|  |  |
| --- | --- |
| Document Title | Specification of DIO Driver |
| **Document Owner** |  |
| **Document Responsibility** |  |
| **Document Identification No** |  |
| **Document Classification** |  |
|  |  |
| **Document Version** |  |
| **Document Status** |  |
| **Part of Release** |  |
| **Revision** |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Document Change History** | | |
| **Date** | **Version** | **Changed by** | **Change Description** |
| 16.04.2017 | 1.0.0 |  | Initial Release |

**Disclaimer**

This specification and the material contained in it is for the purpose of information only. The companies that have contributed to it shall not be liable for any use of the specification.

The material contained in this specification is protected by copyright and other types of Intellectual Property Rights. The commercial exploitation of the material contained in this specification requires a license to such Intellectual Property Rights.

This specification may be utilized or reproduced without any modification, in any form or by any means, for informational purposes only.

For any other purpose, no part of the specification may be utilized or reproduced, in any form or by any means, without permission in writing from the publisher.

**Table of Contents**

[1 Introduction and functional overview 5](#_Toc511603712)

[1.1 Objective 5](#_Toc511603713)

[1.2 Context Diagram 5](#_Toc511603714)

[1.3 Acronyms and abbreviations 5](#_Toc511603715)

[2 External interfaces 6](#_Toc511603716)

[2.1 Std\_Types.h 6](#_Toc511603717)

[2.1.1 Types 6](#_Toc511603718)

[2.1.2 Interfaces 6](#_Toc511603719)

[2.1.3 Constants 6](#_Toc511603720)

[2.1.4 Variables 6](#_Toc511603721)

[3 Static Design 7](#_Toc511603722)

[3.1 File structure 7](#_Toc511603723)

[3.1.1 Used Files 7](#_Toc511603724)

[3.1.2 File inclusion 7](#_Toc511603725)

[3.2 Types 7](#_Toc511603726)

[3.2.1 Imported types 7](#_Toc511603727)

[3.2.2 Types Definitions 7](#_Toc511603728)

[3.2.2.1 7](#_Toc511603729)

[3.3 Symbol Definition 8](#_Toc511603730)

[3.4 Function definitions 8](#_Toc511603731)

[3.4.1 8](#_Toc511603732)

[3.5 Call-back notifications 9](#_Toc511603733)

[3.6 Scheduled functions 9](#_Toc511603734)

[4 Dynamic Design 9](#_Toc511603735)

[4.1 Mode Management 9](#_Toc511603736)

[4.2 Sequence Diagram 9](#_Toc511603737)

[5 Shared Resources 9](#_Toc511603738)

[6 Configuration specification 10](#_Toc511603739)

[6.1 Containers and configuration parameters 10](#_Toc511603740)

[6.1.1 Variants 10](#_Toc511603741)

[6.1.2 Parameters 10](#_Toc511603742)

[6.1.2.1 10](#_Toc511603743)

[7 Configuration Constraints 11](#_Toc511603744)

[8 Integration Constraints 11](#_Toc511603745)

# Introduction and functional overview

## Objective

## Context Diagram

## Acronyms and abbreviations

Acronyms and abbreviations that have a local scope.

|  |  |
| --- | --- |
| ***Abbreviation / Acronym:*** | ***Description:*** |
|  |  |
|  |  |

# External interfaces

## Std\_Types.h

### Types

### Interfaces

### Constants

### Variables

# Static Design

## File structure

### Used Files

|  |  |
| --- | --- |
| ***File*** | ***Description*** |
|  |  |
|  |  |
|  |  |
|  |  |

### File inclusion

## Types

### Imported types

|  |  |
| --- | --- |
| ***Module*** | ***Imported Type*** |
|  |  |
|  |

### Types Definitions

#### 

|  |  |  |  |
| --- | --- | --- | --- |
| ***Name:*** |  | | |
| ***Type:*** |  | | |
| ***Range:*** |  |  |  |
| ***Description:*** |  | | |

## Symbol Definition

|  |  |
| --- | --- |
| ***Name:*** |  |
| ***Type:*** |  |
| ***Value:*** |  |
| ***Description:*** |  |

## Function definitions

This is a list of functions provided for upper layer modules.

### 

|  |  |  |
| --- | --- | --- |
| ***Service name:*** |  | |
| ***Syntax:*** |  | |
| ***Service ID[hex]:*** |  | |
| ***Sync/Async:*** |  | |
| ***Reentrancy:*** |  | |
| ***Parameters (in):*** |  |  |
| ***Parameters***  ***(in/out):*** |  | |
| ***Parameters (out):*** |  | |
| ***Return value:*** |  |  |
| ***Description:*** |  | |

## Call-back notifications

This chapter lists all functions provided by the DIO module to lower layers.

The DIO module does not provide any callback notifications.

## Scheduled functions

This chapter lists all functions called directly by the Basic Software Module Scheduler.

The DIO module has no scheduled functions.

# Dynamic Design

## Mode Management

## Sequence Diagram

# Shared Resources

# Configuration specification

This chapter defines configuration parameters and their clustering into containers.

## Containers and configuration parameters

The following chapters summarize all configuration parameters.

### Variants

Configuration variants describe sets of configuration parameters:

* VARIANT-PRE-COMPILE (PC)

Only parameters with "Pre-compile time" configuration are allowed in this variant.

* VARIANT-LINK-TIME (LT)

Only parameters with "Pre-compile time" and "Link time" are allowed in this variant.

* VARIANT-POST-BUILD (PB)

Parameters with "Pre-compile time", "Link time" and "Post-build time" are allowed in this variant.

Parameters

### 

### Parameters

#### 

|  |  |  |  |
| --- | --- | --- | --- |
| ***Name*** |  | | |
| ***Description*** |  | | |
| ***Multiplicity*** | 1 | | |
| ***Type*** | Scaler | | |
| ***Default value*** | -- | | |
| ***Configuration Class*** | ***Pre-compile time*** | | |
| ***Configuration Class***  ***Scope / Dependency*** | ***Link time*** | X | All Variants |
| ***Post-build time*** | -- |  |
| scope: local | -- |  |
|  |  | | |

# Configuration Constraints

# Integration Constraints