



Matthews AMR

Autonomous Mobile Robot

Autonomous Mobile Robots (AMRs) enhance existing operations without disruption or facility reconfiguration, significantly improving throughput efficiency and reducing errors.

The AMR navigates using natural feature navigation, also known as contour or landmark navigation, allowing easy deployment and configuration for your specific applications.

Matthews' AMRs are ready for application-specific attachments. For robot-assisted order picking, a picking attachment—with light modules mounted on the attachment's shelving—holds multiple totes or cartons. A motor-driven roller (MDR) conveyor attachment allows for cartons or totes to be transferred smoothly by powered rollers onto conveyors, sorters and more.

Integrating your material handling systems with Matthews' AMRs delivers end-to-end optimization of your order fulfillment process.

Benefits

- Reduce pick/put errors
- Reduce operator walking or driving time
- Adapt to fluctuating demand and seasonal peaks
- No need to reconfigure your working environment
- Integration with other material handling automation
- Synchronized interaction between AMRs, pick/put systems, and operators
- Labor savings, easy integration, low cost, high efficiency, ergonomics, flexibility, multi-tasking, and speed



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Autonomous Mobile Robot Specifications

Dimensions Base Unit	
Length x Width x Height	38.5" x 27.3" x 11.0" (978mm x 693mm x 280mm)
Ground Clearance	Body: 1.4" (36mm)
Wheel Diameter	7.9" (201mm)
Weight (Without Modules)	160 lb. (73kg)
Drive Type	Differential
Performance	
Payload Capacity	154 lb. (70kg)
Max. Speed (Forward and Reverse)	Up to 6 ft./s (1.8m/s)
Max. Acceleration Rate	1.64 ft./s/s (0.5m/s/s)
Positional Accuracy	±0.8" (±20mm) Travel; ±0.4" (±10mm) Docking
Traversable Step and Gap	Floor imperfections up to 0.6" (15mm) can be navigated, but operations should eliminate bumps and gaps from operational routes
Operating Temperature Range	41° F to 122° F (5° C to 50° C)
Power	
Battery	Prismatic Lithium Iron Phosphate (LFP) 25.6V, 20AH
Run Time	6 – 8 hrs. (Dependent on load, speed and utilization)
Charging Method	On-board integrated charging system; AMR automatically docks to power station; manual connection power supply available
Recharge Time	Approximately 3 hrs.
Power Station Requirements	Universal 100 to 250V AC 50/60Hz for compatibility with a variety of standard industrial power systems; less than 3.5A typical, fused at 5A
Power Station Supply Connection	IEC C14 inlet; NEMA 5-15 plug to IEC C14 cord included for standard 120V outlets
Extensibility	
Mechanical Mounting for Top Modules	Four sets of M8 and four sets of M6 threaded mounting holes available on top of AMR
Communication	Ethernet port available for wireless communication with top modules
Power	Fused 20-29V battery power connection available for top modules
Communications	
Wi-Fi Access Point	5 GHz 802.11ac (with 802.11n 2.4/5 GHz support)
Navigation	
Navigation Method	Natural Feature Navigation using safety laser scanner input
Scanner Field of View	30m scan distance with 200 degree field of view front and rear
Safety	
Emergency Stop	Integrated safety features, LiDAR safety scanners, emergency stop buttons
Safety Scanners	Two Category 3 PL d rated safety laser scanners
Operational Indicators	High visibility LED indicators front and rear for AMR status and start/stop warnings
Certification	
Designed in Compliance with	CE, ANSI/RIA R15.06-2012 and ANSI/ITSDF B56.5-2012

Specifications are subject to change based on user applications; contact Matthews for detailed product information.

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