**PO2EBL\_ELECTRIC BLENDER**

**SWITCH CDD DOCUMENT**

**Version 1.5**

**Proposed**

# Document Status

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Document Status** | **Author** |
| 03/09/2020 | 1.5 | Proposed | May Alaa |

# Document History

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Author | Change |
| 1 | 02/03/20 | May Alaa | Initial Creation |
| 1.1 | 03/03/20 | Mohamed Ibrahem | Adding switch flow chart |
| 1.2 | 03/05/20 | Mohamed Ibrahem | Adding table of references and updating table of requirements format and the configuration |
| 1.3 | 03/06/20 | May Alaa | Adding Coverage for the requirements |
| 1.4 | 03/06/20 | Mohamed Ibrahem | Delete the block diagram, update the switch flow charts and software context and update the configuration |
| 1.5 | 03/09/20 | May Alaa | Adding the equivalent numerical values for API inputs and returns |

Contents

[Document Status 2](#_Toc34396363)

[Document History 3](#_Toc34396364)

[Table of figures: 4](#_Toc34396365)

[Introduction 5](#_Toc34396366)

[1.1 Project Description 5](#_Toc34396367)

[Software Context Diagram 5](#_Toc34396368)

[Requirements 6](#_Toc34396369)

[Configurations 8](#_Toc34396370)

[Reference table: 10](#_Toc34396371)

# Table of figures:

[Figure 1 Block Diagram 5](#_Toc34380474)

[Figure 2 Software Context Diagram 6](#_Toc34380475)

# Introduction

## 1.1 Project Description

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.

# Software Context Diagram



Figure 2 Software Context Diagram

# Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SWITCH** | | | | |
| Requirement ID | REQ\_PO2EBL\_CDD\_1\_V01 | | | |
| Covers | REQ\_PO2EBL\_GDD\_4\_V01  REQ\_PO2EBL\_GDD\_14\_V01 | | | |
| API | Parameters | | Return values | Description |
| Error\_S Switch\_Init(u8 Switch\_Ch\_No); | u8Switch\_Ch\_No: Denotes the Switch to be initialized  Range: 0-255  Options:  SPEED\_SWITCH (0) | | Error\_S: Standard Error  OK (=0): If execution happened successfully  NOK (=1): If Execution failed s | This API shall Initialize a switch given the switch’s channel number |
| Implementation | | | | |
|  | | | | |
| Requirement ID | | REQ\_PO2EBL\_CDD\_2\_V01 | | |
| Covers | | REQ\_PO2EBL\_GDD\_5\_V01  REQ\_PO2EBL\_GDD\_15\_V01 | | |
| API | | Parameters | Return values | Description |
| Error\_S Switch\_Read(u8 Switch\_Ch\_No); | u8 Switch\_Ch\_No: Denotes the Switch whose status is to be read  Range: 0-255  Options:  SPEED\_SWITCH (0) | | Error\_S: Standard Error  OK (=0): If execution happened successfully  NOK (=1): If Execution failed | This API shall read a switch’s status given the switch’s channel number |
| Implementation | | | | |
|  | | | | |

# Configurations

|  |  |
| --- | --- |
| Name | SWITCH\_CONFIG |
| Types | Structure |
| Element | SWITCH\_PORT  SWITCH\_PIN  SWITCH\_TYPE |
| Default | ‘C’,’0’,PULL\_UP |
| Description | This structure contains the configuration parameters of the switch related to the port, pin and type. |

|  |  |
| --- | --- |
| Name | SWITCH\_PORT |
| Types | Macro |
| Range | ‘A’,’B’,’C’,’D’ |
| Default | ‘C’ |
| Description | This macro define the switch’s port. |

|  |  |
| --- | --- |
| Name | SWITCH\_PIN |
| Types | Macro |
| Range | 0-7 |
| Default | ‘0’ |
| Description | This macro define the switch’s pin. |

|  |  |
| --- | --- |
| Name | SWITCH\_TYPE |
| Types | Macro |
| Range | PULL\_UP ->1  PULL\_DOWN ->2 |
| Default | PULL\_UP |
| Description | This macro define connection type from pull up or pull down. |

|  |  |
| --- | --- |
| Name | SWITCH\_STATE |
| Types | Enum |
| Range | SWITCH\_PRESSED  SWITCH\_NOT\_PRESSED |
| Description | This enum indicate the switch’s state. |

# Reference table:

|  |  |  |  |
| --- | --- | --- | --- |
| **ID** | **Version** | **Document** | **Status** |
| 1 | 2.2 | SRS | Released |
| 2 | 1.5 | GDD | Proposed |