

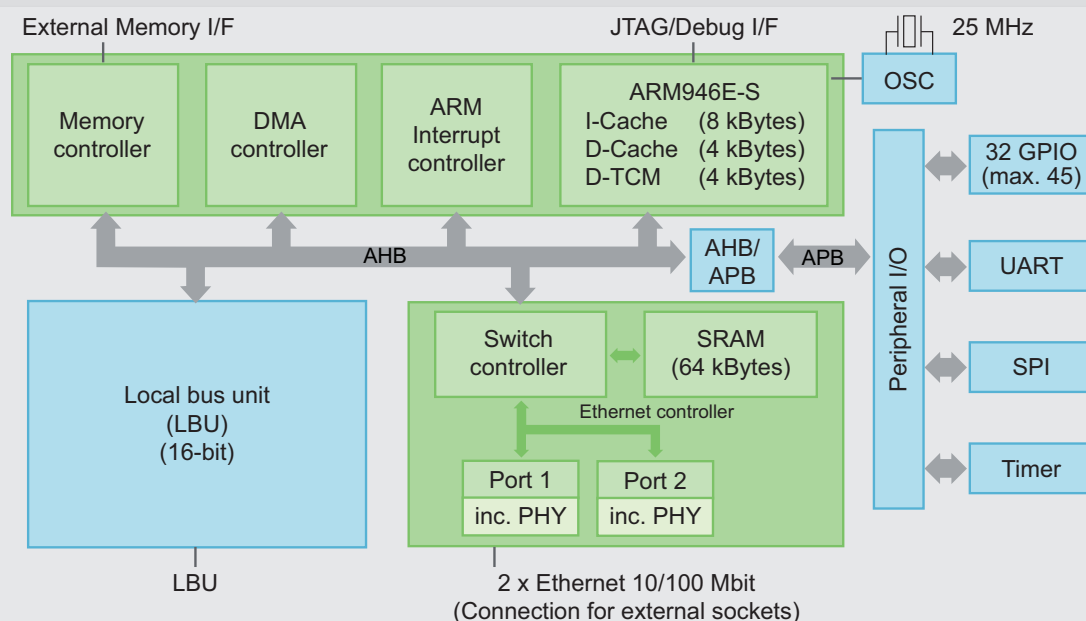
ERTEC 200

Ethernet Controller

The Industrial Ethernet device ERTEC 200 (Enhanced Real-time Ethernet Controller) is a high-performance integrated Ethernet Controller with a 2-port real-time switch with integrated PHYs and a 32-bit microprocessor developed for industrial use.

The ERTEC 200 device combines isochronous real-time (IRT) and IT data without compromise.

- High-performance ARM946E-S RISC core
- 150 MHz max. clock frequency
- 4-kByte D-Cache, 8-kByte I-Cache
- 4-kByte D-TCM
- Integrated PLL
- Debug and trace capability via embedded ICE (JTAG controlled)
- Interrupt controller with priority support for 16 normal and 8 fast interrupts
- Internal high-speed multilayer AHB bus running at 50 MHz
- Boot ROM for various download sources
- 2-port switch
 - 10/100-Mbit Ethernet support
 - 64-kByte SRAM for telegram buffering
 - Integrated PHYs for twisted-pair and optical cables
 - Non-real-time and real-time data transfer support
- Low-cycle-time, low-jitter isochronous real-time data transfer
- External memory interface for
 - Up to 128 MByte SDRAM
 - Up to 64 MByte of static memories and peripherals (4 chip selects)
- DMA controller
- 2 x 32-bit and 1 x 16-bit timers
- Local Bus interface for external host CPU
- Independent asynchronous serial port
- SPI master/slave interface
- Up to 45 I/Os
- 304-pin BGA package
- Power supply: 3.3 V and 1.5 V
- Temperature range: -40 °C to +85 °C



Applications

The integration level of the ERTEC 200 opens up new perspectives for factory automation. Target systems for the ERTEC 200 include PROFINET IO devices and drive interfaces.

Thanks to innovative switching technology, the special requirements of automation with regard to line topology, hard real-time and unlimited IT openness have been satisfied within a single technology for the first time.

Benefits

- All functions on chip for high-performance system solutions in the automation industry (system on chip)
- Highest degree of intelligence in the smallest space
- Hardware-supported pre-processing of real-time communications increases performance
- Support for redundant transmission features
- IRT facilitates extremely fast data transmission combined with an openness through compatibility to IEEE 802
- Up to 150 axes can be controlled in isochronous mode leaving 50% of the bandwidth solely for IT communication
- Broad field of applications thanks to comprehensive interfaces
- Industry-standard environmental characteristics
- Supports IT communication and parallel and unrestricted real-time data communication on a single line

Ordering Information

Devices

Part number	Package
μPD800261F1-816-HN2-A	P-FBGA, 304-pin, 19 x 19 mm ² , 0.8 mm ball pitch

Remark: Products with -A at the end of the part number are lead-free products.

Documentation

Doc Reference	Type
A17989EE2V0DS00	ERTEC 200 Datasheet
A17988EE1V1UM00	ERTEC 200 User's Manual

For further information on Renesas Ethernet Controllers visit our European website at www.renesas.eu

Before purchasing or using any Renesas Electronics products listed herein, please refer to the latest product manual and/or data sheet in advance.

