

About IPG Automotive



As an innovation driver for virtual test driving, the company is a leading global provider of software and hardware products for the automotive and supplier industry. With the areas [SimulationSolutions](#), [TestSystems](#), [Hardware](#) and [EngineeringServices](#), IPG Automotive supports its customers in creating innovations and shaping their development process efficiently.

The innovative solutions [CarMaker](#), [TruckMaker](#), and [MotorcycleMaker](#), as open integration and test platforms, facilitate great savings in time and cost for customers, in a continuous development process of Model-, Software- and Hardware-in-the-Loop, all the way to the Vehicle-in-the-Loop method. The application ranges from the general vehicle dynamics simulation, the development and test of chassis control systems, as well as interconnected systems such as chassis, powertrain, and steering, through to the analysis of electro and hybrid technology.

Another strength of IPG Automotive is the development of future-oriented solutions for the integration and testing of advanced driver assistance systems.



For technical details and the download of the hardware catalog visit:

ipg.de/hardware/

IPG Automotive GmbH

Xpack4 Hardware

IO-interfaces for industrial CompactPCI and VME bus systems

Combine our modules, boards and chassis to your personal hardware platform



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M410 – CAN FD interface

Transmit more data in less time

- » 4 independent CAN FD channels
- » Exact time stamps for Tx and Rx messages
- » Significantly higher bandwidth compared to CAN
- » Downward compatibility to CAN
- » Faster data transmission
 - » More data per message (64 byte)
 - » Higher transfer rates (up to 8 Mbit)
- » Usage of more complex networks



M405 – LIN bus interface



Control a huge number of sensors and actuators with only one module

- » 12 independent LIN channels
- » 16 slaves per channel
- » Up to 12 master nodes
- » Baud rate (1kBaud ... 20kBaud)
- » Including 30kOhms slave termination
- » Software switchable master termination (1kOhm)
- » Trace mode available for bus traces
- » LIN bus voltages up to 30V

VideoInterfaceBox

Directly transfer video data into camera ECUs

- » Real closed-loop camera HIL-testing
- » Elimination of synchronization issues (torn frames, ghost images)
- » Up to 4 independent camera channels
- » Suitable for high-contrast applications (AFLS)

FailSafeTester

Automate your fail safe testing



- » Simulation of electrical faults, e.g.:
 - » Interruption (cable break, loose contact)
 - » Contact resistance (corrosion)
 - » Shunt (leakage current)
 - » Short circuit (with ground/other wires)
- » Modular and extendable system
- » Script-based test definition and administration
- » RS232 or CAN communication
- » Different cards available (e.g. resistor and relay cards)

M406 – PSI5 interface

Proven in dozens of airbag applications

- » 8 independent slave channels
- » Up to 4 sensors per channel
- » 1 master channel
- » Current-based signal modulation
- » Embedded clock signal
- » Reliable and robust sensor interface
- » Open standard for automotive safety applications
- » Suitable for airbag, engine management, vehicle dynamics and powertrain applications
- » Freely configurable initialization phase

M412 – Park sensor simulation

Simulation of up to 6 ultrasonic sensors

- » Digital and analog interfaces, 2 operation modes:
 - » Simulation of the digital protocol between ECU and sensor
 - » Direct stimulation of the piezo crystal by creating ultrasonic sound impulses
- » Max. resolution 1µs

M407 – SPI interface

Serial data transmission at high frequencies / acceleration sensor emulation for airbag applications

- » Configurable for use as 1 master/2 slaves
- » High transmission frequencies
 - » Master 20 MBaud, slave 12 MBaud
- » Synchronous, serial, full duplex transmission
- » Widely spread in various application fields like µController, LCDs, intelligent sensors, etc.
- » High physical range by two-part LVDS to SPI concept
- » Sensor emulation of SPI-based airbag acceleration sensors like Bosch SMA550/SMA560
- » Additional device emulations on request

