AAM 20 M
BISS / SPI / SSI
MAGNETC MULTITURN ABSOLUTE KIT ENCODER

MAIN FEATURES

The AAM 20M is a miniature magnetic sensing absolute multiturn kit encoder based on proprietary energy harvesting technology. The multiturn is a battery-less and non-gear-based solution that eliminates the need for maintenance and contamination prevention. The AAM 20M is equipped with a range of intelligent features, including a built-in temperature sensor, user-programmable resolution, zero reset and system alarm.

- Maximum resolution 50 bits (18 bits singleturn + 32 bits multiturn)
- BiSS-C, SPI or SSI electrical interface
- Radial output with PCB connector
- Operating temperature -40° ... +115°C (-40° ... +239°F)

ORDERING CODE	AAM	20M	24	/	18	B	5	S	4	X	LR	.162	+XXX

SERIES
magnetic multiturn absolute encoder AAM

MODEL
kit encoder ø 20mm 20M

MULTITURN RESOLUTION
turns 24 bit

SINGLETURN RESOLUTION
18 bit

CODE TYPE
binary B

POWER SUPPLY
5 V DC 5

ELECTRICAL INTERFACE
BiSS-C B
SPI SPI
Serial Synchronous Interface - SSI S

BORE DIAMETER
mm 4

ENCLOSURE RATING
IP 10 X

OUTPUT TYPE
radial connector LR

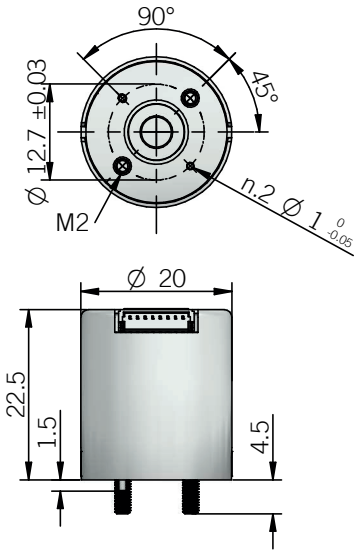
SOCKET
socket not included .162

VARIANT
custom version XXX

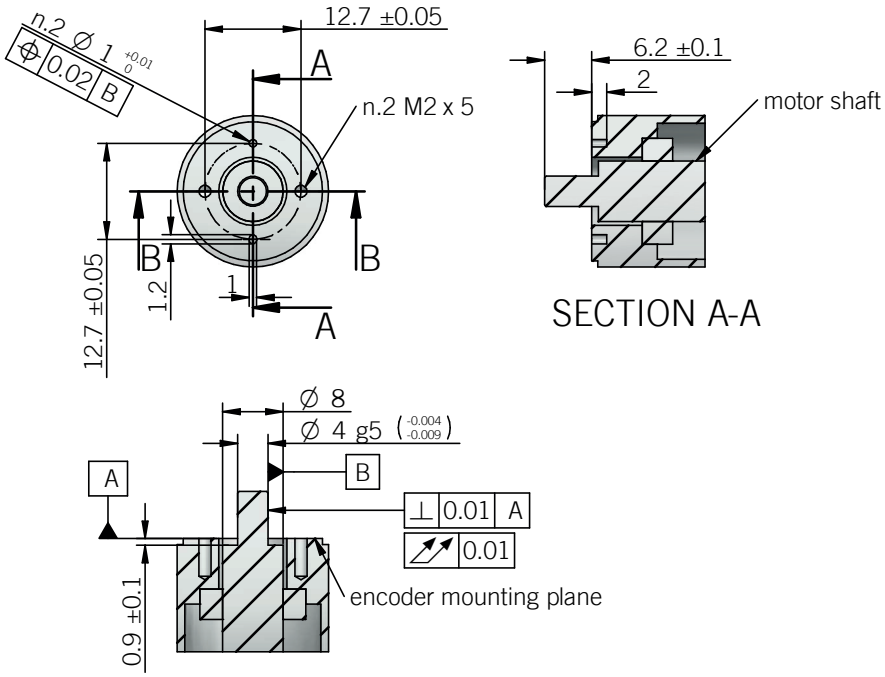
PRELIMINARY

eltra.it@broadcom.com

AAM 20M



RECOMMENDED INTERFACE FLANGE DESIGN



dimensions in mm

ELECTRICAL SPECIFICATIONS

Multiturn resolution	24 bit can be selected between 12-14-16-20-24-32 bits
Singleturn resolution	18 bit can be selected bewtween 15-16-17-18 bits
Power supply[1]	4,5 ... 5,5 V DC
Current consumption without load	45 mA max
Electrical interface	RS-422 (BiSS/SSI) - SPI 4 wires
Clock frequency	BiSS 80 kHz ... 10 MHz SPI 10 MHz max SSI 100 kHz ... 1 MHz
Counting direction	selectable through sw
Start-up time	500 ms
Accuracy	± 0,1° after assembly to motor and auto gain calibration completed
Connector	JST® 8 pin SM08B-SRSS-TB mating connector JST® SHR-08V-S or SHR-08V-S-B contacts JST® SSH-003T-P0.2-H (AWG 32-38)
Electromagnetic compatibility	according to 2014/30/EU directive
RoHS	according to 2011/65/EU directive

ENCODER KIT

BOTTOM SHIELD	BOTTOM HOUSING	MAGNET HUB	PCB MODULE	SHIELD COVER

MECHANICAL SPECIFICATIONS

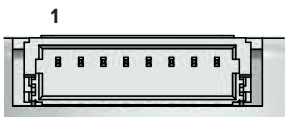
Bore diameter	ø 4 mm
Enclosure rating	IP 10 (IEC 60529)
Rotation speed	12000 rpm max
Shock	200 G, 6 ms (IEC 60068-2-27)
Vibration	30 G, 10 ... 2000 Hz (IEC 60068-2-6)
Sensor support material	plastic
Hub material	aluminum
Housing material	chrome plated steel
Operating temperature[2,3]	-40° ... +115°C (-40° ... +239°F)
Storage temperature[3]	-40° ... +115°C (-40° ... +239°F)
Weight	< 100 g (3,53 oz)

[1] as measured at the transducer without cable influences
[2] measured on the transducer flange
[3] condensation not allowed

CONNECTIONS

Pin	BiSS-C	SPI	SSI
1	+ V DC	+ V DC	+ V DC
2	0 V	0 V	0 V
3	MA+	CLOCK	CLOCK +
4	MA-	MOSI	CLOCK -
5	SLO+	MISO	DATA +
6	SLO-	NCS	DATA -
7	NC	NC	SEL 1*
8	NC	NC	SEL 2*

* SEL1 and SEL2 pins are required during calibration by switching to SPI communication mode
SSI option is configured via the shared SPI pins



PRELIMINARY