



Safe Drive Monitor 1002 Core **Design Package for Safe Stop functions**

Overview

Functional safety related electrical drives are typically based on hardware/software in a 1-out-of-2-Architecture (1002) up to SIL3. The Safe Drive Monitor 1002 Core contains safety related hardware designs and Safety software.

The modular design solution supports IEC61800-5-2 Safe drive functions STO, SS1 and can be extended to Advanced speed and position functions.

The Design Package reduces significantly the development time for Functional Safety products.

It is available as:

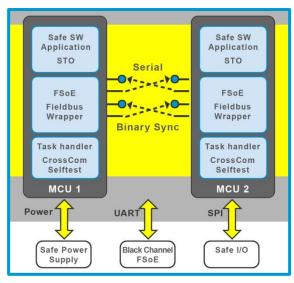
hardware/software design package with circuit diagrams, calculations and software libraries in source code for full customer specific designs

Technical Description

- Safety related core architecture as 1002 system for redundant microcontroller STM32F745/746
- Design acc. IEC61508 SIL3, ISO 13849 Cat3 PLd, HFT=1
- Modular design
- Safe SW application for Safe Drive Stop Function with libraries for synchronization, mutual monitoring, MCU selftest, safe task handling (C99 MISRA-C 2012, Source Code)
- Asynchronous interfaces (UART) to handle Black Channel communication from Safe Industrial Ethernet protocol FSoE (Fail Safe over EtherCAT)

Your Benefit

- Design Package directly useable in SIL3 related projects
- Saving on development by using proven HW circuitry and SW libraries
- Cost and risk reduction of the project
- Shorter time to market through effort reduction
- Easier product certification



Interfaces MESCO Safe Drive Monitor

Delivery Content MESCO Safe Drive Core

- Quick Start Guide
- Modular Safety System Software Lib in Source Code with STO interface, Task handler, Cross Com for MCU sync and Selftest lib, HAL (approx. 29000 Lines of Code)
- SW application for Safe Torque Off function (STO) and Safe Stop functions (SS1)
- Software Design Specification (SWDS) with interface description
- SW Lib FSoE Wrapper (FailSafe over EtherCAT) prepared for third party stack
- Build environment files (for IAR) (Compiler not included)
- HW Design Specification (HWDS)
- Schematics and Layout / Production data
- **BOM /Assembly Drawing**
- **Evaluation Boards** (Carrier board and 1002 Safe Core board)

Further Available MESCO Software Libraries

- SW Lib PROFIsafe Wrapper prepared for third party stack
- SW Library for Advanced Safety Function e.g. SS2, SOS, SLP, SLS, SDI, SBC etc. Safe drive systems IEC61800-5-2
- SW Library for Safe I/O handling
- SW Library for HIPERFACE DSL Encoder interface