



**E**lectrical & Electronic

## Slotless, brushless dc motor with integral encoder

ThinGap's new TG1500 slotless, brushless dc motor with integral encoder features novel stator winding technology that eliminates the problems of eddy current and hysteresis losses to achieve 89% peak system power efficiency. An integral optical encoder provides 4.096 lines per revolution with an eight-times interpolation feature that yields 32,768 counts per revolution (15-bit). The thin walled stator coil is able to run within a very narrow air gap, which, combined with the use of high-energy neodymium-iron-boron magnets, results in a high power density motor, measuring just 60.3mm overall diameter by 56.9mm long (not including the encoder, which adds a 72.4mm by 57.2mm rectangular footprint plus additional 13.2mm axial length).

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