**Module Design Document**

**For**

**PSADSG**

**February 02, 2018**

**Prepared For:**

**Software Engineering**

**Nexteer Automotive,**

**Saginaw, MI, USA**

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**Saginaw, MI, USAChange History**

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| **Description** | **Author** | **Version** | **Date** |
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# Introduction

## Purpose

Module Design Document for PSADSG.

## Scope

The following definitions are used throughout this document:

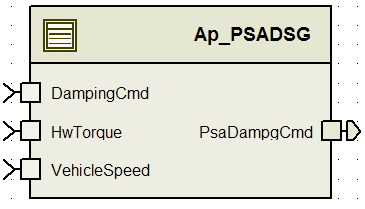
* **Shall**: indicates a mandatory requirement without exception in compliance.
* **Should**: indicates a mandatory requirement; exceptions allowed only with documented justification.
* **May**: indicates an optional action.

# PSADSG & High-Level Description

Define a factor for damping command which is vehicle speed and handwheel torque dependent.

# Design details of software module

## Graphical representation of PSADSG



## Data Flow Diagram

### Module level DFD

Refer FDD

### Sub-Module level DFD

Refer FDD

## Component diagram

Refer FDD

## Variable Data Dictionary

### User defined ‘typedef’ definition/declaration

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Typedef Name | Element Name | User Defined Type | Legal Range  (min) | Legal Range  (max) |
| None |  |  |  |  |

### Variable definition for enumerated types

|  |  |  |
| --- | --- | --- |
| Enum Name | Element Name | Value |
| None |  |  |

## Constant Data Dictionary

### Program Constants

#### Local Constants

|  |  |  |  |
| --- | --- | --- | --- |
| Constant Name | Resolution | Units | Value |
| None |  |  |  |

#### Global Constants

|  |
| --- |
| Constant Name |
| D\_MTRTRQCMDHILMT\_MTRNM\_F32 |
| D\_MTRTRQCMDLOLMT\_MTRNM\_F32 |
| D\_ZERO\_ULS\_F32 |

### Module Specific Lookup Tables

|  |  |  |  |
| --- | --- | --- | --- |
| Constant Name | Resolution | Value | Software Segment |
| None |  |  |  |

## Software Module Implementation

### Sub-Module Functions

#### Periodic sub-module { PSADSG\_Per1()}

Refer FDD

### Interrupt Service Routines

None

### \_SCOMM () Functions

None

### Module Internal (Local) Functions

None

### Transition Functions

None

# Known Limitations with Design

None

# UNIT TEST CONSIDERATION

None

1. Abbreviations and Acronyms

| **Abbreviation or Acronym** | **Description** |
| --- | --- |
| - |  |

1. Glossary

**Note**: Terms and definitions from the source “Nexteer Automotive” take precedence over all other definitions of the same term. Terms and definitions from the source “Nexteer Automotive” are formulated from multiple sources, including the following:

* ISO 9000
* ISO/IEC 12207
* ISO/IEC 15504
* Automotive SPICE® Process Reference Model (PRM)
* Automotive SPICE® Process Assessment Model (PAM)
* ISO/IEC 15288
* ISO 26262
* IEEE Standards
* SWEBOK
* PMBOK
* Existing Nexteer Automotive documentation

| **Term** | **Definition** | **Source** |
| --- | --- | --- |
| MDD | Module Design Document |  |
| DFD | Data Flow Diagram |  |

1. References

| **Ref. #** | **Title** | **Version** |
| --- | --- | --- |
| 1 | AUTOSAR Specification of Memory Mapping (Link:[AUTOSAR\_SWS\_MemoryMapping.pdf](http://www.autosar.org/download/R4.0/AUTOSAR_SWS_MemoryMapping.pdf)) | v1.3.0 R4.0 Rev 2 |
| 2 | MDD Guideline EA3 | 01.04.00 |
| 3 | Software Naming Conventions | 2.0 |
| 4 | Software Design and Coding Standards | 2.1 |
| 5 | CF096A\_PSADSG\_Design | 1.0.0 |