

\*RoHS COMPLIANT



**BOURNS®**

**Features**

- Non-contacting magnetic technology
- Highly resistant to vibration/shock
- Highly resistant to fluid/dust ingress
- Programmable slope
- Robust design for industrial applications
- Ideal memory positioning sensor
- RoHS compliant\*

**AMM20B Multiturn Magnetic 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)       | 12 mA max.   |
| For High Speed Processing (Code H)      | 15 mA max.   |
| Output Signal (Single)                  | Analog   |
| Independent Linearity                   | ±0.5 % (±0.3 % available on request)                             |
| Backlash                                | < 5 ° typ.   |
| Effective Electrical Angle <sup>3</sup> | 1080 °, 1440 °, 1800 °, 2160 °, 2520 °, 2880 °, 3240 ° or 3600 ° |
| Voltage Output (Programmable)           | 1 to 99 % VDD ± 1 %  |
| Output Resolution                       | 12 bit @ 3600 °  |
| Load Resistance Recommended             | 10K ohms to ∞  |
| Overvoltage Protection                  | +20 VDC  |
| Reverse Voltage Protection              | -10 VDC  |

**Environmental Characteristics**

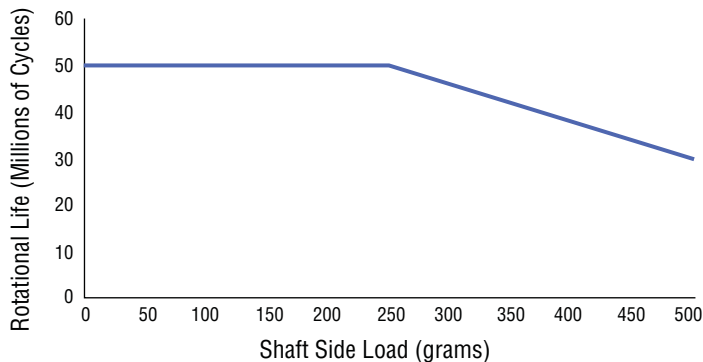
|                                     |                                      |
|-------------------------------------|--------------------------------------|
| Operating and Storage Temperature   | -40 ° to +125 °C                     |
| Humidity                            | MIL-STD-202, Method 103, Condition B |
| Insulation Resistance @ 500 VAC     | 100 MΩ min.                          |
| Rotational Life (Shaft Revolutions) | 50 million                           |
| Vibration                           | 15 G                                 |
| Shock                               | 50 G                                 |
| IP Rating                           | IP50                                 |

**Mechanical Characteristics (@ 25 °C)**

|                             |  |
|-----------------------------|--|
| Mechanical Angle            | 3960 ° min.  |
| Shaft/RPM                   | 500 RPM max.   |
| Torque (Starting & Running) | 1.77 N-cm. (2.5 oz-in.) max.   |
| Shaft Material              | Stainless steel  |
| Terminal Pins               | Phos. Bronze, 100 % tin plated (e3)  |
| Bearing                     | Bronze sleeve  |
| Housing and Rear Lid        | UL94V0   |
| 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  |

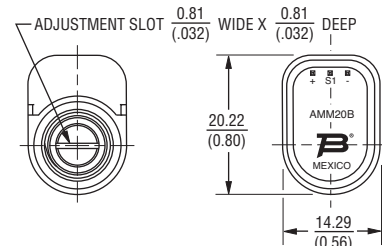
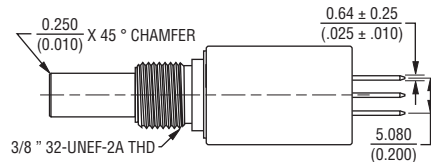
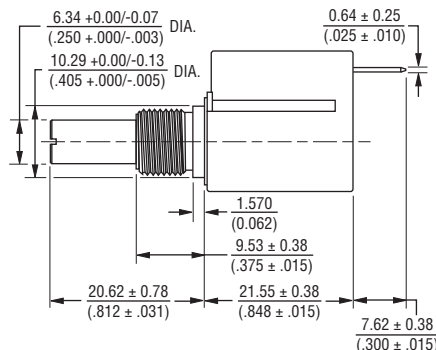
<sup>1</sup> At room ambient: +25 °C nominal and 50 % relative humidity nominal, except as noted.  
<sup>2</sup> See "Processing Speed" in How to Order selection guide.  
<sup>3</sup> Other Effective Electrical Angles available. See How to Order selection guide.

**Rotational Life vs. Shaft 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**



TOLERANCES EXCEPT WHERE NOTED  
 DECIMALS: .XX ±  $\frac{.50}{(.02)}$  .XXX ±  $\frac{.127}{(.005)}$   
 DIMENSIONS:  $\frac{MM}{(INCHES)}$

**BOURNS®**

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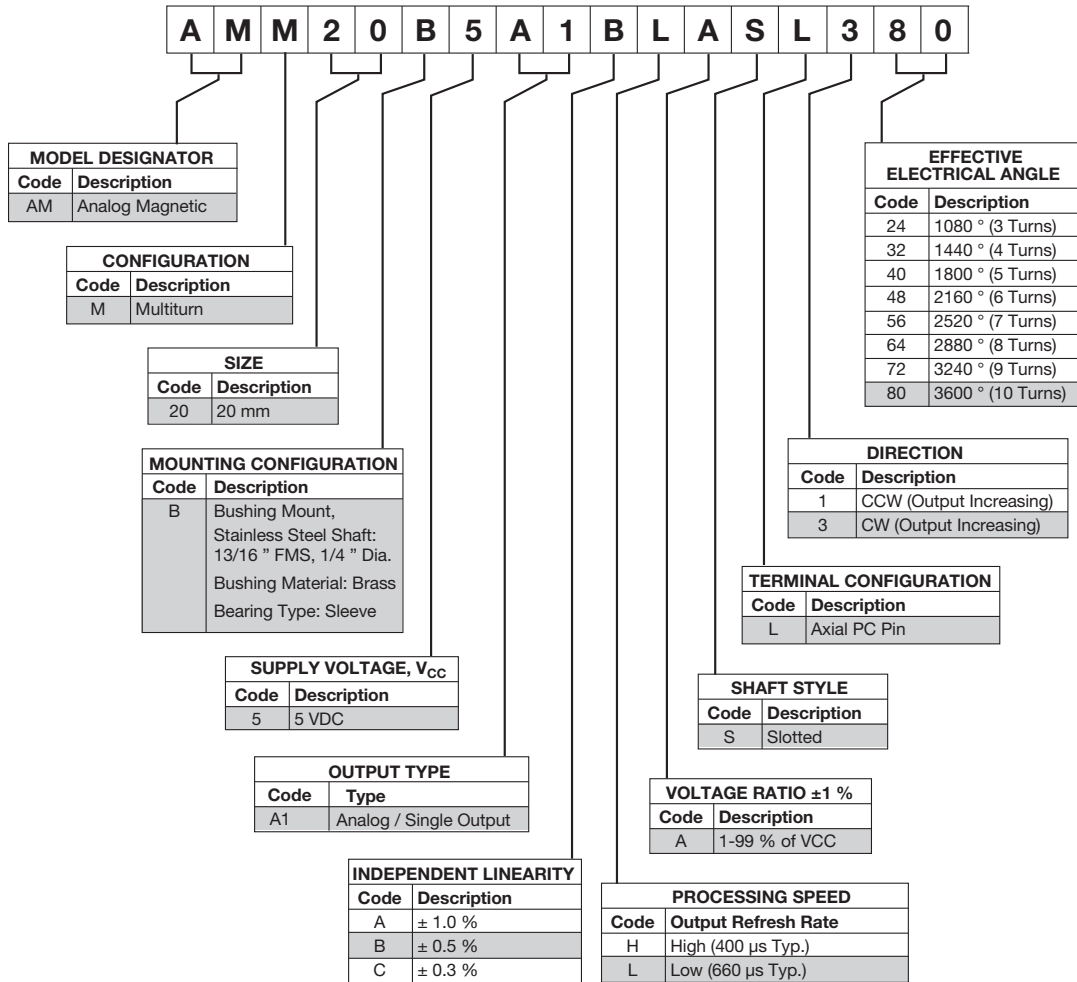
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[www.bourns.com](http://www.bourns.com)

# AMM20B Multiturn Magnetic Position Sensor

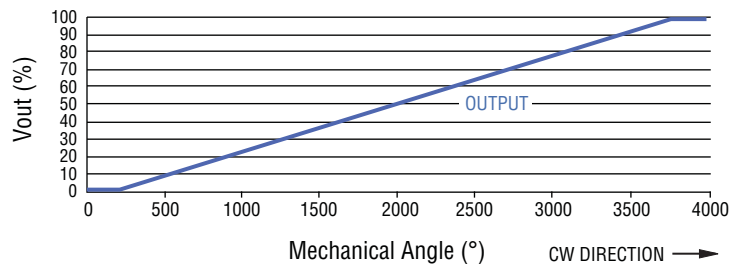
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## How To Order



Shaded areas represent most common features.

## Standard Output: 10-Turn CW Increasing (Code 380 Shown)



REV. 06/15

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