

## ISM-2292

### Microcontroller-module with 32 Bit ARM-7 CPU Core (Philips) and CPLD



The ISM-2292 incorporates a powerful 32 bit ARM-7 microcontroller (LPC2292) with a configurable logic circuit (CPLD), a RAM memory extension, a serial FRAM and a real time clock on a compact, pluggable circuit board. Its uses the form factor of our ISM-module family.

The module targets on embedded applications demanding for high computing power and large memory space. Equipped an external 10 MHz crystal, the LPC2292 can be configured to up to 60 MIPS, which results in a minimal time down to 17 ns.

The ISM-2203 module is has 1 MByte RAM memory with a 16 Bit data bus installed onboard.

The LPC2292 controller comprises 256 KByte Flash und 16KB RAM.

The CPU offers a versatile set of integrated peripheral devices such as analogue-digital converter, PWM-generator, dual SPI-interface, I<sup>2</sup>C-Bus interface, dual UART, dual channel CAN controller (CAN 20.b).

An integrated bus controller with up to 4 programmable chip select lines and flexible parameter options (waitstate, tristate delay etc) allows for easy addition of external memory mapped devices without additional glue logic.

A fast programmable logic device (CPLD, XC65144, Xilinx) is coupled via the cpu's address and data bus.

This CPLD offers 144 macrocells, which gives the user a lot of options for implementing special functions in hardware.

In addition to the RAM memory the module offers a 8 KByte FRAM memory, which is accessed bus the I<sup>2</sup>C-bus.

The same applies to the real time clock circuit, which is also integrated on the module.

All signals of the ISM-module are connected to the both 1.27mm SMT connectors with 68 contacts on each connector. The connectors are fabricated by ERNI (SMC series). These connectors are a sane compromise in terms of ruggedness and high density. The female counterparts are available in different heights, so the distance to the carrier board can be varied by selecting the appropriate connector.

### Specifications

- LPC-2292 (ARM-7) by PHILIPS
- RAM: 1 MByte (16 bit wide data bus)
- Real time clock: RTC8564JE (I<sup>2</sup>C-bus)
- Serial FRAM 24C64 (8 KByte)
- Reset circuit with voltage supervisor
- JTAG connector for easy debugging
- Rugged, high density connectors (1,27 mm grid)
- expandable by CPU bus (20 bit address- und 16 bit data bus) or I<sup>2</sup>C- or SPI-Interface
- dimensions: 55 x 70 x 15 mm
- single supply 5V DC, all other voltages (3.3V, 1.8V) are generated onboard
- Current consumption: 200 mA

### Optionen

- ISM-BASE-01  
Carrier board with power supply circuit (9-36 V DC input), RS-232 connector Port and pin headers for various interface modules, socket for optimal Ethernet module, breadboard area

### Ordering information

ISM-2292                      version with 512 KByte X 16 RAM

## Block diagram ISM-2292:

