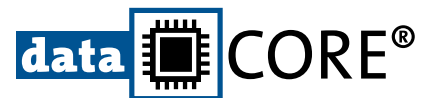


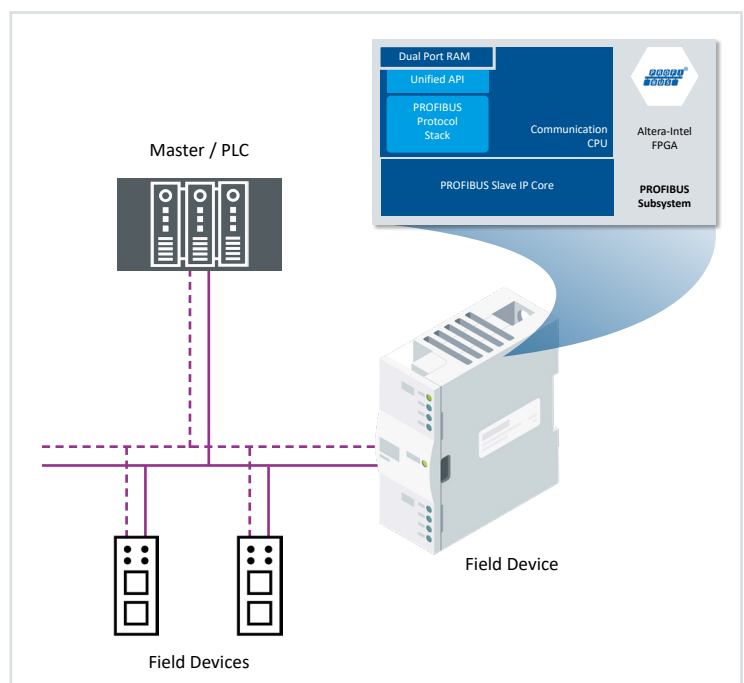
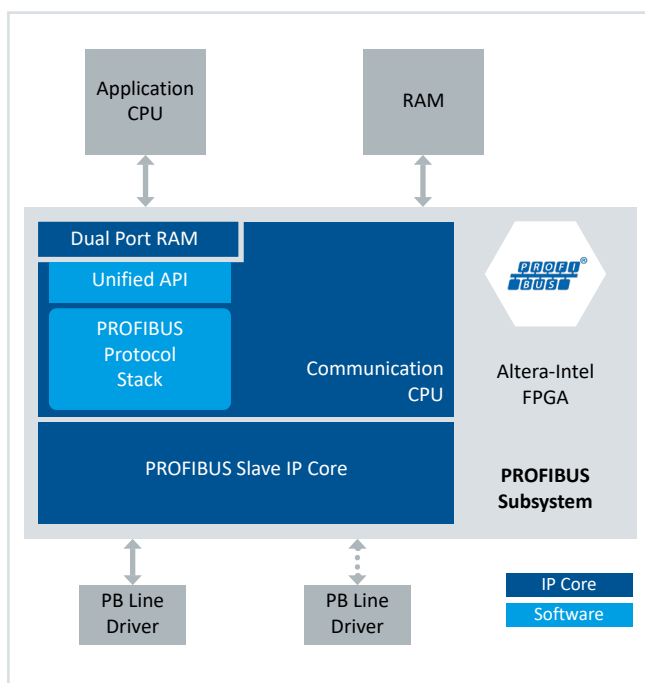
# PROFIBUS DP Slave



## Subsystem for Altera-Intel FPGA

PROFIBUS DP Slave IP Core and Communication Processor for the Integration of PROFIBUS on Altera-Intel FPGA

- Simplifies PROFIBUS DP connectivity for field devices with Altera-Intel FPGA
- Optimized PROFIBUS DP IP core and pre-installed software handle the entire protocol
- PROFIBUS DP and other industrial networks are supported by the same API
- Fast and robust operation by hardware/logic support and optional line redundancy



### Easy-to-Integrate PROFIBUS DP Subsystem for FPGAs

- Entire protocol is handled by pre-installed software, no need for any porting
- Example project for fast hands-on experience
- Adaptation to the application requirements by extensive configuration options
- Large choice of supported FPGA families and sizes

### Low Total Cost of Ownership

- No dependency on special ASICs
- Risk-free implementation thanks to Softing's consulting, integration, and pre-certification services
- Re-configuration and extension possible even after production
- Simple addition of further protocols

### Pre-certified to Latest Standards

- Compliant to current PROFIBUS specifications
- Tested with current conformance test tool „PROFIBUS DP Tester“

### Fast and Robust Operation

- PROFIBUS DP IP core supports baud rates of up to 12 Mbit/s, offering fast automatic baud rate recognition
- Device application software is separated from protocol software
- Support for slave redundancy and optional line redundancy
- Cycle times down to 100  $\mu$ s

# PROFIBUS DP Slave Subsystem for Altera-Intel FPGA

## Technical Data

IP Core configuration	<ul style="list-style-type: none"><li>▪ PROFIBUS DP Slave IP core</li><li>▪ Communication CPU IP core for processing the PROFIBUS DP protocol</li><li>▪ DPRAM interface to application processor (FPGA-internal or external)</li></ul>
PROFIBUS clocks	16 MHz, 84 MHz
Supported FPGA families	Cyclone III, Cyclone IV, Cyclone V, Cyclone V SoC, Cyclone 10 LP, MAX 10
Functionality	<ul style="list-style-type: none"><li>▪ PROFIBUS DP Slave</li><li>▪ PROFIBUS DP, PROFIBUS DP-V1</li><li>▪ Cyclic services</li><li>▪ Sync / Freeze</li><li>▪ Input / output data: up to 244 Bytes each</li><li>▪ Configuration / parameter / diagnosis data: up to 244 Bytes each</li><li>▪ Acyclic Read / Write (Master Class 1 and Class 2)</li><li>▪ Up to 3 simultaneous Master Class 2 connections</li><li>▪ Automatic baud rate recognition</li><li>▪ Identification &amp; Maintenance services (IMO)</li><li>▪ Modular slave with up to 64 modules</li><li>▪ Support of dynamic I/O configuration by Slave application</li><li>▪ Diagnostic alarms and Pull/Plug alarms</li><li>▪ Support of redundancy switch over command</li><li>▪ Optional line redundancy</li></ul>
Cycle time	down to 100 µs (minimum slave interval)
Application Programming Interface	Simple Device Application Interface (SDAI)

## Scope of Delivery

IP / Logic	<ul style="list-style-type: none"><li>▪ Complete PROFIBUS DP Slave subsystem</li><li>▪ Supplementary IP cores</li><li>▪ Sample application FPGA design</li></ul>
Software	<ul style="list-style-type: none"><li>▪ Ready-to-run protocol software (executable) for the PROFIBUS DP Slave subsystem</li><li>▪ API library for the application processor (including source code)</li><li>▪ Sample application software (including source code)</li></ul>
Documentation	Download: PROFIBUS DP subsystem implementation guide and additional information

## Order Numbers

[Please contact us for details](#)

### PROFIBUS DP Slave Subsystem for Altera-Intel FPGA

We are happy to discuss your particular requirements and adequate licensing options with you.

## Additional Products and Services

SIA-YY-012501	Integration workshop for implementing PROFIBUS DP
SIA-YY-012503	Integration support provided by e-mail or phone
<a href="#">Please contact us for details</a>	Integration and pre-certification services

Your local Softing contact:

<https://industrial.softing.com>

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