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| **Summary** |  |
| **Annexes** |  |

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*Template V1.0*

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# INTRODUCTION

## Scope of the document

Scope of the document.

Note: Unless otherwise stated, this document does not address software interfaces.

## Applicable Documents (AD)

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| **Applicable Documents (AD)** |
| **AD** | **Title** | **Reference** | **Version** |
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## Reference Documents (RD)

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| **Reference Documents (RD)** |
| **RD** | **Title** | **Reference** | **Version** |
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## List of abbreviations

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| **List of Abbreviations** |
| **MSE**  | Mechanical System Equipment  | PW | Power |
| **EL** | Electrical System Equipment |  |  |
| **CB** | Cabling |  |  |

# General Interface Description

# Mechanical Interface

## Coordinate system

## Mechanical concept

## Critical dimensions

For every interfaced couple of systems a drawing with a functional dimensions and tolerances and if needed:

* Dimensions and tolerances
* Surface treatments and status
* Frame of reference axes
* attachment points: position, center distances, diameters, tolerances
* flatness
* position of the center of gravity (with tolerances)
* mounting specifications (torque, washers, brake type, heat seals, etc..)
* connectors (type, identification, position),
* location of the marking label.

## Weights

Estimated weights with margin and tolerances

## Positioning and alignment constrains

For every subsystem:

* Positioning constrains: position of q subsystem from another
* Alignment constrains: absolute/or relative alignment precision for a system from another AND requested precision for the verification of this alignment.

# Electrical Interface

## Block diagram

It should indicate all electrical interfaces, including redundancies:

* power: the type of power (regulated, unregulated, heating), number of lines for each type;
* remote control: control type (relays, digital ...), the number of each type of control
* insulation;

 Other interfaces: clock, other instruments, ...

## Connection diagram

This is a general wiring diagram showing the names of cables, connectors, equipment, ...

## List of Connectors

For each connector on should indicate:

* The location (eg equipment A);
* the name of the connector;
* type (manufacturer's name + complete reference);
* the general function (eg power ...)
* coded pins, keying;
* the precise limits of the respective supplies;
* the principle of shield connections and grounding policy.

## Cabling and connecting sheets

For every connector and every pin it will be specified:

* the signal type (analog, digital, power, RF, ...),
* the waveform (period, duty cycle, maximum value, minimum value)
* a graphical representation for complex signals (ramp, modulation ...),
* the category (transmitter or receiver)
* the reference of the pining of the connector,
* the electrical diagram of the interfaced circuit.

## Electrical Circuit of the grounding

A diagram will indicate how are connected or isolated mechanical grounds, shieldings ...

The maximum contact resistance will be defined.

## Power Consumption

For each functional mode and each line of power, the average power and peak power, combined with the current measurement, will be given.

## Other electrical interfaces

This section defines all other electrical interfaces (clock s, other instruments ...).

# Fluid Interface (if needed)

For every fluid it will be indicated:

* the type of fluid,
* the reference of the mechanical interface to which it relates,
* the pressure,
* the flow,
* the constraints of cleanliness of the fluid.

## Gas system Interface

## Liquid system Interface

# Thermal Interface (if needed)

For the subsystems:

* Limit temperatures: during storage, for switching power, in operation
* Thermal dissipation: in and out of operation

# CABLING

# POWER

# Test interfaces

These are the specific interfaces related to the test equipment:

* MSE interfaces: mechanical assembly test ... ;
* ESE interfaces: electrical interfaces with the test and verification systems;
* OSE interfaces: reference cubes, or targets for the surveys ...

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