**PO2EBL\_ELECTRIC BLENDER**

**SRS DOCUMENT**

**Version 0.1**

**Draft**

Revision History

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 1/23/2020 | 0.1 | Initial Draft, specifying Introduction, system overview and document outline. | Kariman Mohamed |
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# **1 Introduction**

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

## **1.1 Specification Definition**

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

## **1.2 Specification Objectives**

The objectives of this specification are to:

* Provide a system overview of the Electric Blender including definition, goals, objectives, context, and major capabilities.
* To formally specify its associated:
* Functional 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 Functional Requirements:**

|  |  |  |
| --- | --- | --- |
| **Feature** | **REQ\_ID** | **Description** |
| **Speed Levels** | REQ\_PO2EBL\_SRS\_01\_V01 | Software shall provide 3 levels of speed, which can be controlled by the voltage level by generating pulse width modulation signals with 3 different duty cycles using timer peripheral.  **#imp SW** |
| **Speed Controls** | REQ\_PO2EBL\_SRS\_02\_V01 | When the switch is first pressed the software shall turn the motor on, when the switch is pressed again, the blender shall operate on the higher speed level until it reaches the maximum level, and the next press shall turn the motor off.  **#imp SW** |
| **Safety**  **Monitoring** | REQ\_PO2EBL\_SRS\_03\_V01 | The software shall monitor the input voltage level to ensure the safety of the motor.  If the input voltage level increases over the charted levels or decreases below it, the blender shall be turned off.  **#imp SW, HW** |
| **Monitoring**  **speed** | REQ\_PO2EBL\_SRS\_04\_V01 | The software shall monitor the speed of the blender, the  Corresponding led should be turned on.  All leds should be turned off when motor is off.  **#imp SW, HW** |

# **4 Covers:**

|  |  |  |
| --- | --- | --- |
| **Feature** | **REQ\_ID\_SRS** | **REQ\_ID\_ CYRS** |
| **Speed Levels** | REQ\_PO2EBL\_SRS\_01\_V01 | REQ\_PO2EBL\_CYRS\_01\_V02 |
| **Speed Controls** | REQ\_PO2EBL\_SRS\_02\_V01 | REQ\_PO2EBL\_CYRS\_02\_V02 |
| **Safety Monitoring** | REQ\_PO2EBL\_SRS\_03\_V01 | REQ\_PO2EBL\_CYRS\_03\_V02 |
| **Speed**  **Monitoring** | REQ\_PO2EBL\_SRS\_04\_V01 | REQ\_PO2EBL\_CYRS\_04\_V02 |

# **5 Test scope:**

|  |  |  |
| --- | --- | --- |
| **Feature** | **REQ\_ID\_SRS** | **Testing type** |
| **Speed Levels** | REQ\_PO2EBL\_SRS\_01\_V01 | validation |
| **Speed Controls** | REQ\_PO2EBL\_SYRS\_02\_V01 | Integration and validation |
| **Safety Monitoring** | REQ\_PO2EBL\_SYRS\_03\_V01 | Integration and validation |
| **Speed**  **Monitoring** | REQ\_PO2EBL\_SYRS\_04\_V01 | Integration and validation |