THERMAL SENSOR ARRAY INTEGRATION GUIDE

Polar Dynamics Robotics, Inc.

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Document Classification: CONFIDENTIAL - Proprietary Technical Information

1. INTRODUCTION AND SCOPE

1. This Thermal Sensor Array Integration Guide ("Guide") is a proprietary and confidential document of Polar Dynamics Robotics, Inc. ("Company") that establishes the mandatory technical and legal requirements for integration of the Company's proprietary IceNav(TM) thermal sensor arrays ("Sensor Arrays") into authorized autonomous mobile robot platforms ("Platforms").

2. This Guide is subject to the Company's Master Confidentiality Agreement and incorporates all terms therein by reference.

2. DEFINITIONS

1. "Integration Components" means the complete set of Company-supplied hardware, firmware, and connection interfaces required for Sensor Array implementation.

2. "Operating Parameters" means the specified environmental and performance conditions under which the Sensor Arrays are certified to function.

3. "Technical Documentation" means all specifications, schematics, code libraries, and implementation guides provided by Company.

3. INTELLECTUAL PROPERTY RIGHTS

1. All Sensor Arrays and Integration Components, including but not limited to designs, schematics, firmware, algorithms, and calibration methodologies, are protected by one or more of U.S. Patents 11,287,456; 11,342,891; and 11,456,789, with additional patents pending.

2. No license, right, or interest in Company's intellectual property is granted except as explicitly provided in separate written agreement executed by Company's authorized officers.

4. TECHNICAL REQUIREMENTS

1. Physical Integration

a) Sensor Arrays must be mounted according to Specification Sheet TD-147.3

b) Minimum clearance of 15cm from heat-generating components

c) Orientation within 0.5 of specified mounting angles

d) Use of Company-approved thermal interface materials only

2. Electronic Integration

a) Implementation of isolated power supply meeting Spec ES-982.1

b) Adherence to CAN bus protocol version 2.1 or higher

c) Maintenance of specified sampling rates per Technical Bulletin TB-2023-14

3. Environmental Requirements

a) Operating temperature range: -40 C to +50 C

b) Maximum humidity: 95% non-condensing

c) IP67 enclosure rating maintenance

d) Vibration resistance per MIL-STD-810H

5. CERTIFICATION AND VALIDATION

1. All Platform integrations must undergo Company's certification process, including:

a) Laboratory validation of thermal performance

b) Environmental chamber testing

c) EMI/EMC compliance verification

d) System-level integration testing

2. Certification must be renewed annually or upon any material modification to the Platform.

6. COMPLIANCE AND LIABILITY

1. Integrator assumes all liability for non-compliant implementations or unauthorized modifications.

2. Company reserves the right to invalidate certifications for any Platform found to be non-compliant with this Guide.

3. Integrator shall indemnify Company against any claims arising from improper implementation.

7. SUPPORT AND DOCUMENTATION

1. Technical support is provided exclusively through Company's authorized support channels.

2. All implementation questions must reference the unique Platform Certification Number (PCN).

3. Documentation updates will be provided through Company's secure partner portal.

8. CONFIDENTIALITY

1. This Guide contains trade secrets and confidential information of Company.

2. Recipient shall protect this information with the same degree of care used to protect its own confidential information, but no less than reasonable care.

9. MODIFICATION AND UPDATES

1. Company reserves the right to modify this Guide at any time.

2. Notice of material changes will be provided 30 days prior to implementation.

3. Continued use of Sensor Arrays constitutes acceptance of updated requirements.

ACKNOWLEDGMENT

The undersigned acknowledges receipt and understanding of this Guide and agrees to comply with all requirements herein.

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INTEGRATOR:

**Company: _**

**Name:**

**Title: _**

**Date: _**

**Signature: _**

POLAR DYNAMICS ROBOTICS, INC.

**By:**

**Title:**
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Date:

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