ADAPTIVE SPEED CONTROL BASED ON SURFACE CONDITIONS

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Technical Documentation and Implementation Guidelines

NaviFloor Robotics, Inc.

Document No.: IP-ASC-2023-014

Effective Date: January 11, 2024

1. OVERVIEW AND SCOPE

1. This document describes the proprietary adaptive speed control sys

2. The ASC System comprises both hardware and software compone

2. DEFINITIONS

1. "Surface Condition Parameters" means the measurable characteris

(a) Coefficient of friction

(b) Surface texture

(c) Material composition

(d) Moisture content

(e) Temperature variations

(f) Structural integrity indicators

2. "Speed Control Algorithm" means the proprietary software that pro

3. "Sensor Array" means the collection of Company-designed sensors

3. TECHNICAL SPECIFICATIONS

1. Sensor Configuration

1.1. Primary surface analysis sensors utilizing advanced LiDAR techn

1.2. Secondary infrared texture mapping sensors

1.3. Tertiary pressure-sensitive contact sensors

1.4. Quaternary moisture detection sensors

2. Data Processing Parameters

2.1. Minimum sampling rate: 1000 Hz

2.2. Maximum latency: 5 milliseconds

2.3. Resolution: 0.1mm surface variation detection

4. IMPLEMENTATION REQUIREMENTS

1. Hardware Integration

1.1. Sensor Array must be mounted at specified locations per Drawing

1.2. Power supply requirements: 24V DC 0.5V

1.3. Operating temperature range: -10 C to 50 C

2. Software Implementation

2.1. Speed Control Algorithm must interface with Company's NaviCore

2.2. Real-time data processing must comply with Safety Protocol SP-2

2.3. Emergency override capabilities must remain functional at all time

5. PROPRIETARY RIGHTS

1. The ASC System, including all components, specifications, and imp

2. All modifications, improvements, and derivative works based on the

6. CONFIDENTIALITY

1. This document contains confidential and proprietary information of

2. Recipients of this document shall:

(a) Maintain strict confidentiality

(b) Limit access to authorized personnel only

(c) Not reverse engineer any described systems

(d) Return or destroy copies upon request

7. COMPLIANCE AND SAFETY

1. Implementation must comply with:

1.1. ANSI/RIA R15.06-2012 Safety Requirements

1.2. ISO/TS 15066:2016 Technical Specifications

1.3. Company Safety Standard CSS-2023-007

2. Regular calibration and maintenance procedures must be performe

8. VERSION CONTROL

1. This document supersedes all previous versions related to adaptive

2. Revision History:

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Rev. 3.0: January 11, 2024 (Current)

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Rev. 2.1: August 15, 2023

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Rev. 2.0: March 30, 2023

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Rev. 1.0: January 10, 2023

9. AUTHORIZATION

APPROVED AND ADOPTED by NaviFloor Robotics, Inc.

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