

ELECTRICAL SAFETY COMPLIANCE DECLARATION

IEC 60204-1 Conformity Assessment Document

Polar Dynamics Robotics, Inc.

Document Reference: PDR-ESC-2024-001

Effective Date: January 11, 2024

Version: 3.0

1. DECLARATION OF COMPLIANCE

Polar Dynamics Robotics, Inc., a Delaware corporation with its principal place of business at 4200 Arctic Way, Cambridge, MA 02142 ("Company"), hereby declares that its autonomous mobile robot systems, specifically the IceBot Series (Models IB-2000, IB-3000, and IB-4000) and associated control systems, have been designed, manufactured, and tested in accordance with the requirements set forth in IEC 60204-1:2016 (Safety of machinery - Electrical equipment of machines).

2. SCOPE OF COMPLIANCE

1. This declaration covers the electrical and electronic equipment, control systems, and associated hardware for the following product lines:

- IceBot IB-2000 (Standard Payload Configuration)
- IceBot IB-3000 (Heavy Duty Configuration)
- IceBot IB-4000 (Ultra-Low Temperature Configuration)
- IceNav Control System v4.2
- ThermalGuard Power Distribution Units (Models TG-100 through TG-300)

2. Specifically excluded from this declaration are:

- Customer-supplied auxiliary equipment
- Third-party charging stations not manufactured by the Company
- Legacy systems manufactured prior to January 1, 2023

3. TECHNICAL SPECIFICATIONS

1. Voltage Characteristics:

- Nominal Operating Voltage: 48V DC

- Control Circuit Voltage: 24V DC
- Maximum Current Draw: 40A
- Insulation Class: Class F

2. Environmental Parameters:

- Operating Temperature Range: -40 C to +45 C
- Storage Temperature Range: -50 C to +60 C
- IP Rating: IP65 (main enclosure)
- Altitude Rating: Up to 2000m above sea level

4. COMPLIANCE VERIFICATION

1. The Company confirms compliance with the following essential requirements:

- a) Protection against electrical shock (Section 6 of IEC 60204-1)
- b) Protection of equipment against environmental conditions (Section 4)
- c) Protection against overcurrent and overload (Section 7)
- d) Equipotential bonding (Section 8)
- e) Control circuits and control functions (Section 9)
- f) Operator interface and machine-mounted control devices (Section 10)
- g) Electronic equipment (Section 11)
- h) Emergency operations and safety interlocks (Section 9.2.5.4)

2. Testing and Verification Methods:

- Dielectric strength tests per Section 18.4
- Insulation resistance measurements per Section 18.3
- Functional testing under simulated extreme conditions
- EMC testing according to IEC 61000-6-2 and IEC 61000-6-4

5. DOCUMENTATION AND RECORDS

1. The Company maintains the following documentation:

- Complete technical files for each model
- Test reports from accredited laboratories

- Risk assessment documentation
- Circuit diagrams and component specifications
- Maintenance and inspection procedures

2. All documentation is maintained for a minimum period of 10 years from the date of manufacture of the last unit of each model.

6. ONGOING COMPLIANCE

1. The Company commits to:

- Regular review and updates of safety systems
- Continuous monitoring of applicable standards
- Implementation of necessary modifications
- Maintenance of training programs for service personnel
- Regular audits of manufacturing processes

2. Any modifications to the electrical systems will trigger a review of compliance and may require updated certification.

7. LEGAL NOTICES

1. This declaration is made solely for the purpose of demonstrating compliance with IEC 60204-1 and does not constitute any additional warranty or guarantee.

2. The Company reserves the right to modify products and documentation as required to maintain compliance with evolving standards.

8. CERTIFICATION

The undersigned, being duly authorized to act on behalf of Polar Dynamics Robotics, Inc., hereby certifies that the information contained in this declaration is true and correct to the best of their knowledge.

EXECUTED this 11th day of January, 2024.

POLAR DYNAMICS ROBOTICS, INC.

By: _

Dr. James Barrett

Chief Robotics Officer

WITNESS:

By: _

Katherine Wells

Chief Financial Officer

[CORPORATE SEAL]