Functional safety design tool
Helps you design and verify functional safety for machines

The functional safety design tool (FSDT-01), helps you design and calculate safety integrity levels (SIL)/performance levels (PL) for safety functions and generate safety calculation reports.

Makes safety design and verification consistent
To help you increase engineering productivity during your safety design process, we have developed the functional safety design tool FSDT-01. It is used to help you design, verify and document machine safety functions according to requirements in EN/IEC 62061 and EN ISO 13849-1.

The easy to use user interface is developed specifically to help you determine SIL or PL, define and verify safety functions. The tool also helps you make sure that the required SIL or PL for the safety functions used is correct.

With the FSDT-01 you can easily choose the desired safety standard (EN/IEC 62061 and EN ISO 13849-1). Once a safety function has been designed and the required SIL or PL is achieved, you can use the tool to generate a verification report that can be used during the machine's safety assessment/approval.

Supports various libraries of safety devices
The FSDT-01 supports its own library formats and universal (VMDA) library formats for safety components. ABB's safety component libraries are also available in both formats. These libraries have safety data available for ABB drives, PLC's and Jokab safety products.

Technical data

Functionality	Risk evaluation to establish SIL/PL Safety function graphical block modeling Safety calculation Components library function (standard format, import/export, components creation) Reporting Supported library file formats are VDMA and ABB's library file formats
Supported standards	IEC/EN 62061:2015 (ed 1.2) and EN ISO 13849-1:2015 Machinery functional safety
Registration	Via ABB's functional safety design tool website
Support website	new.abb.com/drives/functional-safety/ functional-safety-design-tool
System requirements	Windows 7, 10 (32 or 64 bit OS), .Net 4.6.2 and later
Computer requirements	Pentium 2 GHz or a faster processor 1 GB RAM 1024 x 768 display resolution with 256 colors At least 1 GB (32-bit) and 2 GB (64-bit) free hard disk space
Approval	
TÜV Nord certified support tool of class T2 according to IEC 61508 ed. 2	
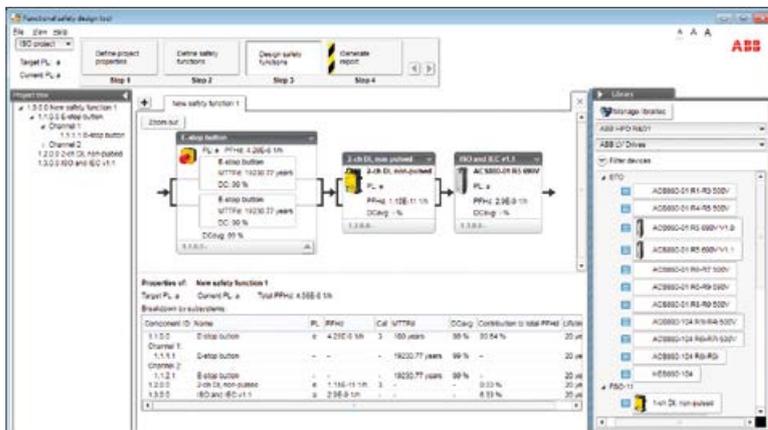
Defining a safety function and PL with the functional safety design tool, according to EN/ISO 13849-1

Four steps to achieve required safety functionality for a machine

The functional safety design tool guides you through four steps:

1. Define project properties: Here, all project properties are created. You can choose which machine safety standard to follow (EN/IEC 62061 or EN ISO 13849-1).

2. Define safety functions: Here you define the needed safety functions, design and the required SIL or PL for each function. The FSDT-01 helps you determine the required SIL or PL for safety either manually or through an estimation process that documents the required SIL/PL results.

3. Design safety functions: You can create safety functions by selecting safety devices from the libraries or by creating your own devices. Designing safety functions is made easy through the drag and drop functionality in FSDT-01. The devices are displayed with images making device identification easier. The tool also informs you if any necessary information is missing or if it is in conflict with other given information.

4. Generate report: You can select the content to include in the report in PDF format. The safety project can then be saved for future needs.

Wide range of ABB safety devices are available for a complete safety function design

ABB offers a wide range of safety devices and solutions with safety functionality. Drive-based functional safety includes several low voltage AC drive series with either standard or optional integrated safety functionality. ABB Jokab Safety has a wide range of safety devices from emergency stops to safety PLC's. ABB's safety PLC can control several drives simultaneously, enhancing safety monitoring and control. A wide selection of contactors are also available from ABB.

All ABB's safety devices can be imported as libraries to the FSDT-01. Alternatively, the user can build his or hers libraries in the tool and import or export them. This makes safety design and verification easier and reliable in a consistent way.

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For more information contact your local ABB representative or visit:

abb.com/safety

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