



## 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	< 10 ° typ.
Effective Electrical Angle <sup>3</sup>	
3-10 Turns	1080 °, 1440 °, 1800 °, 2160 °, 2520 °, 2880 °, 3240 ° or 3600 °
11-16 Turns	3960 °, 4320 °, 4680 °, 5040 °, 5400 °, 5760 °
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	
3-10 Turns	3960 ° min.
11-16 Turns	6480 ° min.
Shaft/RPM	500 RPM max.
Torque	
Starting & Running	2.82 N-cm. (4.0 oz-in.) max.
Mounting	170-200 N-cm (15-18 lb.-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.

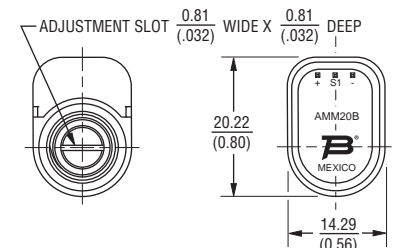
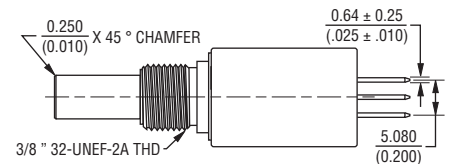
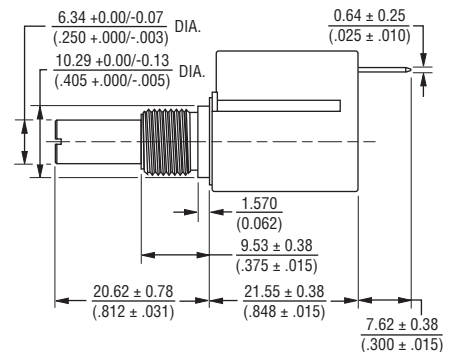
<sup>3</sup> Other Effective Electrical Angles available. See How to Order selection guide.

### Resolution

No. of Turns	EEA	Resolution
3	1080	1228
4	1440	1638
5	1800	2047
6	2160	2456
7	2520	2866
8	2880	3275
9	3240	3685

No. of Turns	EEA	Resolution
10	3600	4094
11	3960	2816
12	4320	3072
13	4680	3328
14	5040	3584
15	5400	3840
16	5760	4096

### Product Dimensions



TOLERANCES EXCEPT WHERE NOTED

DECIMALS: .XX ± .50 (.02) .XXX ± .127 (.005)

DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

\*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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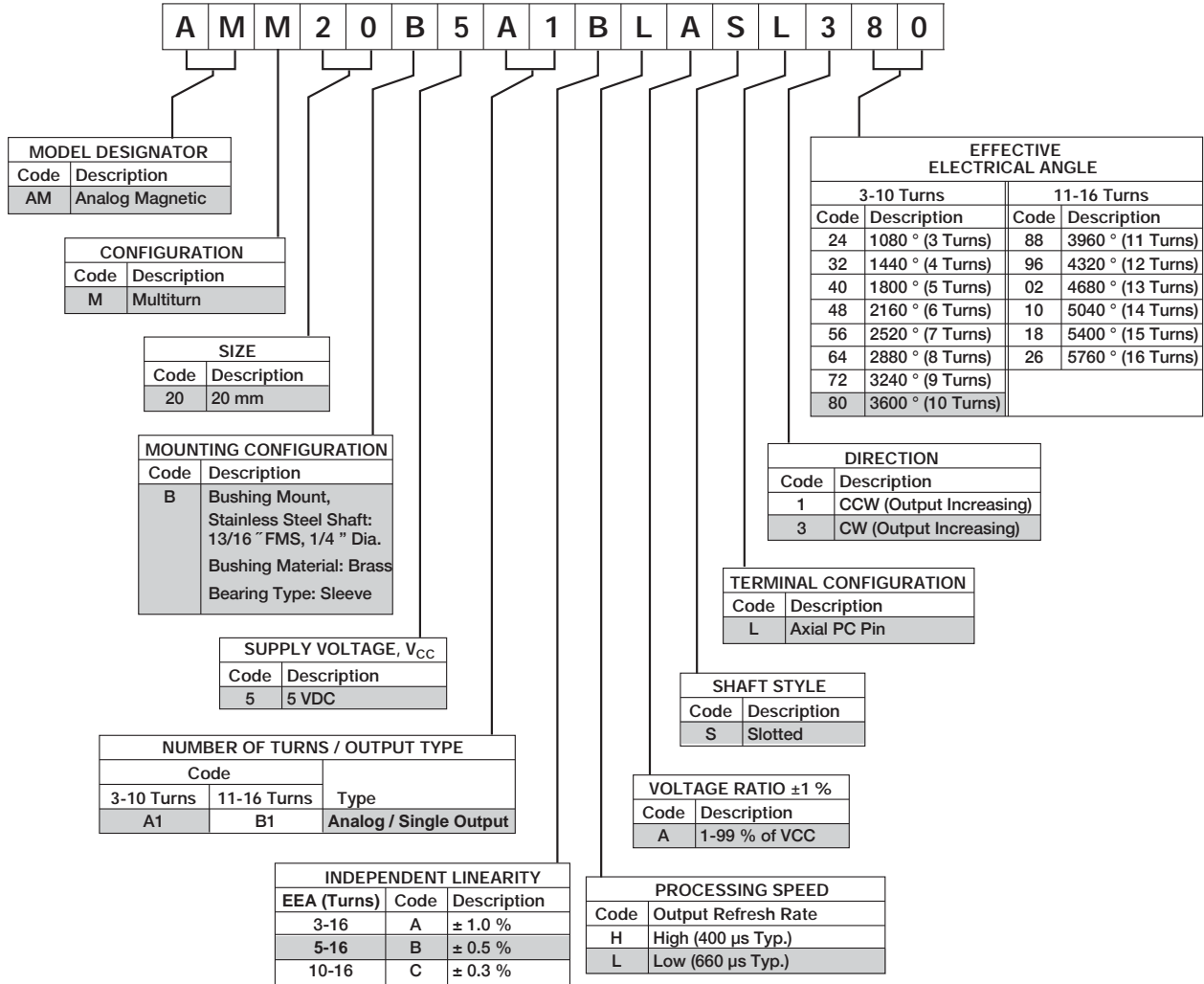


**WARNING** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# AMM20B Multiturn Magnetic Position Sensor

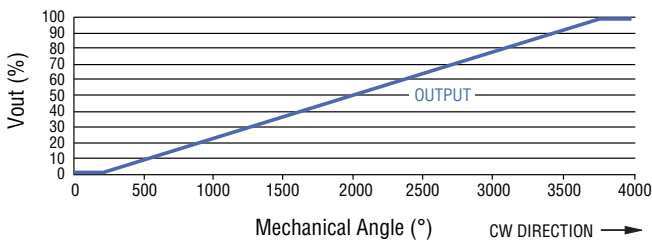
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## How To Order

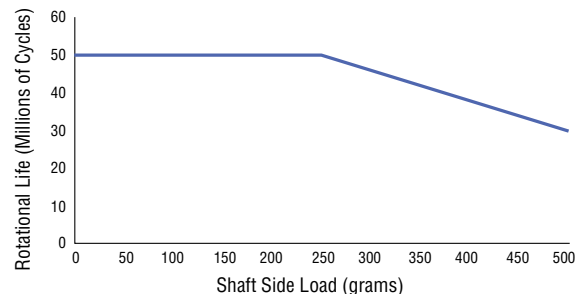


Shaded areas represent most common features.

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



### Rotational Life vs. Shaft Side Load



REV. 10/19

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