**Missile Warning System**

**System Requirement Specification**

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**History**

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| **Date** | **Description** | **Name** | **Version** |
| 17-09-2010 | Initial document | kpi | 1 |
| 18-09-2010 | Format requirements to heading 1 | kpi | 2 |
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**References**

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| --- | --- | --- |
| **ID** | **Document Name** | **Version** |
| Ref-1 | Therma case.pdf | 1 |
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**Abbriviations**

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| --- | --- |
| UR | User Requirement |
| FR | Functional Requirement |

# Scope

## Identification

This document describes a self protection suite for the F-16 combat aircraft used by the Royal Danish Air Force. The protection suite incorporates a pod for mounting under the left wing and an intelligent cockpit control unit for controlling the system. In the pod is mounted a Missile Warning System (MWS) which gives input to the cockpit control unit. From the cockpit control unit is the dispensing of flares and chaffs from the pod controlled. The solution shall provide warning upon detection of missile threats and be able to automatically dispense payloads in response.

The MWS will be provided as Government Furnished Equipment (GFE) and be physically installed by your company.

If there where more information about the system it should also be placed here, that could be information about which version and type of MWS system that shall be mounted.

## System overview

The system is a self protection suite for a F-16 combat aircraft , it shall protect the aircraft against missile attacks. The system consists of 2 main systems:

* Cockpit Unit, which communicate with the systems in the POD and Aircraft Mission Computer. Has also an interface to the aircraft intercom system and an interface for the user to control the system.
* POD, which holds magazines for flares and chaffs and what is needed for firing them of, plus the MWS system.



Missiles shall be detected by the MWS that are provided as a GFE equipment and mounted by Company F. When missile attacks are detected information is sent to the cockpit control unit, which depending on the mode it is in will react on the information and is able to react according to a number of programs by dispensing flares and chaffs according to the program chosen. By the interface to the aircraft intercom system audio cues and warnings can be provided.

The system has a number of different users depending on what is done and where:

* On ground the system can be maintained by technicians that update SW and control the system
* Ground personnel shall be able to mount it and when ready to takeoff arm it.
* The pilot shall use the system, by choosing an appropriate program and depending on program chosen do further to let it dispense when missile attacks are detected.
* After dispensing has happened maintenance has to be done again to fill up the magazines again with flares and chaffs.

Other relevant documents for this system are:

* Technical description of MWS system. Document number xxx
* Mechanical description of MWS system. Document number xxx
* User handbook of MWS system. Document number xxx

System overview. This paragraph shall briefly state the purpose of the system to which

this document applies. It shall describe the general nature of the system; summarize the history

of system development, operation, and maintenance; identify the project sponsor, acquirer, user,

developer, and support agencies; identify current and planned operating sites; and list other

relevant documents.

## Document overview

This document shall describe all the Systems Requirements for the Self Protection System for the F-16 combat aircraft and the development of the system shall be based on this document, when the system fulfil the requirements in this document the requirement of the Royal Danish Air Force is fulfilled.

This document must only be used in the project group by Company F and project group and other personal at The Royal Danish Air force that are cleared to have access to this project.

Document overview. This paragraph shall summarize the purpose and contents of this

document and shall describe any security or privacy considerations associated with its use.

# Referenced documents

# Requirements

|  |  |
| --- | --- |
| **REQ ID** | **Requirement** |
| FR-1 | The POD shall contain three dispenser magazine mounts henceforth named first, second and third. |
| FR-2 | The POD’s first dispenser magazine mount shall physically be located before the second and third dispenser magazine mount relative to the nose of the plane. |
| FR-3 | The POD’s first dispenser magazine mount shall support forward dispensing. |
| FR-4 | The POD’s first dispenser magazine mount shall support two magazines. |
| FR-5 | The POD’s second dispenser magazine mount shall physically be located before the third dispenser magazine mount relative to the nose of the plane. |
| FR-6 | The POD’s second dispenser magazine mount shall support leftwards dispensing. |
| FR-7 | The POD’s first dispenser magazine mount shall support four magazines. |
| FR-8 | The POD’s third dispenser magazine mount shall support backwards dispensing. |
| FR-9 | The POD’s third dispenser magazine mount shall support two magazines. |
| FR-10 | The POD shall support standard NATO dispenser magazines type DM30p. |
| FR-11 | The POD must comply with all F-16 requirements for aerodynamics and radar reflections as specified by the F-16 POD standard FP42f. |
| FR-12 | The systems must comply with all F-16 EW standard for EMC and data bus load as specified by the F-16 EW standard FE16d. |
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## States and modes

## Functional requirements

## External interfaces

## Internal nterfaces

## Design constraints

# Requirement traceability

|  |  |  |  |
| --- | --- | --- | --- |
| **REQ ID** | **Requirement (short)** | **Trace ID** | **Reference** |
| FR-1 |  | UR-2 |  |
| FR-2 |  | UR-2 |  |
| FR-3 |  | UR-2 |  |
| FR-4 |  | UR-1 |  |
| FR-5 |  | UR-2 |  |
| FR-6 |  | UR-2 |  |
| FR-7 |  | UR-1 |  |
| FR-8 |  | UR-2 |  |
| FR-9 |  | UR-1 |  |
| FR-10 |  | UR-1 |  |
| FR-11 |  | UR-3 |  |
| FR-12 |  | UR-3 |  |