NAVIGATION PARAMETER CONFIGURATION MANUAL

NAVIGATION PARAMETER CONFIGURATIO

NaviFloor Robotics, Inc.

Document Version: 3.2.1

Effective Date: January 15, 2024

Document Control Number: NPM-2024-015

1. INTRODUCTION AND SCOPE

1. This Navigation Parameter Configuration Manual ("Manual") contai

2. This Manual applies to all Series X-2000 and X-3000 AMR units op

2. DEFINITIONS

1. "Navigation Parameters" means the configurable variables that con

a) Velocity vectors

b) Acceleration profiles

c) Path planning algorithms

d) Surface friction coefficients

e) LiDAR sensitivity thresholds

2. "Operating Environment" refers to any industrial facility where Com

3. PARAMETER CONFIGURATION PROTOCOLS

1. Base Configuration Requirements

1.1. All navigation parameters must be configured through the NaviFl

1.2. Parameter modifications require Level 2 system access authoriza

1.3. Changes must be logged in the system audit trail with timestamp

2. Environmental Calibration

2.1. Surface Mapping Protocol

a) Initial terrain scanning must achieve minimum 98.5% coverage

b) Surface texture analysis must be performed at 0.5cm resolution

c) Gradient mapping must identify all slopes exceeding 2.0 degrees

3. Safety Parameters

3.1. Maximum velocity shall not exceed 2.0 meters per second in any

3.2. Minimum obstacle detection distance must be set to 1.5 meters

3.3. Emergency stop triggers must maintain 50ms response time

4. OPTIMIZATION PROCEDURES

1. Performance Optimization

1.1. Path efficiency algorithms shall be calibrated to:

a) Minimize travel distance by 15% compared to baseline

b) Reduce energy consumption by 20% compared to baseline

c) Maintain 99.9% collision avoidance reliability

2. Load Adaptation

2.1. Dynamic load sensing must be configured for:

a) Maximum payload capacity of 1,500kg

b) Center of gravity variation compensation

c) Real-time weight distribution analysis

5. COMPLIANCE AND VALIDATION

1. All parameter configurations must comply with:

1.1. ANSI/RIA R15.06-2012 safety requirements

1.2. ISO/TS 15066:2016 technical specifications

1.3. Company's internal safety protocols version 2.4

2. Validation Testing

2.1. Configuration changes require minimum 100 hours of simulation t

2.2. Live testing must include 50 operational cycles under maximum lo

2.3. Performance metrics must be documented in the validation repor

6. PROPRIETARY RIGHTS AND CONFIDENTIALITY

1. This Manual and all navigation parameters described herein constit

2. Recipients shall:

2.1. Maintain strict confidentiality

2.2. Limit access to authorized personnel

2.3. Not reverse engineer or decompile parameter configurations

2.4. Return or destroy all copies upon Company's request

7. DISCLAIMER

1. THE COMPANY MAKES NO WARRANTIES, EXPRESS OR IMPL

8. REVISION HISTORY

Version | Date | Description | Approved By

--------|------|-------------|-------------

2.1 | 2024-01-15 | Updated safety parameters | E. Kovacs

2.0 | 2023-11-30 | Added X-3000 series support | M. Depth

1.2 | 2023-09-15 | Revised optimization protocols | R. Torres

AUTHORIZATION

APPROVED BY:

Dr. Elena Kovacs

Chief Research Officer

NaviFloor Robotics, Inc.

Date: January 15, 2024

Marcus Depth

Chief Technology Officer

NaviFloor Robotics, Inc.

Date: January 15, 2024