# SLAM Based Autonomous Mobile Robot

## GT 250

Conveyor
Towing
Cobot
Shelf
Lifting

A 250kg Payload Industrial Robot For Material Management, Adaptable To Any Application Layer, Features Robust Construction And Modular Design. It Accommodates Heavy Loads Using Powerful Motors And Actuators (If Lifting Operation Is Required). The Robot Supports Various End Effectors, Facilitating Diverse Tasks. Equipped With A Sophisticated Control System. It Can Be Used For Seamless Integration With External Devices And Systems If Needed. Safety Measures Include Obstacle Avoidance And Emergency Stop Functionalities. Connectivity With Wi-Fi Enable Seamless Communication With Manufacturing Environments. Designed For Scalability And Flexibility, It Effortlessly Integrates Into Evolving Industrial Setups, Enhancing Efficiency And Adaptability Across Sectors.

**SLAM Capability**
Dynamic Path Planning

**Precise Localization**
±5 Cm

**Robust Construction**
Designed For Industry Use

**Obstacle Avoidance**
15 Cm

**No Need Of New Alteration During Deployment**

**Carrying Capacity Options**
100/250/400 Kg

**Manufacturing:** Streamlines material handling tasks on assembly lines, aiding in loading and unloading heavy components.

**Automotive:** Assists in vehicle assembly processes, handling large components and sub-assemblies.

**Warehousing:** Optimizes inventory management by efficiently moving and organizing pallets and containers.

**E-commerce:** Improves order fulfillment processes in e-commerce warehouses by automating picking, packing, and shipping tasks.

**Aerospace:** Supports manufacturing processes by transporting aircraft parts & materials within production facilities.

**Logistics:** Enhances distribution processes by automating order picking, packing, and sorting operations.

**Pharmaceuticals:** Enhances efficiency in pharmaceutical manufacturing by automating material handling and product packaging.

**Food and Beverage:** Facilitates packaging, palletizing, and sorting tasks in food processing plants and beverage distribution centers.

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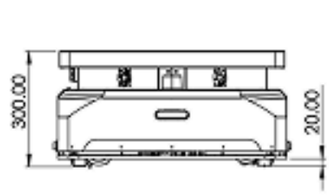
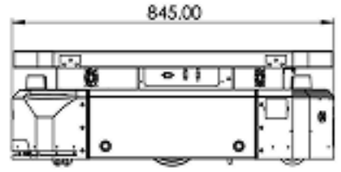
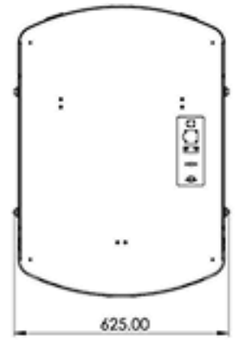
# TECHNICAL SPECIFICATION GT 250

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|---|---|
| **ROBOT DIMENSION & WEIGHT** | |
| LENGTH X BREADTH X HEIGHT (L X B X H) | 845 * 625 * 300 (mm) |
| SELF WEIGHT | 80 kg / 120 kg / 140kg |
| GROUND CLEARANCE | 20 mm |
| TURNING RADIUS | Zero degree In-place rotation |
| SUSPENSION | Passive traction rocker |
| **PERFORMANCE & BATTERY** | |
| MAX. PAYLOAD | 100 Kg / 250 Kg / 400KG |
| MAX SPEED | 1.2 / 1 meter per second |
| MAX TURNING SPEED | 45 Degree per second |
| POSITIONING ACCURACY | *+/-5 cm |
| MIN AISLE WIDTH | 950 mm |
| **POWER SUPPLY** | |
| BATTERY TYPE / CAPACITY | LiFePO4 / 48Volt DC /35 Ah\| 40Ah \| 40 Ah |
| RUNNING TIME | 8 HRS |
| CHARGING TIME & TYPE | 4 Hrs / Manual or Autonomous |
| **CONTROL SYSTEM AND SENSOR** | |
| PROCESSOR | Intel chipset |
| OPERATING SYSTEM | UBUNTU |
| CONTROL MODES | Autonomous / manual / Guided |
| COMMUNICATION | WIFI - 802.11 a/b/g/n/ac, 2.4 Ghz & 5 Ghz with antenna and Bluetooth |
| SENSORS | 1X Lidar, 1X IMU, 2X Encoder, 1 X depth camera, optional ultrasonic sensors, optional bumper sensor |
| STANDARD LEAD OUTS | USB, External Emergency Port, ON/Off and Reset switch |
| **ACCESSORIES** | |
| MANUAL CHARGER | Default |
| AUTONOMOUS CHARGER DOCKER | Optional |
| LIFTING/ CONVEYOR/TOWING/ SHELF STRUCTURE SYSTEMS | Optional |
| **NAVIGATION** | |
| AUTONOMOUS MODE | SLAM + Visual |
| OBSTACLE AVOIDANCE | Pause play mode / Avoidance mode |
| PATH PLA NNING | Defined path or natural navigation |
| **SAFETY** | |
| OBSTACLE AVOIDANCE | Laser scanner / Depth camera / ultrasonic sensor |
| EMERGENCY SAFETY | Bumper sensor / Emergency stop button |
| **ENVIRONMENT** | |
| OPERATING TEMPERATURE | 5 to 40 Deg celcius |
| HUMIDITY | 95% Non Condensing |
| AMBIENT TEMPERATURE | Near level (3%) |
| IP RATING | IP 21 |