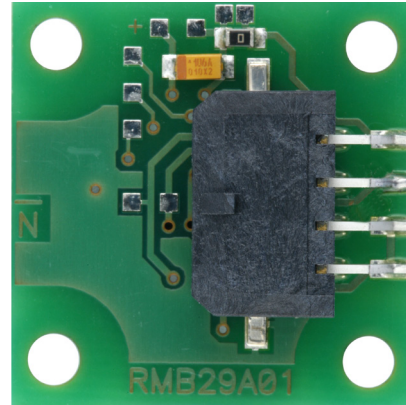
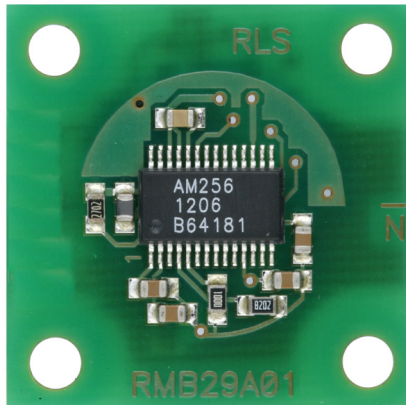


RMB29AC01SS1 – Analogue sine/cosine encoder



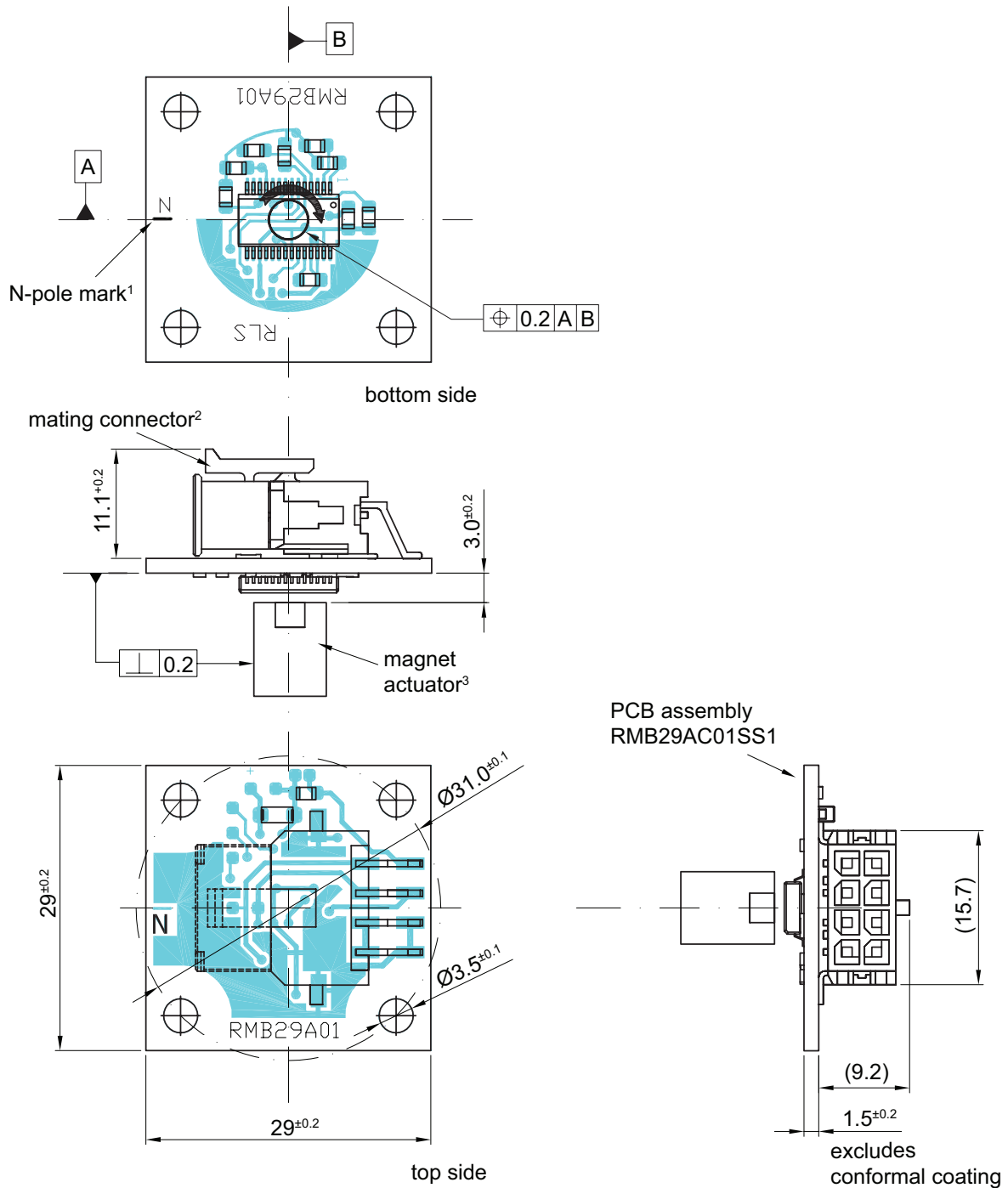
The RMB29 encoder module is designed for direct integration to high volume OEM applications. The low cost 29 mm square PCB is provided with a connector for easy installation.

The encoder module consists of a magnetic actuator and a separate sensor board. Rotation of the magnetic actuator is sensed by a custom encoder chip mounted on the sensor board, and processed to give one sine/cosine wave per revolution.

The RMB29 can be used in a wide range of applications including motor control and industrial automation.

- 29 mm square module
- Low cost for OEM integration
- 5 V power supply version
- High speed operation to 60,000 rpm
- Analogue sine/cosine output
- Accuracy to $\pm 0.5^\circ$
- RoHS compliant (lead free)
- Conformal coated

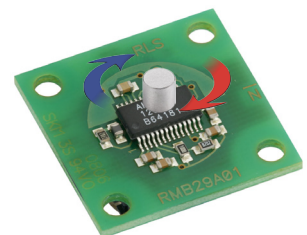
RMB29 installation drawing



¹ When N-pole marks of the magnet actuator and the PCB are aligned
sine output = mid level and cosine output = max. level.

² Not supplied. See page 3 for details.

³ See page 4 for options.



Clockwise (CW) rotation of magnet

RMB29AC – Analogue sinusoidal

Power supply	$V_{dd} = 5\text{ V} \pm 5\%$
Resolution	one sine/cosine wave per revolution
Power consumption	13 mA
Sin/Cos outputs	Signal amplitude: $1.1\text{ V} \pm 0.2\text{ V}$
Operating temperature	-40 °C to +105 °C (limited by connector) All other components used are specified for operation from -40 °C to +125 °C.
Maximum speed	60,000 rpm
Accuracy*	$\pm 0.7^\circ$
Hysteresis	0.45°

* Worst case within operational parameters including magnet position and temperature.

Conformal coating type - Polyurethane

Connections

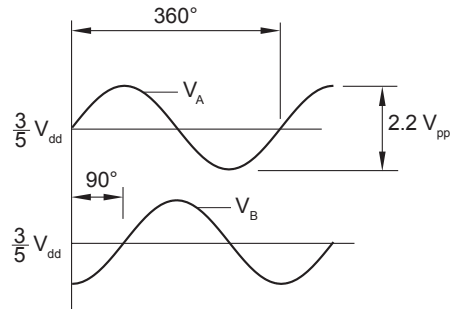
Connector on board: MOLEX 43045-0810

Mating connector:

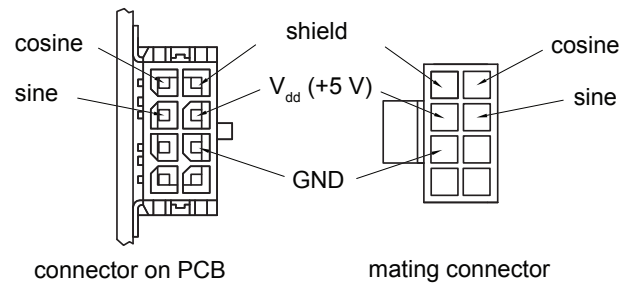
Shell: MOLEX 43025-0800

8 pin crimp: MOLEX 43030-0010

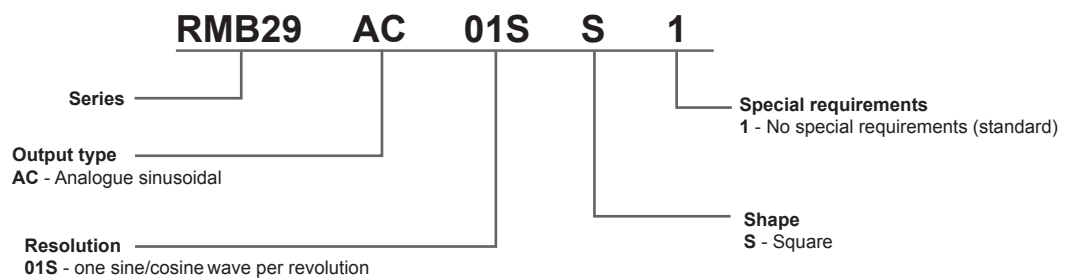
Timing diagram



V_B leads V_A for clockwise rotation of magnet.



RMB29 ordering code

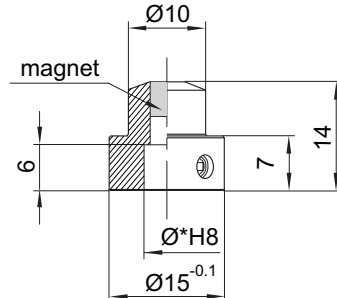


Magnetic actuator and magnet ordering information

Actuator for integration onto shaft



Shaft = $\varnothing \times h7$
Fixing: Grub screw provided



Part numbers:

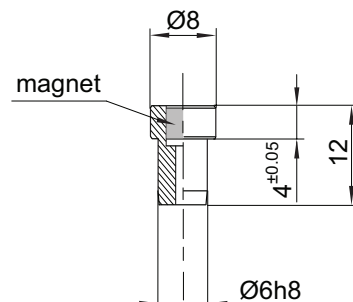
For resolutions up to 9 bit absolute (512 cpr incremental)

RMA04A2A00 – Ø4 mm shaft	RMA10A2A00 – Ø10 mm shaft
RMA05A2A00 – Ø5 mm shaft	RMA19A2A00 – Ø3/16" shaft
RMA06A2A00 – Ø6 mm shaft	RMA25A2A00 – Ø1/4" shaft
RMA08A2A00 – Ø8 mm shaft	RMA37A2A00 – Ø3/8" shaft

For resolutions from 10 bit absolute (800 cpr incremental) and above

RMA04A3A00 – Ø4 mm shaft	RMA10A3A00 – Ø10 mm shaft
RMA05A3A00 – Ø5 mm shaft	RMA19A3A00 – Ø3/16" shaft
RMA06A3A00 – Ø6 mm shaft	RMA25A3A00 – Ø1/4" shaft
RMA08A3A00 – Ø8 mm shaft	RMA37A3A00 – Ø3/8" shaft

Actuator for integration into shaft



Part numbers:

For resolutions up to 9 bit absolute (512 cpr incremental)

RMH06A2A00

For resolutions from 10 bit absolute (800 cpr incremental) and above

RMH06A3A00

With N-pole marker scribed to a $\pm 5^\circ$ accuracy:

For resolutions up to 9 bit absolute (512 cpr incremental)

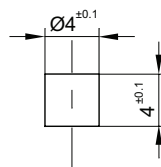
RMH06A2A02

For resolutions from 10 bit absolute (800 cpr incremental) and above

RMH06A3A02

Hole = $\varnothing 6G7$
Fixing: Glue (recommended – LOCTITE 648)

Magnet for direct recessing in non-ferrous shafts



Fixing: Glue (recommended – LOCTITE 648)

Part numbers:

For resolutions up to 9 bit absolute (512 cpr incremental)

RMM44A2A00 (individually packed) – for sample quantities only
RMM44A2C00 (packed in tubes)

For resolutions from 10 bit absolute (800 cpr incremental) and above

RMM44A3A00 (individually packed) – for sample quantities only
RMM44A3C00 (packed in tubes)

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Document issues

Issue	Date	Page	Amendments done
1	8. 12. 2009	-	New document
2	31.3.2014	3	New operating temperature

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