

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 Characteristics¹ (@ 25 °C)

VDD Supply Voltage.....	5 V ± 10 %
Supply Current ²	
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 ³	
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

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

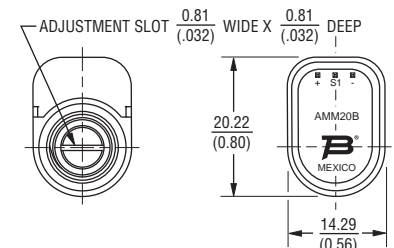
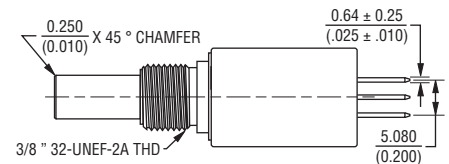
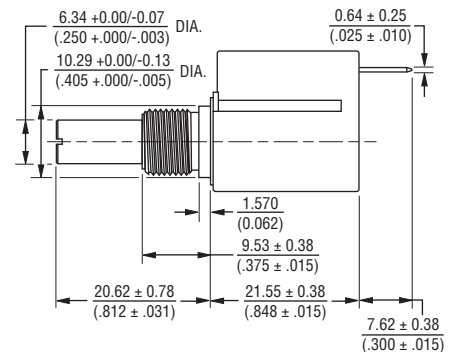
² See "Processing Speed" in How to Order selection guide.

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

Resolution

No. of Turns	EEA	Resolution	No. of Turns	EEA	Resolution
3	1080	1228	10	3600	4094
4	1440	1638	11	3960	2816
5	1800	2047	12	4320	3072
6	2160	2456	13	4680	3328
7	2520	2866	14	5040	3584
8	2880	3275	15	5400	3840
9	3240	3685	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.

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.

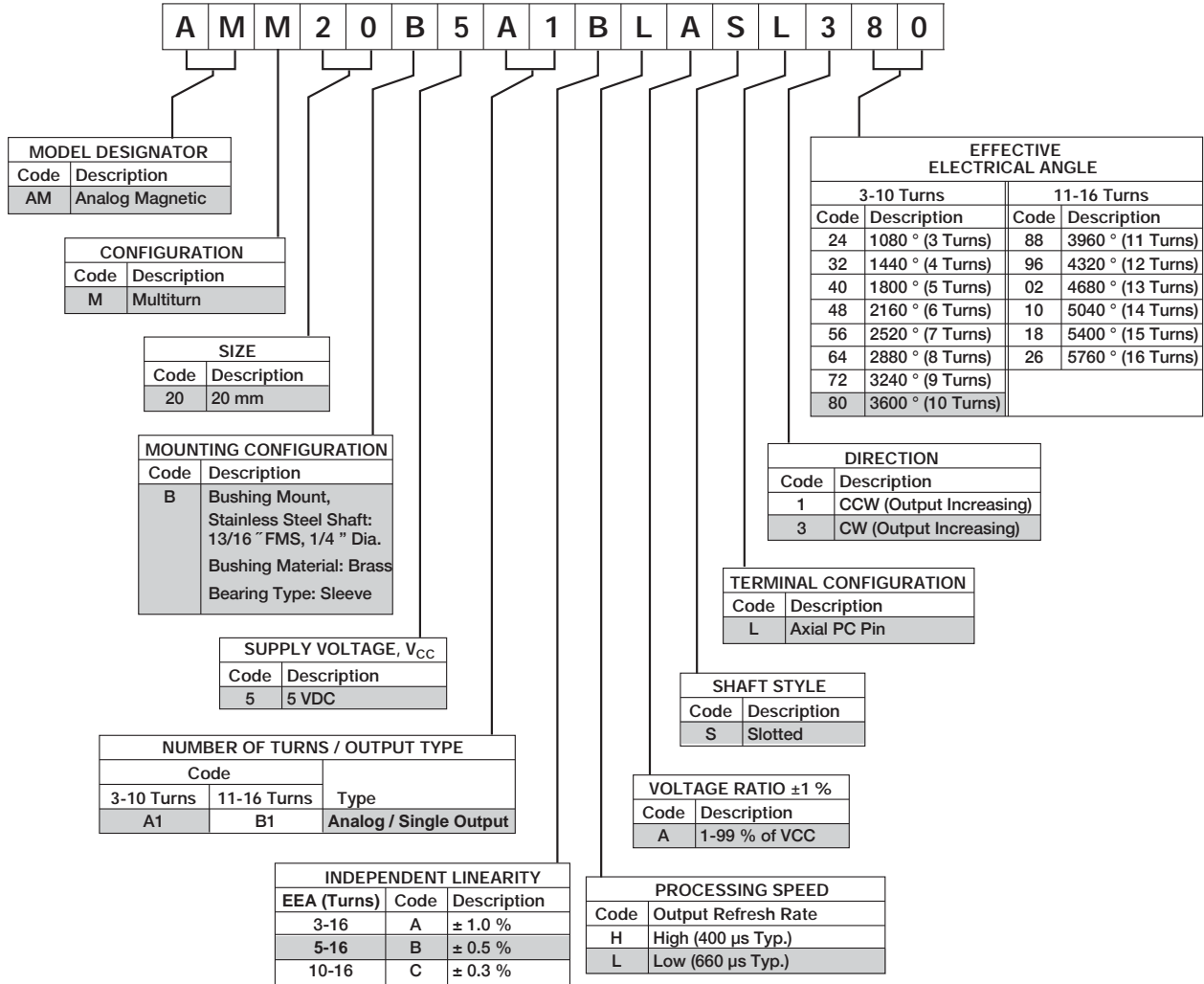


WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

AMM20B Multiturn Magnetic Position Sensor

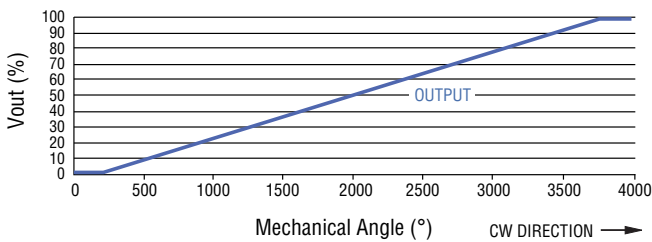
BOURNS®

How To Order

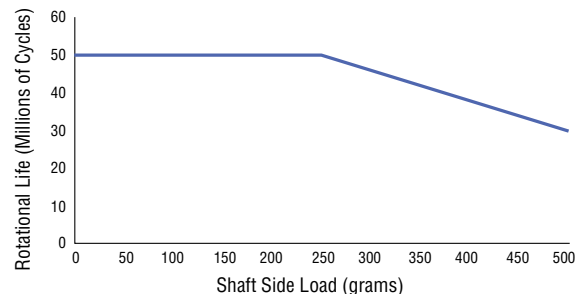


Shaded areas represent most common features.

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



Rotational Life vs. Shaft Side Load



REV. 10/19

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.