

# NAVIFLOOR AMR-350 TECHNICAL SPECIFICATIONS

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### 1. INTRODUCTION

This technical specification document ("Specification") details the operational parameters, technical capabilities, and compliance requirements for the NaviFloor AMR-350 autonomous mobile robot system ("AMR-350"). The

proprietary and confidential to NaviFloor Robotics, Inc. ("NaviFloor").

## 2. SYSTEM OVERVIEW

### 2.1 Base Configuration

-

Model: AMR-350

-

Platform Type: Omnidirectional autonomous mobile robot

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Dimensions: 1200mm (L) x 800mm (W) x 450mm (H)

-

Unladen Weight: 185 kg

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Maximum Payload: 350 kg

## **2.2 Drive System**

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Motor Type: Brushless DC servo motors (4x)

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Drive Configuration: Mecanum wheel system

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Maximum Speed: 2.0 m/s (loaded), 2.5 m/s (unloaded)

-

Minimum Turning Radius: 0 (on-spot rotation)

-

Grade Capability: Up to 5% incline (fully loaded)

## **3. NAVIGATION & SENSING**

### **3.1 Primary Navigation System**

-

TerrainMap(TM) Processing Unit v4.2

-

360 LiDAR scanner (40m range)

-

Depth-sensing cameras (4x)

-

Ultrasonic sensors (8x)

-

Precision: 15mm positioning accuracy

### **3.2 Environmental Mapping**

-

Real-time 3D terrain mapping

- - 4 -

Dynamic obstacle detection

-

Surface material classification

-

Multi-floor mapping capability

-

Maximum mapped area: 50,000 m

## **4. POWER SPECIFICATIONS**

### **4.1 Battery System**

-

Type: Lithium Iron Phosphate (LiFePO<sub>4</sub>)

-

Capacity: 48V, 100Ah

-

Runtime: 12 hours (typical operation)

-

Charging Time: 4 hours (0% to 100%)

-

Charging Method: Automatic docking or manual plug-in

## **4.2 Power Management**

-

Smart power distribution system

-

Low-power standby mode

-

Emergency backup power system

- - 6 -

Battery health monitoring

-

Thermal management system

## **5. SAFETY FEATURES**

### **5.1 Emergency Systems**

-

Emergency stop buttons (4x)

-

Collision avoidance system

-

Load stability monitoring

-

Automatic brake engagement

-

Audio-visual warning indicators

## **5.2 Compliance**

-

CE Certified

-

ISO 3691-4:2020 Compliant

-

EN 1525 Safety Standard

-

ANSI/ITSDF B56.5-2019

-

EMC Directive 2014/30/EU



## **6. CONNECTIVITY**

### **6.1 Communication Systems**

- 

Wi-Fi 6 (IEEE 802.11ax)

- 

Bluetooth 5.2

- 

Ethernet port (10/100/1000 Base-T)

- 

4G LTE backup connectivity

- 

Fleet management protocol: NaviFleet v3.5

## **6.2 Integration Capabilities**

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REST API support

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MQTT protocol

- 

OPC UA compatibility

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Custom protocol integration capability

- 

WebSocket support

## **7. ENVIRONMENTAL SPECIFICATIONS**

## **7.1 Operating Conditions**

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Temperature: 0 C to 45 C

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Humidity: 5% to 95% (non-condensing)

-

IP54 protection rating

-

Maximum operating altitude: 2000m

-

Indoor use only

## **7.2 Floor Requirements**

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Minimum floor loading capacity: 500 kg/m

- - 11 -

Surface types: Concrete, epoxy, vinyl, steel plate

-

Maximum gap crossing: 30mm

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Maximum step height: 20mm

## **8. WARRANTY AND SUPPORT**

### **8.1 Standard Warranty**

-

24-month limited warranty

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Parts and labor coverage

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Software updates included

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Technical support access

-

Annual maintenance requirement

## **9. LEGAL NOTICES**

### **9.1 Proprietary Information**

This document contains confidential and proprietary information of NaviFloor Robotics, Inc. Any unauthorized reproduction, disclosure, or use is strictly prohibited.

### **9.2 Disclaimer**

Specifications subject to change without notice. NaviFloor makes no warranty.

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## 10. DOCUMENT CONTROL

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