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

AMS22S Non-Contacting Analog Rotary Position Sensor

Electrical Characteristics1 (@ 25 °C)
- VDD Supply Voltage: 5V ± 10 %
- Supply Current:
  - For Low Speed Processing (Code L): 10 mA max.
  - For High Speed Processing (Code H): 20 mA max.
- Output Signal (Single): 1 to 99 % VDD ± 1 %
- Hysteresis: ±0.3 % available on request
- Effective Electrical Angle: 340 ° ± 0.3 % available on request
- Programmable Electrical Angle: 10 ° to 360 ° (10 ° increments)
- Voltage Output (Programmable): 0.2 % VDD max.
- Output Linearities: ±0.5 %
- Load Resistance Recommended: 10 kΩ max.
- Reverse Voltage Protection: -10 VDC
- Overvoltage Protection: +20 VDC

Environmental Characteristics
- Operating Temperature: -40 ° to +125 °C
- Insulation Resistance: 500 MΩ
- Rotational Life (Shaft Revolutions): 50 million
- 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: Rosin cored wire; 260 °C (500 °F) max. for 5 seconds
  - Wave Soldering: 96.5Sn/3.0Ag/0.5Cu solid wire or no-clean rosin cored wire; 370 °C (700 °F) max. for 3 seconds
- Soldering: 96.5Sn/3.0Ag/0.5Cu solder with no-clean flux; 260 °C (500 °F) max. for 5 seconds
- Wash processes: Not recommended

Rotational Life vs. Shaft Side Load

E22S Non-Contacting Analog Rotary Position Sensor

Product Dimensions

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

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AMS22S Non-Contacting Analog Rotary Position Sensor

How To Order

AMS 2 2 S 5 A 1 B L A F 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
Code Description
S Servo Mount, 1/2” Shaft FMS, 1/8” Shaft Dia.

SUPPLY VOLTAGE, VCC
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 Description
H High (200 µs Typ.)
L Low (600 µs Typ.)

VOLTAGE RATIO ±1 %
Code Description
A 1-99 % of VCC
B 99-95 % of VCC
C 10-90 % of VCC

EFFECTIVE ELECTRICAL ANGLE 10° Increments
Code Description
01 10°
02 20°
03 30°
04 340°
05 350°
06 360°

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

TERMINAL CONFIGURATION
Code Description
L Axial

SHAFT STYLE
Code Description
F Flatted
R Round

Notes:
• Effective 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.

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

Resolution

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Volt (%)

0 20 40 60 80 100 120 140 160 180 200 220 240 260 280 300 320 340 360

Mechanical Angle (°) CW DIRECTION

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