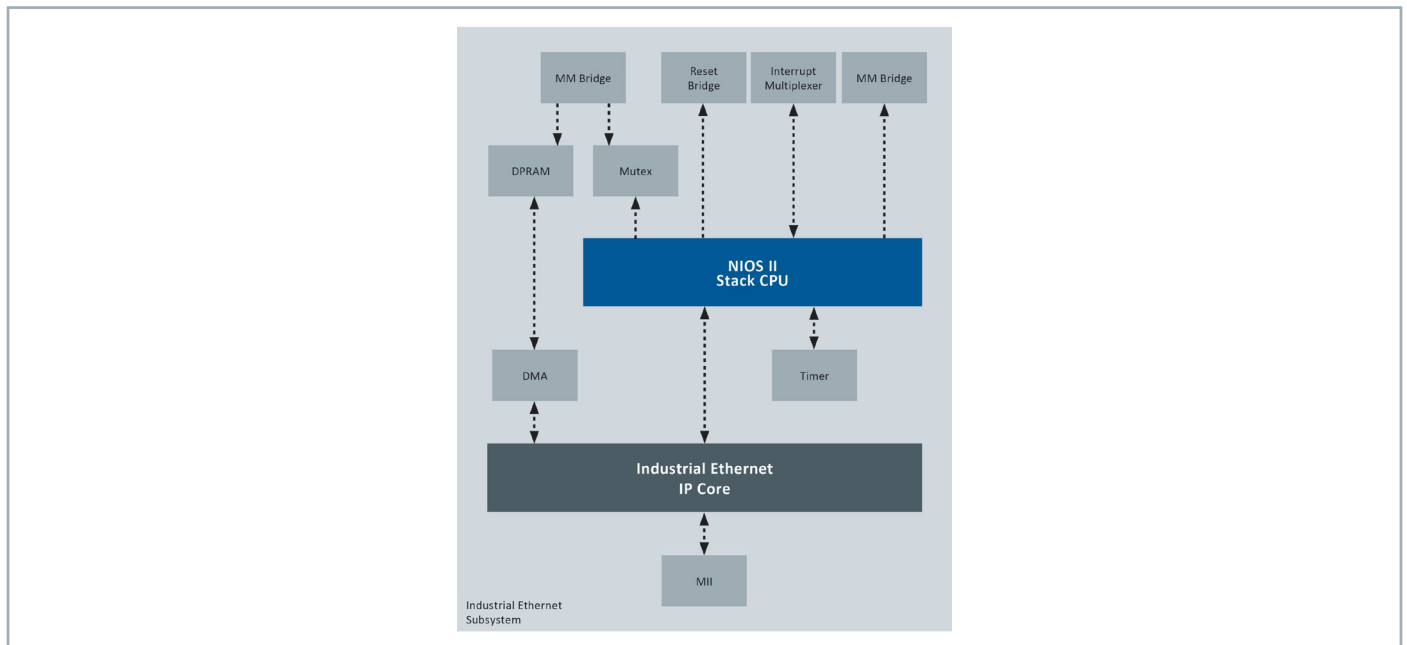


EtherCAT Slave for Altera FPGA

EtherCAT Slave Protocol Software for Altera FPGA

Easy-to-integrate field device solution based on the EtherCAT slave code and the EtherCAT Slave IP Core from Beckhoff. Supports the CAN Application Protocol Over EtherCAT (CoE) and Ethernet Over EtherCAT (EoE).



Easy and Inexpensive Development of EtherCAT Field Devices Using Altera FPGAs

- Ready-to-use EtherCAT Qsys system
- Demo application included
- Future versions can easily be integrated

One API For Quick Integration

- Simple Device Application Interface (SDAI) designed as efficient protocol abstraction layer to use different protocols with same application
- PROFINET IRT, EtherCAT, EtherNet/IP, POWERLINK and Modbus TCP using the same API
- Single and dual processor systems supported

Improved Performance

- Minimum I/O data delay between physical layer and application
- Process data processed by DMA logic
- Guide to efficient application programming included

Standard IT Support in Parallel with Industrial Ethernet

- Direct forwarding of IP packets to application
- No need to change existing IP structure
- Socket interface for simple integration

Technical Data

Functionality Full Slave Device (Data Link Layer) with two Ethernet Ports

Performance Characteristics	FMMUs	3 (configurable)
	Sync Managers	4 (configurable)
	EtherCAT State Machine	Supported
	Distributed Clocks	Supported
	Generation of Synchronous Outputs	(SYNC0/1)
	CAN Application Protocol Over EtherCAT (CoE)	Supported
	Object Dictionary with Standard CoE Objects	<ul style="list-style-type: none">• Device Type• Manufacturer Device Name• Manufacturer Hardware Version• Manufacturer Software Version• Identity• RxPDO Mapping (up to 32 instances)• TxPDO Mapping (up to 32 instances)• Sync Manager Communication Type• Sync Manager 2 PDO Assignment• Sync Manager 3 PDO Assignment
	SDO Upload/Download, SDO Information Services	Supported
	Complete SDO Access	Supported
	Ethernet Over EtherCAT (EoE)	Supported

Scope of Delivery

Software	EtherCAT Slave Protocol Software	<ul style="list-style-type: none">• Stack software in binary format (based on source code from Beckhoff)• Simple Device Application Interface in source format
	Sample Program in Source Format	<ul style="list-style-type: none">• Application program with simulated I/O, runs on Altera FPGA• Program can be expanded and customized by users
	XML File for Sample Program	Used by engineering/configuration tools
	TwinCAT Project for Interaction with EtherCAT Device	Project for a Beckhoff PLC for accessing an EtherCAT Slave with the sample program
Documentation	Interface description, guide on using the sample program	

Order Numbers

ISL-YY-013310 Industrial Ethernet Field Device Stack, Per Unit License for FPGA

Additional Products and Services

KEL-AB-010001	Altera Cyclone V E FPGA Development Kit and MAX V licensing board
SIA-YY-012501	Integration workshop for implementing field devices based on Altera Cyclone FPGA family
SIA-YY-012503	Integration support provided by e-mail or phone



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