**PO2EBL\_ELECTRIC BLENDER**

**SRS DOCUMENT**

**Version 1.4**

**Proposed**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Document Status** | **Author** |
| 1/24/2020 | 1.1 | Draft | Kariman Mohamed |
| 1/24/2020 | 1.2 | Draft | Kariman Mohamed |
| 2/4/2020 | 1.3 | Proposed | Kariman Mohamed |
| 2/6/2020 | 1.4 | Proposed | Kariman Mohamed |

**Document Status**

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 1/24/2020 | 1.1 | Initial Draft, specifying Introduction, system overview and document outline | Kariman Mohamed |
| 1/24/2020 | 1.2 | Edit description of Functional Requirements. | Kariman Mohamed |
| 2/4/2020 | 1.3 | Update the SRS document version and edit description of Functional Requirements | Kariman Mohamed |
| 2/6/2020 | 1.4 | Update the SRS requirements according to SIQ sheet (Remove safely monitor requirement) | Kariman Mohamed |

**Contents**

[**Document Status** 2](#_Toc31872722)

[**1 Introduction** 5](#_Toc31872723)

[**1.1 Specification Definition** 5](#_Toc31872724)

[**1.2 Specification Objectives** 5](#_Toc31872725)

[**2 System Overview:** 6](#_Toc31872726)

[**2.1 Definition:** 6](#_Toc31872727)

[**2.2 Objective:** 6](#_Toc31872728)

[**2.3 Hardware:** 6](#_Toc31872729)

[**3 Software Requirements:** 7](#_Toc31872730)

[**4 Covers:** 9](#_Toc31872731)

[**5 Test scope:** 10](#_Toc31872732)

[**6** **Reference table:** 11](#_Toc31872733)

# **1 Introduction**

This section introduces the software requirements specification (SRS) for the KENOVO Electric Blender.

## **1.1 Specification Definition**

This specification documents the software-level requirements for the Electric Blender.

## **1.2 Specification Objectives**

The objectives of this specification are to:

* Provide a software overview of the Electric Blender.
* To formally specify its associated:
* Software requirements.
* Data requirements.
* Quality requirements.
* Constraints.

# **2 System Overview:**

## **2.1 Definition:**

The Electric Blender System is an appliance created by KENOVO. The electric blender system has 3 speeds that can be configured by the user with high safety to avoid system failure caused by unexpected voltage peaks.

## **2.2 Objective:**

The objective of the Electric Blender System is to provide the user with a high quality home appliance with high speed configurability as well as safety monitoring.

## **2.3 Hardware:**

The System hardware shall be:

* The external appliance body
* Microcontroller
* DC motor
* One push button

**3 Software Requirements:**

|  |  |  |
| --- | --- | --- |
| **Feature** | **REQ\_ID** | **Description** |
| **3.1 Speed Levels** | REQ\_PO2EBL\_SRS\_01\_V1.3 | Software shall provide three levels of speed, which can be controlled by generating pulse width modulation using timer peripheral.  First speed should have duty cycle 30%, second speed should have duty cycle 60% and the third speed should have duty cycle 90%.  **#imp SW** |
| **3.2 Speed Controls** | REQ\_PO2EBL\_SRS\_02\_V1.3 | When the switch is first pressed the software shall turn the motor on in low speed, when the switch is second pressed, the motor shall operate on the medium speed, when the switch is third pressed, the blender shall operate on the high speed.  When the switch is pressed fourth, the software shall turn the motor off.  When the switch is pressed fifth, the sequence will be repeated.  **#imp SW** |
| **3.3 Monitoring**  **speed** | REQ\_PO2EBL\_SRS\_03\_V1.3 | The software shall monitor the speed of the blender, the  The software shall turn the Led on and its intensity should be increased according to the speed of the motor.  The software shall turn the LED off when motor is off.  **#imp SW** |

**4 Covers:**

|  |  |  |
| --- | --- | --- |
| **Feature** | **REQ\_ID\_SRS** | **REQ\_ID\_ CYRS** |
| **4.1 Speed Levels** | REQ\_PO2EBL\_SRS\_01\_V1.3 | REQ\_PO2EBL\_CYRS\_01\_V1.3 |
| **4.2 Speed Controls** | REQ\_PO2EBL\_SRS\_02\_V1.3 | REQ\_PO2EBL\_CYRS\_02\_V1.6 |
| **4.3 Speed**  **Monitoring** | REQ\_PO2EBL\_SRS\_03\_V1.4 | REQ\_PO2EBL\_CYRS\_03\_V1.7 |

**5 Test scope:**

|  |  |  |
| --- | --- | --- |
| **Feature** | **REQ\_ID\_SRS** | **Testing type** |
| **5.1 Speed Levels** | REQ\_PO2EBL\_SRS\_01\_V1.3 | validation |
| **5.2 Speed Controls** | REQ\_PO2EBL\_SYRS\_02\_V1.3 | Integration and validation |
| **5.3 Speed**  **Monitoring** | REQ\_PO2EBL\_SYRS\_03\_V1.4 | Integration and validation |

**6** **Reference table:**

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Version** | **Status** | **Document** |
| 1 | 1.7 | Released | CYRS |
| 2 | 1.4 | Proposed | HSI |