 | 270 | 3072 |
| 30 | 341 | 150 | 1707 | 280 | 3186 |
| 40 | 455 | 160 | 1820 | 290 | 3300 |
| 45 | 512 | 170 | 1934 | 300 | 3413 |
| 50 | 569 | 180 | 2048 | 310 | 3527 |
| 60 | 683 | 190 | 2162 | 320 | 3641 |
| 70 | 796 | 200 | 2276 | 330 | 3755 |
| 80 | 910 | 210 | 2389 | 340 | 3868 |
| 90 | 1024 | 220 | 2503 | 350 | 3982 |
| 100 | 1138 | 230 | 2617 | 360 | 4096 |
| 110 | 1252 | 240 | 2731 | | |
| 120 | 1365 | 250 | 2844 | | |

REV. 06/20

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

The products described herein and this document are subject to specific legal disclaimers as set forth on the last page of this document, and at www.bourns.com/docs/legal/disclaimer.pdf.