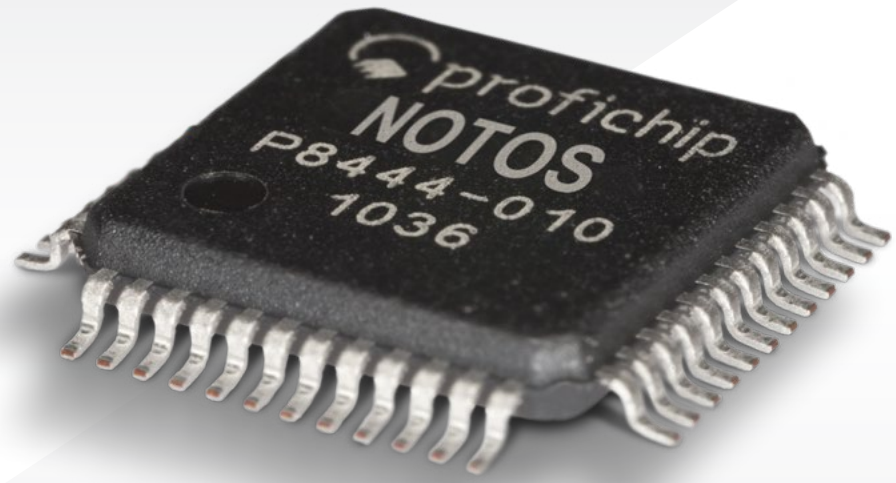
YASKAWA

profichip® NOTOS

I/O Backplane Controller for High-speed Remote I/O



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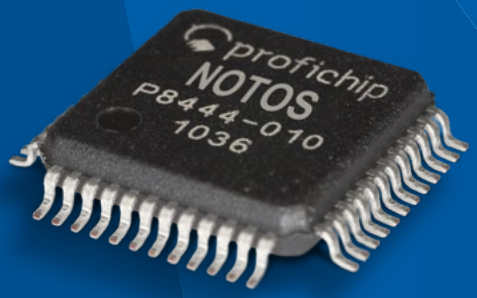
Main Features

- Pin- and function-compatible with existing SliceBus® technology and SNAP+ ASIC
- Integrated LVDS termination resistor
- Asynchronous, serial data transmission with 192 MBit/s via Point to Point LVDS physic
- Many enhanced features (see below in specific segments)



The SliceBus 2.0 technology was created to deliver many additional functionalities, in a price sensitive small frame.

Basic SliceBus Information

- Up to 64 slave (node) stations
- Additional alarm line for initialization and asynchronous event communications from node to Master
- Full system detection from SliceBus Master without external information on module configuration

Error Detection Mechanism

- CRC code with Hamming distance 4 for every telegram (all 3-bit errors are detected)
- Watchdog function inside every node for SliceBus Master observation
- “Auto shutdown” in case of SliceBus Master malfunction
- Retry statistic for early detection of possible transmission issues

Time Synchronisation

- Synchronized nanosecond clock for each node
- Option for clock synchronization from SliceBus Master to SliceBus Master via different protocols (PROFIBUS® DP-V2, PROFINET®, EtherCAT®, etc.)

Technological Functions in NOTOS

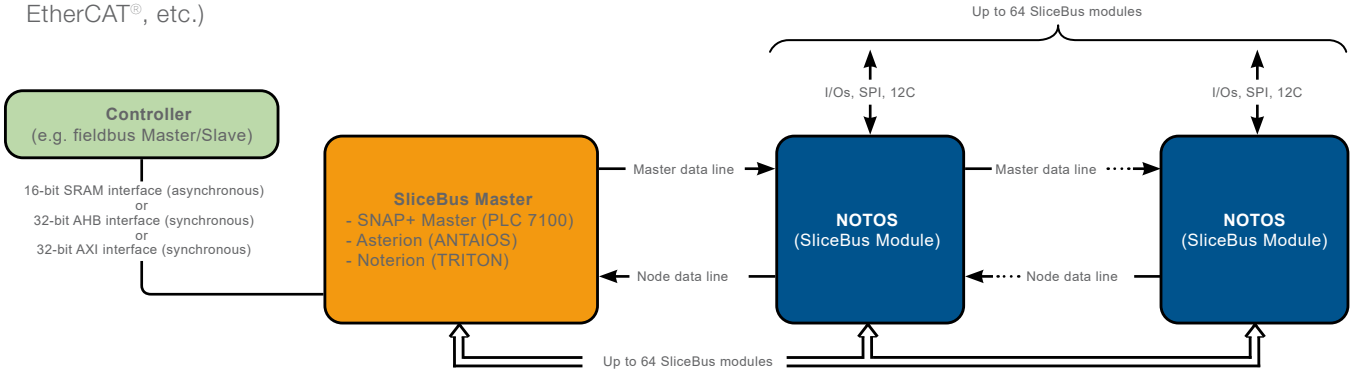
- Standard I/O function: 8 digital I/O or up to 32 I/O with shift register
- Integrated digital input filter function
- Asynchronous event signaling with nanosecond time stamping for advanced nodes
- Two advanced counters with AB oversampling, latch, reset, output, hysteresis, compare value, repetitive/endless counting and additional time stamp information
- SSI function with time stamp information (speed calculations: counter difference/time)
- Pulse width modulation with 20 ns resolution
- Frequency measurement mode
- Maximum counting frequency of 24 MHz
- Special digital I/O time stamp nodes (ETS: Edge Time Stamp System) for input edge and output control with nanosecond time (independent from fieldbus cycle!)

SPI Interface in NOTOS for Analog I/O / Safety / Serial CP with External MCU

- 80 Mbit/s SPI interface for external microcontroller
- Up to 128 byte In / 128 byte Out data for external microcontroller
- Alarm function and watchdog function
- Service channel for 3 additional synchronization interrupt outputs
- Channel for extended data exchange
- Extended diagnostic dataset for SPI Master

Mechanical and Electrical Specifications NOTOS

- I/O voltage: 3.3V, typ. 10 mA; Core voltage: 1.2V, typ. 22 mA
- LQFP 48 package, 9.0 mm², 0.5 mm pitch



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