

CANopen motors in automated guided vehicles

Serving as the heart of locomotion for mobile robots are integrated motors, used for steering and powering the main drive motors. These motors feature CANopen.

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An integrated servo motor eliminates the need for an external motor controller as well as motor power and feedback cables, freeing space in the robot to accommodate other material handling mechanisms, sensors or operator-interface devices (Source: Applied Motion Products)

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In smart factories, mobile robots are freeing humans from performing logistic and other tasks such as moving materials from one warehouse to another. Autonomous mobile robots (AMR) and automated guided vehicles (AGV) are the two main classifications of mobile robots on the market. Serving as the heart of locomotion for these robots are integrated motors used for steering and powering the main drive motors. While brushed DC and AC induction motors are frequently incorporated into robots due to cost, brushless servo motors offer greater torque density, efficiency, speed regulation, life, and smoothness in motion. A variation of a brushless servo motor, the integrated servo motor offers additional benefits. Combining a servo motor and controller into one package, the integrated servo motor saves on space, wiring, and costs over conventional systems with separate motor and drive components (Figure 1). Using integrated motors, robot designers can focus less on control placement and wiring and more on non-motor system components for faster design iterations. By reducing the number of components in the system, integrated motors simplify the bill of materials, enable faster design cycles, and save money.

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