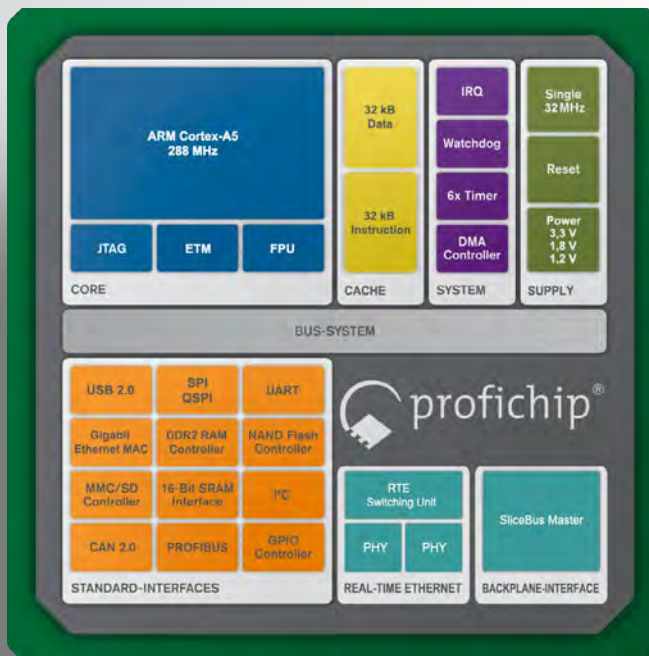


# Profichip ANTAIOS

Real-Time Ethernet Communication Controller



## Discover new ways...

Multiple fieldbus support  
288 MHz ARM Cortex-A5 Processor  
Ethernet interface with real-time switch  
Gigabit Ethernet MAC  
SliceBus-Master

... to industrial communication



## One small chip combines fast Real-Time Ethernet technology with traditional fieldbuses and a backplane master

### ARM Cortex-A5 Core

288 MHz clock speed  
64 Bit Floating Point Unit  
Little-endian Byte ordering  
32/32 kByte instruction/data cache  
Debug Interface:  
JTAG, ETM, ETB, ITM

### Advanced Real-Time Ethernet Switch

3 Port switch  
(2 external Ethernet + 1 internal)  
Integrated PHYs  
Programmable switch  
Microcode and software stack based on implementation for

- » PROFINET IO-Device RT/IRT
- » EtherCAT Slave
- » Mechatrolink-III/IV Master/Slave
- » EtherNet/IP Adapter
- » Other Ethernet protocols on demand

### Classic fieldbus options

PROFIBUS Master x2 (12 Mbit/s)

- » Protocols: DP-V0, DP-V1/V2

PROFIBUS Slave (12 Mbit/s)

- » Protocols: DP-V0, DP-V1/V2

CAN Controller x2 (1 Mbit/s)

### Fieldbus options and stacks

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- » PROFIBUS Slave DP-V0
- » PROFINET IO-Device RT/IRT library
- » EtherCAT Slave

Purchasing stacks (source codes)

- » PROFIBUS Slave DP-V1/V2
- » PROFIBUS Master
- » PROFINET IO-Device RT/IRT
- » PROFINET IO-Controller RT/IRT
- » Mechatrolink-III/IV Master/Slave
- » CANopen
- » Others on demand

### Standard Interfaces

USB 2.0 Device Controller (480 Mbit/s)  
UART x2 (12 Mbit/s)  
Gigabit Ethernet MAC (supports 10/100/1000 Mbit/s modes)  
SPI Channel

- » Master Mode with 80 Mbit/s
- » Slave Mode with 24Mbit/s

QSPI Channel Master 384 Mbit/s  
SRAM Interface

- » Master configurable 8 Bit/16 Bit
- » Slave 16 Bit

I<sup>2</sup>C x2

### SliceBus-Master controller

Backplane or local bus communication  
Local single Master for I/O-Modules  
Up to 64 nodes  
High speed 48 Mbit/s  
Alarm and error handling

### Memory Interfaces

MMC/SD Card Controller  
NAND Flash Controller 8 Bit  
DDR2 RAM 16 Bit Controller (max. 800MByte/s)

### Other Features

DMA Controller (8 channels)  
IRQ Controller (8 priority levels)  
Watchdog  
Six independent 32 Bit timers with prescaler  
Technology Function Module (TechIO)

- » Max. 26 IN / 20 Out (shared pins)
- » Configurable digital input filter
- » Counter 4 channels
- » Valuation for incremental encoders
- » PWM 4 channels
- » SSI 2 encoder interfaces

### Package

TFBGA380:  
15x15mm<sup>2</sup>, 0.65 mm pitch  
TFBGA385:  
19x19mm<sup>2</sup>, 0.80 mm pitch

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