

ERTEC 400

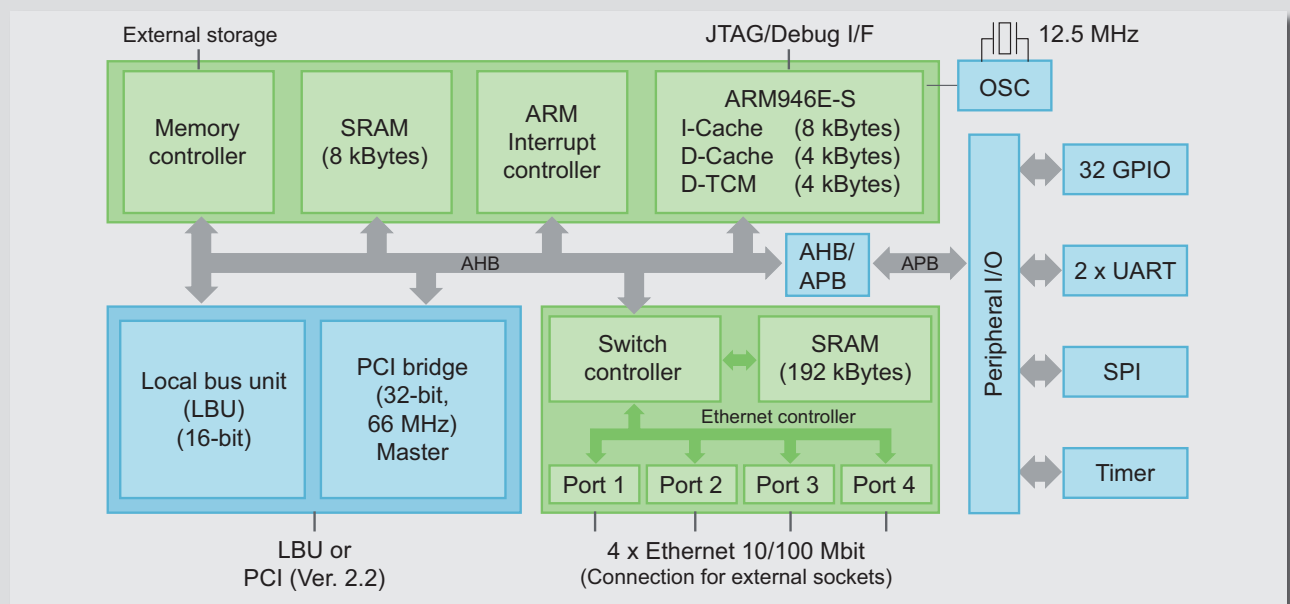
Ethernet Controller

The industrial Ethernet device ERTEC 400 (Enhanced Real-time Ethernet Controller) is a high-performance integrated Ethernet Controller with a 4-port real-time switch and 32-bit microprocessor developed for industrial use.

The ERTEC 400 device combines isochronous real-time (IRT) and IT data without compromise.

Features

- High-performance ARM946E-S RISC core
- 150 MHz max. clock frequency
- 4-kByte D-Cache, 8-kByte I-Cache
- 4-kByte D-TCM
- Integrated V 2.2 PCI interface
- Integrated PLL
- Debugging capability via embedded ICE (JTAG)
- 8-kByte SRAM on chip
- Boot ROM
- 4-port switch
 - 10/100-Mbit Ethernet support
 - 192-kByte SRAM for telegram buffering
- Non-real-time and real-time data transfer support
- Low-cycle-time, low-jitter isochronous real-time data transfer
- Asynchronous (32-bit) interface
- SDRAM interface for 256 MByte external memory
- Local bus master interface
- 2 independent serial ports
- SPI-Master interface
- 32 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 of the ERTEC 400 opens up new perspectives for factory automation with PROFINET. Target systems for the ERTEC 400 are automation devices for PROFINET I/O as well as PC-based systems and network components.

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
- PCI interface for optimal integration of PC-based environments
- IRT support facilitates extremely fast data transmission
- Openness through compatibility to IEEE 802
- Up to 150 axes 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 |
|-----------------------|--|
| μPD800232F1-014-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 |
|-----------------|-------------------------|
| A17813EE2V0DS00 | ERTEC 400 Datasheet |
| A17812EE1V1UM00 | ERTEC 400 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.

