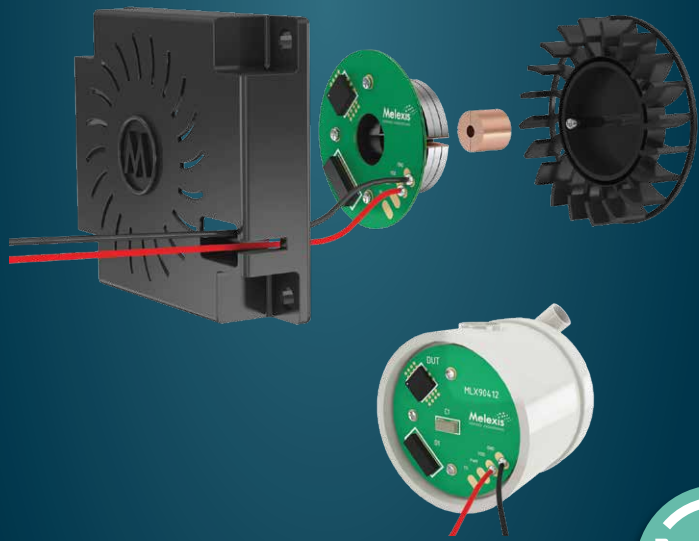


Single-coil Cooling & Pumping for smart appliances

Integrated Hall series
MLX90411-consumer &
MLX90412-consumer

These code-free drivers deliver the whisper-quiet acoustic performance and efficiency of 3-phase solutions at a fraction of the board space and overall BOM.



Key features

- ✓ **All-in-One integration:** On-chip Hall sensor, controller and driver eliminating external components and shrink PCB size
- ✓ **Acoustic noise reduction:** Adaptive commutation ensuring efficiency and ultra-low acoustic noise across the full speed range
- ✓ **Fully configurable (code-free):** Integrated I2C programmable memory allowing customization of start-up profiles, speed curves, and more
- ✓ **Precise control:** Supports both open-loop and closed-loop speed control ($\pm 1.5\%$ accuracy) via standard PWM input
- ✓ **Diagnostics & protection:** Built-in safeguards including Locked Rotor Protection (LRP), Thermal Shutdown (TSD), Over-Voltage Protection (OVP), Over-Current Protection (OCP), and more
- ✓ **Ready for global markets:** JDEC qualified and UL/VDE/CE ready

Highlights

	MLX90411-consumer (compact)	MLX90412-consumer (power)
Power	< 15 W	< 35 W (45 W for Li-on)
Motor current	< 1.0 A	< 2.2 A
Supply	5/12/24/32V	5/12/24/32V
Package size	DFN6 (2.5 x 2 mm ²) SOT6 (2.9 x 3.8 mm ²)	DFN10 (3 x 3 mm ²)
Best suited for	Thin-fans, refrigerator, gaming/VGA cooling...	Drain pumps, heavy duty blower, robot vacuums, AI GPU cooling, oven fan...

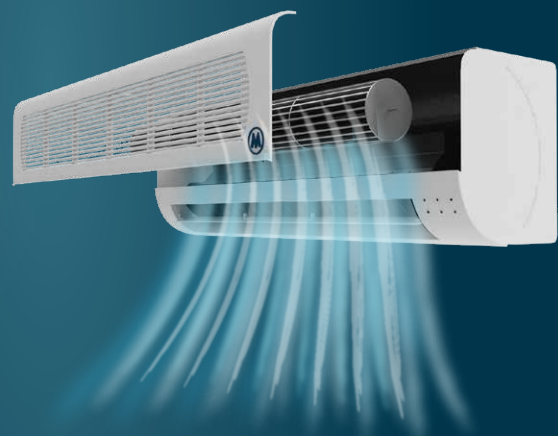
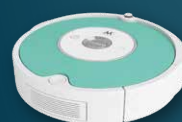


Applications

- Smart Home & White Goods
- Consumer Robotics
- IT & Entertainment
- Digital Health

<Code Free>

v1/07-2026
The datasheets prevail



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[melexis.com/MLX90412-consumer](https://www.melexis.com/MLX90412-consumer)

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