



Safe Drive Monitor 1oo2 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* (1oo2) up to SIL3. The Safe Drive Monitor 1oo2 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:

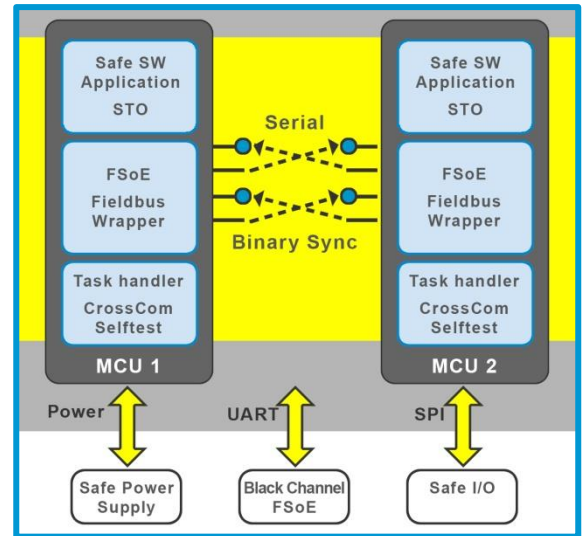
- hardware/software design package with circuit diagrams, calculations and software libraries in source code for full customer specific designs

Technical Description

- Safety related core architecture as 1oo2 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 self-test, 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 Self-test 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 1oo2 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