

## **Unmatched Productivity**

OTTO 1500 delivers a classleading 1900kg of material at top speeds of 2m/s with an agility unlike any other AMR. Every detail of OTTO 1500 has been crafted to maximize productivity.

## **Proven Reliability**

The new OTTO 1500 builds upon over 3,500,000 hours of driving experience and more than 5 years of refinement on its powertrain and chassis. OTTO 1500 is the AMR of choice for mission-critical work.

## **Comprehensive Service**

Comprehensive 24/7 fleet service plans ensure your AMRs are always operating at peak performance. Managed service plans are also available for improved planning and predictability.





## OTTO 1500 v2

The new OTTO 1500 is a workhorse AMR that moves heavy payloads through demanding environments faster than any AMR on the market, with zero compromise to safety. OTTO 1500 is durable like a forklift, and is designed to move pallet-scale loads up to 1900 kg.

Max. Payload	1900 kg (4190 lbs)	Max. Turning Speed	<b>1.5 rad/sec</b> (90°/sec)
Max. Speed	<b>2.0 m/s</b> (4.5 mph)	Max. Docking Speed	0.3 m/sec (0.7 mph)
Docking Accuracy Standard  Docking Accuracy Precision Upgrade[1]	$\pm$ 10mm (x,y), $\pm$ 1° $\varphi$ (yaw) Repeatable to 3 $\sigma$ $\pm$ 5mm (x,y), $\pm$ 1° $\varphi$ (yaw) Repeatable to 3 $\sigma$	Min. Aisle Width (One Way)	1915 mm (78 in)
		Min. Aisle Width (Two Way)	<b>3570 mm</b> (146 in)
CHASSIS			
Dimensions	1837 x 1283 x 351 mm (72.3 x 50.5 x 13.85 in)	Suspension	Passive, Rocker
Mass	<b>627kg</b> (1382 lbs)	Ground Clearance	16 mm (5/8 in)
Turning Radius	Turn in place	Traversable Gap	<b>16 mm</b> (5/8 in)
ENERGY SYSTEM			
Battery Capacity	80 Ah	Battery Voltage	52.8 V
<b>Runtime</b> (10% to 90%)	10 hr	Battery Life	3,000 full charge cycles
Max. Charge Rate	80 A	Battery Charging Options	Autonomous Opportunity Charging (Default Manual Charging
SAFETY SYSTEM			
	Redundant monitoring with safety-system interlock	Standards Compliance	ISO EN 12100, ISO EN 13849-1, ISO 3691-1 (supercedes EN 1525), EN 60204-1, CE, FCC
SAFETY SYSTEM Intelligent Braking Adaptive Fieldsets		Standards Compliance  Manual Control	ISO 3691-1 (supercedes EN 1525), EN 60204-1, CE, FCC Pendant-based manual control.
Intelligent Braking Adaptive Fieldsets	safety-system interlock  Intelligent PL-d rated switching fieldsets		ISO 3691-1 (supercedes EN 1525), EN 60204-1, CE, FCC
Intelligent Braking	safety-system interlock  Intelligent PL-d rated switching fieldsets (patent-pending)  4 E-Stops (1 per side)		ISO 3691-1 (supercedes EN 1525), EN 60204-1, CE, FCC  Pendant-based manual control. Guided autonomous control available
Intelligent Braking  Adaptive Fieldsets  E-Stop  AUTOMATION INTERFACE	safety-system interlock  Intelligent PL-d rated switching fieldsets (patent-pending)  4 E-Stops (1 per side)	Manual Control	ISO 3691-1 (supercedes EN 1525), EN 60204-1, CE, FCC  Pendant-based manual control. Guided autonomous control available
Adaptive Fieldsets  E-Stop  AUTOMATION INTERFACE  Power Interface	safety-system interlock  Intelligent PL-d rated switching fieldsets (patent-pending)  4 E-Stops (1 per side) + user E-Stop circuit interface	Manual Control  CONTROL SYSTEM	ISO 3691-1 (supercedes EN 1525), EN 60204-1, CE, FCC  Pendant-based manual control. Guided autonomous control available via OTTO software interface.  4x Intel RealSense Cameras 2x SICK Microscan3 (360° FOV)
Intelligent Braking Adaptive Fieldsets E-Stop	safety-system interlock  Intelligent PL-d rated switching fieldsets (patent-pending)  4 E-Stops (1 per side) + user E-Stop circuit interface  24 VDC, 10A, regulated, unswitched 52.8 VDC nominal, 50A, unregulated  1x Ethernet, 1x USB 3.1, 1x HDMI 1 CAN Bus, 5 GPIO (2 safety rated)	Manual Control  CONTROL SYSTEM  Sensors	ISO 3691-1 (supercedes EN 1525), EN 60204-1, CE, FCC  Pendant-based manual control. Guided autonomous control available via OTTO software interface.  4x Intel RealSense Cameras 2x SICK Microscan3 (360° FOV) Embedded 6-axis IMU  Solid-state Military Spec Computer
Adaptive Fieldsets  E-Stop  AUTOMATION INTERFACE  Power Interface  Signal Interface	safety-system interlock  Intelligent PL-d rated switching fieldsets (patent-pending)  4 E-Stops (1 per side) + user E-Stop circuit interface  24 VDC, 10A, regulated, unswitched 52.8 VDC nominal, 50A, unregulated  1x Ethernet, 1x USB 3.1, 1x HDMI 1 CAN Bus, 5 GPIO (2 safety rated) 1 interface control line  Dual-channel E-Stop breakout, 2 safety-rated GPIO,	Manual Control  CONTROL SYSTEM  Sensors  Computer	ISO 3691-1 (supercedes EN 1525), EN 60204-1, CE, FCC  Pendant-based manual control. Guided autonomous control available via OTTO software interface.  4x Intel RealSense Cameras 2x SICK Microscan3 (360° FOV) Embedded 6-axis IMU  Solid-state Military Spec Computer with dedicated GPU  802.11 a/b/g/n/ac/ax, 2.4 Ghz & 5 Ghz
Adaptive Fieldsets  E-Stop  AUTOMATION INTERFACE  Power Interface  Signal Interface  Safety Interface  ACCESSORIES (Sold Separately)	safety-system interlock  Intelligent PL-d rated switching fieldsets (patent-pending)  4 E-Stops (1 per side) + user E-Stop circuit interface  24 VDC, 10A, regulated, unswitched 52.8 VDC nominal, 50A, unregulated  1x Ethernet, 1x USB 3.1, 1x HDMI 1 CAN Bus, 5 GPIO (2 safety rated) 1 interface control line  Dual-channel E-Stop breakout, 2 safety-rated GPIO, 1 interface fault line	CONTROL SYSTEM Sensors Computer Communication	ISO 3691-1 (supercedes EN 1525), EN 60204-1, CE, FCC  Pendant-based manual control. Guided autonomous control available via OTTO software interface.  4x Intel RealSense Cameras 2x SICK Microscan3 (360° FOV) Embedded 6-axis IMU  Solid-state Military Spec Computer with dedicated GPU  802.11 a/b/g/n/ac/ax, 2.4 Ghz & 5 Ghz
Adaptive Fieldsets  E-Stop  AUTOMATION INTERFACE  Power Interface  Signal Interface  Safety Interface	safety-system interlock  Intelligent PL-d rated switching fieldsets (patent-pending)  4 E-Stops (1 per side) + user E-Stop circuit interface  24 VDC, 10A, regulated, unswitched 52.8 VDC nominal, 50A, unregulated  1x Ethernet, 1x USB 3.1, 1x HDMI 1 CAN Bus, 5 GPIO (2 safety rated) 1 interface control line  Dual-channel E-Stop breakout, 2 safety-rated GPIO, 1 interface fault line	Manual Control  CONTROL SYSTEM Sensors  Computer  Communication	ISO 3691-1 (supercedes EN 1525), EN 60204-1, CE, FCC  Pendant-based manual control. Guided autonomous control available via OTTO software interface.  4x Intel RealSense Cameras 2x SICK Microscan3 (360° FOV) Embedded 6-axis IMU  Solid-state Military Spec Computer with dedicated GPU  802.11 a/b/g/n/ac/ax, 2.4 Ghz & 5 Ghz 2x Long-range Omnidirectional Antennae

[1] Requires OTTO High Accuracy Docking System (HADS) upgrade, sold separately

For more information visit **www.ottomotors.com** or call us toll-free at **1-844-733-6886**