

Product Preview

Generic Safety Board

The I/O Board for High Availability Applications with IEC 61508 certification artefacts



The Generic Safety Board is part of an IEC 61508 compliant, high-performance, general purpose, programmable electronic control unit. The target applications are reliable and fail-safe electronic control units. General purpose I/Os to implement safety related I/O-stages are offered as well as several communication interfaces.

Generic Safety Board

The Generic Safety Board is developed according to IEC 61508 and it is certifiable for use in applications with SIL 2 requirements. It implements diagnostic tests that are executed periodically at runtime. The Generic Safety Board is suitable for reliable and fail-safe electronic control unit application. It provides general purpose I/Os to implement safety-related I/O-stages as well as CAN, RS232, SPI and TTEthernet communication interfaces. The Generic Safety Board is intended to be implemented within custom designed hardware I/O structures satisfying the system integrator's needs.

KEY FEATURES/BENEFITS

- Dual core TMS570LS controller in lockstep mode 180 MHz
- 3 MB int. Flash with ECC
- 256 KB internal RAM with ECC
- Safety Companion Controller
- Includes a two channel TTEthernet end system

API functions

API functions for communication interfaces:

- TTEthernet end system with 2 channels
- 1 RS232
- 3 CAN
- 2 SPI

API functions for generic, safety-related I/O drivers for:

- 8 timer input
- 8 PWM output
- 8 digital output
- 20 analog input (12 bit ADC)

Network Interfaces

- TTEthernet
- CAN
- RS232
- SPI

Power Supply

- 12 V +/- 10 % DC

Environmental Operating Ranges

- -40 °C to +85 °C

General Product Features

- Dual core Texas Instruments TMS570LS controller in lockstep mode 180 MHz
- 3 MB int. flash with error correction codes,
- 256 KB internal RAM with error correction codes
- Safety Companion Controller
- Includes a two channel TTEthernet endsystem
- Start-up time < 200 ms (including self test)
- Failure reaction time: < 50 ms (including anti-glitch behavior)
- Dangerous FIT rate of core (lambda d): ~3 FIT

TTEthernet Features

- 2 x Gbit/s Ethernet ports
- Traffic rule surveillance
 - Arrival time and source port surveillance for time-triggered traffic
 - Inter-arrival time and source port surveillance for rate-constrained traffic
 - Frame drop on violation of traffic rule

TTTech contact information

Headquarters Europe, Austria
Tel.: +43 1 585 34 34-0
E-mail: products@tttech.com

North America, USA
Tel.: +1 760 603 9393
E-mail: usa@tttech.com

Asia, Japan
Tel.: + 81 45 470 1867
E-mail: office@tttech.jp

www.tttech.com