

## CatchTheBus

Swiss engineered   
Made in Germany 

CatchTheBus is a **freely programmable ECU**. It supports several communication protocols each being implemented on separated modules. Very rapidly, the user is able to develop multiple applications by simply using the provided user friendly drivers and source code examples.

### Interfaces

- ▶ 1x FlexRay
- ▶ 5x CAN (4x CAN FD)
- ▶ 2x LIN
- ▶ 1x Ethernet
- ▶ 2x RS-232
- ▶ 4x Digital outputs
- ▶ 2x Analog inputs
- ▶ 2x Powerline Communication



CatchTheBus is the ideal solution for the rapid prototyping of gateways, sensor/actuator or test bench applications. It provides an easy access to wide spread communication buses and the possibility to concentrate on algorithms. An innovative hardware architecture allows swapping modules or developing new ones easily.

### Properties

- ▶ Modular
- ▶ Expandable
- ▶ User friendly
- ▶ High quality API (MISRA-C)
- ▶ Doxygen documentation
- ▶ Real time behavior
- ▶ Stand alone solution
- ▶ Compact
- ▶ Connection to a PC via Ethernet
- ▶ Source code examples available

### Save time and costs through

- flexible extensions
- rapid taking into operation

### Field of application

- ▶ Rapid control prototyping
- ▶ Gateways
- ▶ Signal manipulation
- ▶ Remaining bus simulation

## Description

For the Rapid Prototyping of new functionalities a freely programmable ECU builds an ideal solution to reduce costs and speed up the development process. CatchTheBus allows the highest level of flexibility and leaves no open wishes to application developers. The user has the possibility to choose what component he wants to assemble and thus decide about the properties of the product. Several modules are already available, each sold separately. This allows minimizing the costs without losing the possibility to extend the system later on. With only one ECU the user can cover a huge palette of different applications needing different interfaces.

Source code examples combined with well documented user friendly drivers (more than 80'000 lines of source code, MISRA-C compliant) saves up to 45% of the development time. CatchTheBus® doesn't use a configuration software, but is simply programmed in C.

It's an investment in an up-to-date solution for today and tomorrow.



CatchTheBus as FlexRay-to-CAN gateways for a Steer-by-Wire application in a highly automated vehicle

## Specifications

### CPU

- ▶ Freescale 9S12XF512, 16 bit, 100 MHz, X-GATE coprocessor
- ▶ Memory: 512kB Flash, 32kB RAM, 4kB EEPROM

### Interfaces

- ▶ FlexRay
- ▶ CAN / CAN FD
- ▶ LIN
- ▶ RS-232
- ▶ Powerline Communication
- ▶ Ethernet
- ▶ Digital outputs
- ▶ Analog inputs

### Software modules

- ▶ Bootloader
- ▶ EEPROM
- ▶ Tasks
- ▶ System time
- ▶ Software triggers
- ▶ Watchdog
- ▶ TCP/IP stack with telnet and web server
- ▶ Several system interrupts (e.g. low-voltage, high temperature, ...)

### Electrical characteristics

- ▶ Operating voltage 10 V – 30 V
- ▶ Inverse-polarity protection 40 V

### Area of application

- ▶ Temperature range -40°C – +85°C

### Mechanical characteristics

- ▶ Length x Width x Height 108 x 62 x 28 mm