



Leaflet

Functional Safety Pursuant to DIN EN 61508 (VDE 0803)

Presently, functional safety pursuant to DIN EN 61508 (VDE 0803) is being discussed in many expert standardisation committees aiming at the requirement of furnishing evidence in compliance with those standards for any kind of electronic and electrical systems. This also takes place in a variety of advisory bodies dealing with standardisation and preparation of guidelines in the field of fire protection. For instance there are discussions in the work groups of VDMA (German Engineering Federation), but also at DKE (German Commission for Electrical, Electronic & Information Technologies of DIN and VDE) and DIN (German Institute for Standardization). You need to bear in mind that the standards of the DIN EN 61508 series describe safety requirements for electrical, electronic, and programmable electronic systems (E/E/PES) allowing classification into 4 levels, the so-called Safety Integrity Levels (SIL). The standard itself has been developed to assess E/E/PES in safety-relevant applications; however, only in cases where no other standard(s) and guidelines exist(s) that already cover(s) such E/E/PES. There are nevertheless attempts to establish assessment procedures pursuant to DIN EN 61508 in a variety of applications. This also applies to the fire protection standards.

For instance, the new draft of DIN VDE 0100-718 („Low-voltage electrical installations - Requirements for special installations or locations - Communal facilities and workplaces“) dating from March 2004 has provided for a general requirement of an assessment of functional safety in compliance with the series DIN EN 61508 (VDE 0803). Depending on the intended field of application of DIN VDE 0100-718, e.g. fire detection and fire alarm systems, SHEVS, as well as devices for alerting and instructing persons are considered to be equipment for safety services.

But components of fire detection and fire alarm systems, SHEVS, water and gas extinguishing systems, as well as alarm devices designed to

alert persons in the case of fire are already covered by standards for devices and systems. In addition, such standards are subject to the Council Directive 89/106/EEC - the Construction Products Directive - by the EU; i.e. the European Commission has used the mandate M/109 to commission the European Committee for Standardization CEN and its affiliated members with the development of standards for the aforementioned components. Examples to be mentioned in this respect are the standards of the series EN 54 (FDAS), EN 12259 (water extinguishing systems), EN 12094 (gas extinguishing systems), and EN 12101 (SHEVS) giving requirements for particular performance characteristics as well as extensive test procedures to furnish evidence of the reliable function of the corresponding components. In addition, the factory production control by the manufacturers is important. This shall be subject to permanent and periodical supervision by an independent body. This is evidence for secure availability. Experience gained with fire detection and fire alarm systems has clearly shown this. The same experience has been gained with other fire protection systems. Consequently, there is no reason for supplementary assessment procedures according to DIN EN 61508 to achieve safety-related integrity (SIL). Even for economic reasons, type test procedures in compliance with harmonised European standards accompanied by an additional assessment and establishment of functional safety (SIL) is not justified. It is pointed out, as well, that the application of DIN EN 61508 is intended only if no other standard covers the corresponding equipment (see field of application of DIN EN 61508). But for fire protection systems (water and gas extinguishing systems, SHEVS, FDAS, etc.) national or European standards - partly even harmonised ones - do exist.

Therefore, VdS does not feel the need to establish DIN EN 61508 for „fire protection systems“ as far as those are covered by equipment- and system-specific standards and guidelines.

