

NAVIFLOOR CHARGING STATION TECHNICAL SPECIFICATIONS

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Classification: CONFIDENTIAL

1. OVERVIEW

1 This Technical Specification Document ("Specification") sets forth the

2 This Specification is protected under applicable intellectual property

2. SYSTEM ARCHITECTURE

1 Physical Specifications

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Dimensions: 1200mm (L) x 800mm (W) x 950mm (H)

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Weight: 185kg (unloaded)

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Material: Aircraft-grade aluminum frame with reinforced polymer pane

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Color: Industrial Gray (RAL 7035)

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Operating Temperature Range: 0 C to 45 C

2 Electrical Specifications

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Input Voltage: 380-480V AC, 3-phase

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Frequency: 50/60 Hz

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Maximum Power Output: 22kW

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Charging Ports: 4 simultaneous charging positions

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Output Voltage: 48V DC (nominal)

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Maximum Current per Port: 100A

-

Charging Efficiency: 95%

3. CHARGING INTERFACE

1 Contact Design

-

Gold-plated spring-loaded contacts

-

Self-aligning mechanism with 15mm tolerance

-

Wear-resistant coating with 100,000 cycle durability

-

IP67 rated when engaged

2 Communication Protocol

-

Proprietary NaviFloor Charging Protocol (NCP) v4.2

- - 4 -

CAN bus interface at 500 kbps

-

AES-256 encryption for charging authentication

-

Real-time monitoring and diagnostics

4. SAFETY FEATURES

1 Electrical Protection

-

Short circuit protection

-

Overcurrent protection

-

Thermal monitoring and shutdown

-

Ground fault detection

-

Emergency stop functionality

2 Physical Safety

-

Automatic power cutoff upon contact separation

-

LED status indicators

-

Mechanical lockout system

-

Fire-resistant materials (UL 94 V-0 rated)

5. INTEGRATION REQUIREMENTS

1 Facility Requirements

-

Concrete floor with minimum 150mm thickness

-

Level surface with maximum 1° deviation

-

Clear approach path: 2000mm minimum

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Ventilation: 200 CFM minimum airflow

2 Network Requirements

-

Ethernet connection (100 Mbps minimum)

- - 7 -

Static IP address allocation

-

VLAN support

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Firewall ports: 8080, 8443, 9100

6. CERTIFICATION AND COMPLIANCE

1 Safety Standards

-

UL 1741

-

IEC 61851-1

-

EN 60335-1

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NFPA 70

2 EMC Standards

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FCC Part 15 Class A

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EN 61000-6-2

-

EN 61000-6-4

-

CISPR 22

7. MAINTENANCE SPECIFICATIONS

1 Scheduled Maintenance

-

Monthly visual inspection

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Quarterly contact cleaning

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Semi-annual firmware updates

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Annual calibration and safety certification

2 Service Life

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Design life: 10 years

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Mean Time Between Failures (MTBF): 50,000 hours

- - 10 -

Contact replacement interval: 24 months

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Warranty period: 24 months

8. PROPRIETARY NOTICE

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9. REVISION HISTORY

Version	Date	Description	Approved By
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2 | 2024-01-01 | Updated network requirements | E. Kovacs

1 | 2023-09-15 | Added EMC standards | M. Depth

0 | 2023-06-30 | Major revision - NCP v4.2 update | S. Chen

10. APPROVAL

APPROVED AND ISSUED BY:

—

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Date: January 1, 2024

— - 12 -

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