

## 1.1.2 Introduction

### What is EMC ?

Electromagnetic compatibility (EMC) is the ability of an electrical device to function, fault-free in a specified electromagnetic environment without influencing the environment in an inadmissible fashion.

This design- and EMC guideline supplements the documentation on the individual components.

The SIMADYN D control system consists of individual components (e. g. subracks, modules, interface modules, operator control panels, position transmitters). The components can be installed in the widest range of system configurations according to individual requirements. When the components are arranged in a distributed fashion (decentral topology) a noisy environment cannot be neglected. Thus, specific requirements are placed on the design and EMC of the system.

EMC represents a quality feature for

- **Intrinsic noise immunity:** Immunity against internal electrical noise and disturbances
- **External noise immunity:** Immunity against external electromagnetic noise
- **Noise emission level:** Influencing the environment due to electromagnetic radiation

### Operational reliability and noise immunity

In order to achieve the highest possible operational reliability and safety and noise immunity for a complete system (closed-loop control and drive motor) the control manufacturer and user (including end customers) must take certain measures.

Perfect functioning of SIMADYN D can only be guaranteed and the legal requirements fulfilled (89/336/EC) if all of these measures are observed.

## 1.1.3 Use and operation

SIMADYN D components are designed for use in industrial environments in accordance with EN 50081-2 and EN 50082-2. They may not be operated or connected to the public low-voltage network.

### 1.1.4 Machinery Directive

In accordance with the Machinery Directive 89/392/EC, it should be ensured that if SIMADYN D fails or executes an incorrect function, that this does not result in the machine/system going into a potentially hazardous condition. This must always be taken into account when configuring the machine/system.

The system may not be commissioned until it has been proven that the final product is in conformance with the Directive.

#### Low-Voltage Directive

The Low-Voltage Directive 73/23/EC is only applicable for products with supply voltages of  $\geq 50$  V AC and/or  $> 75$  V DC.

For SIMADYN D, this involves the following components:

- SP 7                      6DD 1683-0BB0
- SP 8.5                    6DD 1683-0BC0
- SP 9.5                    6DD 1683-0BE5
- SP 22.5                  6DD 1683-0CC5
- SP 23.5                  6DD 1683-0CD5
- SB 60                    6DD 1681-0AF4
- SB 70                    6DD 1681-0AG2
- SRT 400                 6DD 1662-0CG0

These components correspond to the requirements of the Low-Voltage Directive.



#### WARNING

##### Open equipment

**SIMADYN D is regarded as open equipment. This means that you must always install SIMADYN D in a cubicle, cabinet or electrical control room that can only be accessed using a key or tool. Only trained or authorized personnel are allowed access to such cubicles, cabinets or electrical operating rooms.**

#### 1.1.4.1 SIMADYN D outputs



#### DANGER

**When the equipment is powered-up or powered -on, the outputs have undefined statuses while the power supply voltages are running-up. This fact must be taken into account when designing the system.**