Stand 19.11.2025

Generic Timer Module v1 and v3 (Bosch-GTM): Architecture and Programming - Live Online Training

Ziele -
Ihr Nutzen

You know the functions of GTM v1 and extensions of the v3 version and are able to assess potential application domains as well as the related effort. You get familiar with the overall concept and potential automotive applications.

Customers coming from a non-automotive sector learn how to make flexible use of the GTM module and know the differences between dedicated features as well as features for arbitrary use.

YOUR BENEFIT:

Efficient and time-saving entry into the GTM topic (Generic Timer Module)

Details on the differences between the v1 architecture and the current v3 version

Download of exercises

Training documentation combined in a compendium

Teilnehmer

Hardware and software architects, hardware and software developers, test engineers.

Voraussetzungen

Experience in microcontroller/microprocessor system programming and architecture is an advantage

Live Online Training

* Preis je Teilnehmer, in Euro zzgl. USt.

Anmeldecode: LE-GTM

Präsenz-Training - Englisch

Dauer
2 Tage

Live-Online - Deutsch

Dauer
2 Tage

Präsenz-Training - Deutsch

Dauer
2 Tage

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Inhalt

Bosch Semiconductors Generic Timer Module GTM Architecture v1 and v3: Overview

GTM Module

- Clock time base module CTBM
- Clock management unit CMU
- Time base unit TBU
- Digital phase-locked loop DPLL
- Timer input mapping module MAP
- Advanced routing unit ARU
- Timer input module TIM
- Timer output module TOM
- ARU-connected TOM ATOM
- Parameter storage modules PSM (FIFO submodule)
- Broadcast module BRC
- Sensor pattern evaluation SPE
- Monitor unit MON
- Output compare unit CMP

GTM Functionality

- Timer / counter (free running / reset)
- Capture / compare
- Input signal filtering
- PWM signal measurement
- Duty cycle measurement
- Complex PWM signal generation
- Pulse count modulation PCM
- Global time and/or angle recognition
- Generation of complex angle clock
- BLDC support

GTM µC Interface

- AEI Mux
- Debug
- Interrupt concentrator ICM

Exercises

- This workshop implements hands-on exercises with an AURIX™ board, practicing the following aspects:
- TIM PWM measurement
- TOM PWM generation
- ATOM PWM generation
- MCS programming
- Host-core to GTM-communication

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