



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*

AMS22S 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) | 50 million |
| Vibration | 15 G |
| Shock | 50 G |
| IP Rating | IP50 |
| ESD Rating | 2 kV max. |

Mechanical Characteristics (@ 25 °C)

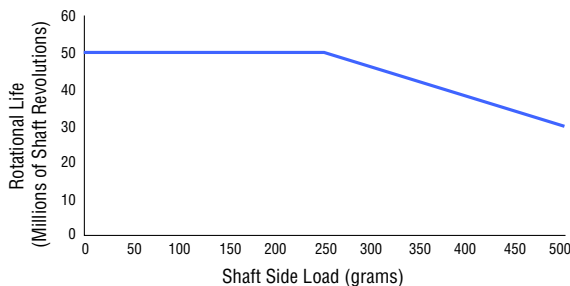
| | |
|-----------------------------|--|
| Mechanical Angle | Continuous |
| Shaft/RPM | 200 RPM max. |
| Torque (Starting & Running) | 1.06 N-cm. (1.5 oz-in.) max. |
| Shaft Material | Stainless steel |
| Terminals | Brass / 100 % matte tin over Ni Strike (e3) |
| Bearing | Bronze sleeve |
| Soldering 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 |

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

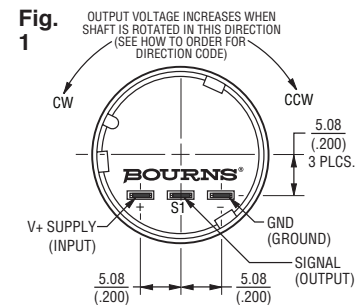
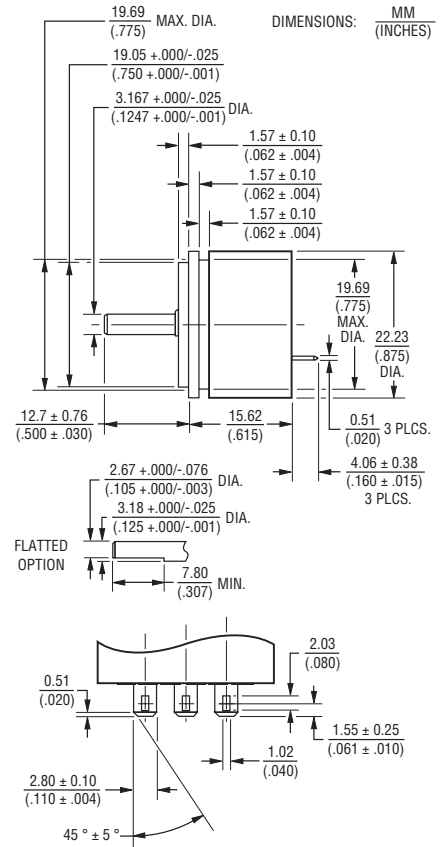
² See "Processing Speed" in How to Order selection guide.

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

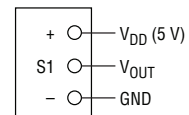
Rotational Life vs. Shaft Side Load



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.

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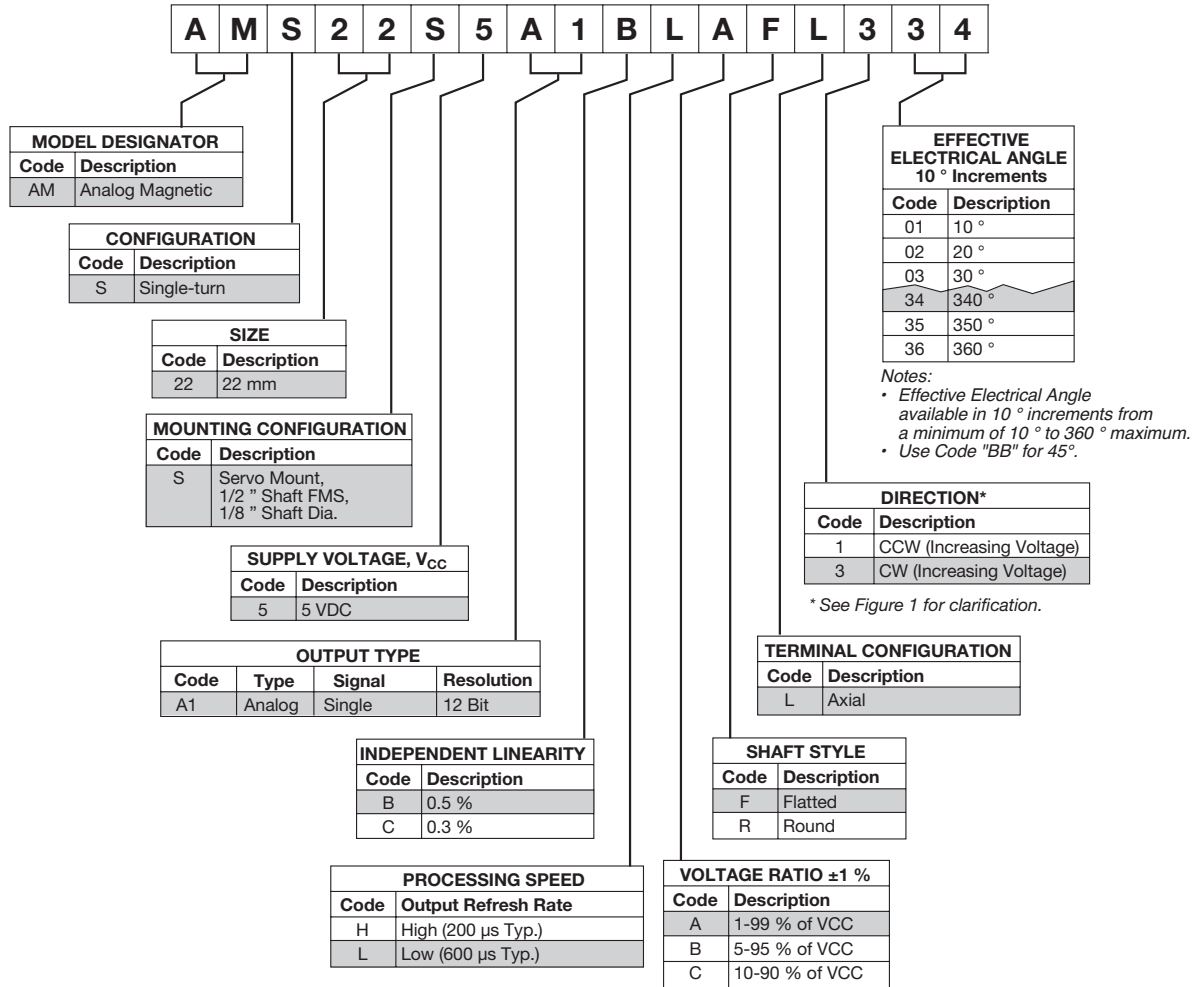


WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

AMS22S Non-Contacting Analog Rotary Position Sensor

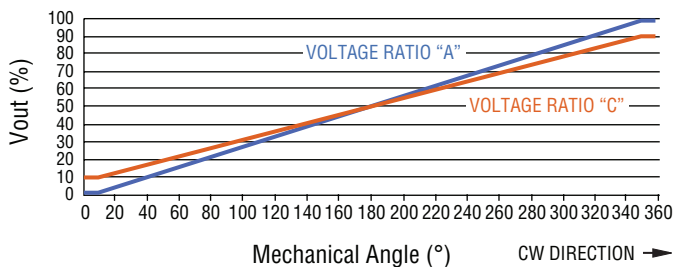
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How To Order



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

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