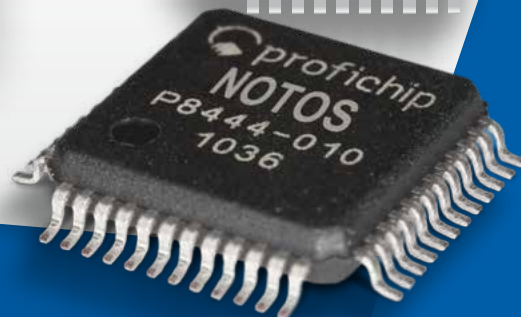
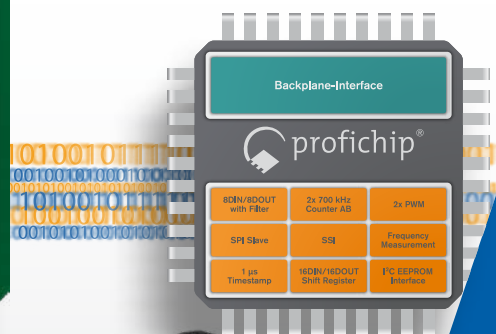
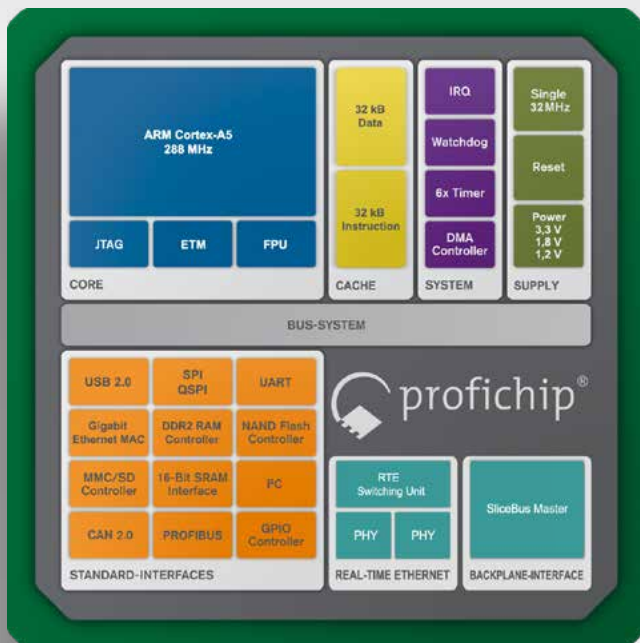


## profichip<sup>®</sup> ANTAIOS & NOTOS

SliceBus<sup>®</sup> Technology Industrial Backplane Chipset



## Performance and flexibility ...

- High-speed communication for modular I/O systems
- Ready-to-use chipset
- Outstanding noise immunity, detailed diagnostics, accurate time synchronization, and smart error handling
- Easy expansion up to 64 nodes
- Flexibility for multiple fieldbus couplers and interfaces
- Integrated technology functions reduce total system cost

... to build your own system!



Fast backplane master features all standard communication protocols and slave ASIC for price-sensitive and future-ready I/O systems.

### ANTAIOS Main Features

- ARM Cortex-A5 core
- Programmable real-time Ethernet switch with integrated PHYs
- PROFIBUS® Master/Slave interface
- USB 2.0, 2 x UART, SPI Master/Slave, I<sup>2</sup>C (up to 1000 kHz), GMAC (10/100/1000 Mbit/s), 2 x CAN and 16-bit SRAM Master/Slave interface
- MMC/SD card, 8-bit NAND Flash, QSPI Flash, DDR2 RAM 16-bit controller

### NOTOS Technology Functions

- Up to 32-bit digital I/O
- Advanced counters with additional time stamp information
- SSI function with time stamp information
- Pulse width modulation with 20 ns resolution
- Frequency measurement mode with up to 600 kHz resolution, special digital I/O time stamp node (ETS: Edge Time Stamp System) for input edge and output control with 1 µs resolution (independent from fieldbus cycle!)

### SliceBus Features

- ANTAIOS SliceBus single Master system
- Up to 64 NOTOS Slave stations
- 48 Mbit/s LVDS physics
- Additional alarm line for initialization and asynchronous event communication from node to master
- Master identifies and addresses all nodes autonomously

### Error Detection Mechanism

- CRC code with Hamming distance 4 for every telegram (all 3-bit errors are detected)
- Watchdog function inside every NOTOS Slave for Master observation
- NOTOS "Auto shutdown"

### Time Synchronization

- Every NOTOS with internal 62.5 ns resolution clock
- 3 additional synchronization interrupt outputs
- Slave synchronization with ANTAIOS SliceBus Master (accuracy of < 100 ns)
- Master-to-Master clock synchronization option for most industrial fieldbus protocols (PROFIBUS DP-V2, PROFINET®, EtherCAT®,...)

### SPI Slave Interface in NOTOS

- Applications using an external microcontroller (analog I/O, safety or serial CPs)
- 80 Mbit/s data rate
- Up to 180 bytes for parameters, up to 128 bytes In / 128 bytes Out data for external microcontroller
- Alarm and watchdog function

### Performance (maximum values)

- Write 64 nodes (8 outputs/node): 17 µs
- Read 64 nodes (8 inputs/node): 32 µs (with node presence check)

### Package

- NOTOS: LQFP 48, 0.5 mm pitch, 9 x 9 mm<sup>2</sup>
- ANTAIOS:  
ANT1000: TFBGA 380, 0.65 mm pitch, 15 x 15 mm<sup>2</sup>  
ANT1001: TFBGA 385, 0.80 mm pitch, 19 x 19 mm<sup>2</sup>

YASKAWA Europe GmbH

Ohmstr. 4  
91074 Herzogenaurach  
Germany

+49 9132 744-200  
sales.profichip@yaskawa.eu.com  
www.profichip.com

11/2019