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| Note :  1. If any of the below sections are not applicable for the project, mention as “Not applicable” with justification notes.  2. If any information pertaining to the below sections are documented externally, embed the external document in the corresponding section below.  3. If any information pertaining to the below sections are stored in standard tools such as EPM-Gate, Teamcenter etc., mention the file path/link in the corresponding section below. |

# Introduction

## Purpose

|  |
| --- |
| This document should fully describe all functional and nonfunctional requirements, design constraints and other factors necessary to provide a complete and comprehensive description of the requirements for the hardware development |

## Scope

|  |
| --- |
| This document covers all HW aspects relating to the CobaltKE17 user interface design. This system will be used in SXS, FDBM and MD products in NA, LATAM, and APAC |

## Documents Referenced

### Codes (Norms) Agency Standards

|  |  |  |
| --- | --- | --- |
| **Standard** | **Revision and Date** | **Description** |
|  |  |  |

### Electrolux Standards

|  |  |  |
| --- | --- | --- |
| **Standard** | **Revision** | **Description** |
|  |  |  |

### Third Party Standards

|  |  |  |
| --- | --- | --- |
| **Standard** | **Revision and Date** | **Description** |
|  |  |  |

### Other Documents

|  |  |  |
| --- | --- | --- |
| **Standard** | **Revision and Date** | **Description** |
|  |  |  |

# General Description

|  |
| --- |
| System will respond to user interaction via key presses and perform some function based on the key mapping. System includes circuitry for NXP KE17 micro, updated circuitry for H-bridge circuits, H&T sensor |

# Detailed Hardware Requirements

|  |
| --- |
| Note : Refer to Reuse Strategy from RM Plan section of Project management plan for Hardware reuse requirements. |

## Functional Requirements

### **Functional Requirement 1**

|  |
| --- |
| System shall use NXP KE17 microprocessor |

### **Functional Requirement 2**

|  |
| --- |
| System shall contain the required circuitry updates for the H-bridge driver |

### **Functional Requirement 3**

|  |
| --- |
| System shall contain the required circuitry updates for the H&T sensor |

### **Functional Requirement n**

|  |
| --- |
|  |

## Performance Requirements

### **Performance Requirement 1**

|  |
| --- |
| The system must detect key presses within the current threshold time |

### **Performance Requirement 2**

|  |
| --- |
|  |

### **Performance Requirement 3**

|  |
| --- |
|  |

### **Performance Requirement n**

|  |
| --- |
|  |

## Power Requirements

### **Power Requirement 1**

|  |
| --- |
| System shall function properly with the standard 12V DC and 5V DC power supplied to the user interface |

### **Power Requirement 2**

|  |
| --- |
| System shall go to sleep mode (by default) if there is no activity and return to wake mode upon user interaction |

### **Power Requirement 3**

|  |
| --- |
| System shall be capable of driving small DC loads |

### **Power Requirement n**

|  |
| --- |
|  |

## Design Constraints

### **Design Constraint 1**

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| --- |
| Physical dimensions will not change to the PCB board to reuse all plastic interfaces |

### **Design Constraint 2**

|  |
| --- |
|  |

### **Design Constraint 3**

|  |
| --- |
|  |

### **Design Constraint n**

|  |
| --- |
|  |

## Purchased Modules

|  |
| --- |
| * NXP KE17 * Sensirion H&T sensor * All other components should remain the same as previous user interface |

## Interface Requirements

|  |
| --- |
| System shall maintain same connectors and connector families as current to allow wire harness connections |

## Environmental Requirements

|  |
| --- |
| System shall be able to operate inside a users’ household or garage where temperatures can vary from 0-100°F and varying humidity levels. |

## Reliability Requirements

|  |
| --- |
|  |

## Design For Manufacturing / Assembly / Testing / Serviceability (DFx) Requirements

|  |
| --- |
| In development with HW engineer and supplier |

## Regulatory Requirements

|  |
| --- |
|  |

## Safety Requirements

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| - |

# Notes

## Terms, Definitions, Abbreviations and Acronyms

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| --- | --- |
| **Terms** | **Defintions** |
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**Appendix**

**Template Revision History:**

|  |  |  |  |
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| **Authors** | **Date** | **Description** | **Version** |
| B.Gopalakrishnan | 2020-06-18 | Draft Release | Draft v0.1 |
| B.Gopalakrishnan | 2020-07-02 | Updated the format with Electrolux fonts | Draft v0.2 |
| B.Gopalakrishnan | 2021-06-28 | Updated for new GEO name change | Draft v0.3 |
| B.Gopalakrishnan | 2022-04-12 | Initial Baseline | V1.0 |
| P.Kumaravelu  K.Damodaran | 2022-12-5 | Single row text box added to all the sections  Note added  Document ID has been updated from GDxxxxxxxxx/A format to GEO-XXX-XXX-X-XXXXX/A  File name, header, footer modified from E. to E-  Sec 3 note added to refer reuse strategy  Comments updated to expand HRS to Hardware requirements specification | V2.0 |

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