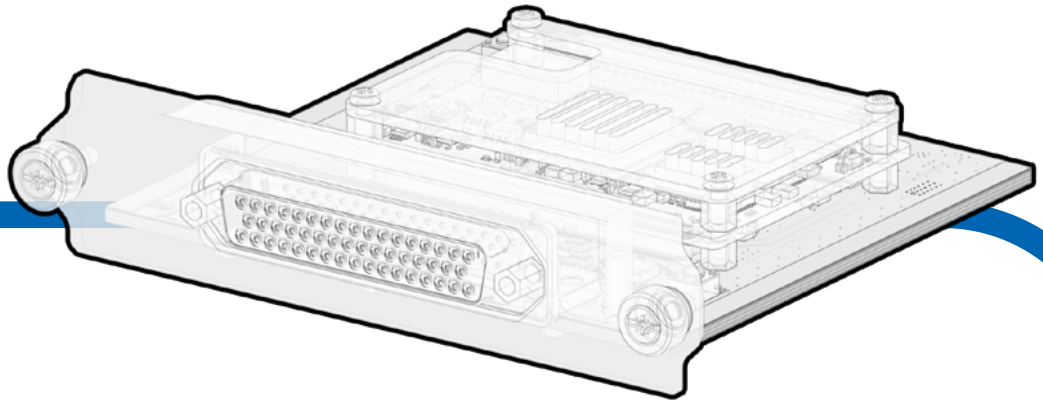
Datasheet



DE1100

Rugged DAQ System Controller Module

Zynq

DEICO

www.deico.com.tr

Contents

1. Description

DE1100 Rugged DAQ System Controller Module Zynq is designed to manage data acquisition chassis and their associated modules. It supports five different communication interfaces, including RS-232/422/485 (3 channels), Ethernet (1 channel), and USB 2.0 (1 channel).

Key features:

- 3-channel independently configurable RS-232/422/485 interfaces
- Up to 10 Mbps data rate for RS-422/485
- Up to 1 Mbps data rate for RS-232
- Programmable via JTAG and modular program blocks
- 1 Gbps Ethernet interface
- Simultaneous control of up to 8 modules

DE1100 Rugged DAQ System Controller Module Zynq is compliant with MIL-STD-461, MIL-STD-704E, MIL-STD-810G Change 1, and RTCA DO-160 standards.

Areas of application:

- Data acquisition module control
- Signal processing
- Real-time signal monitoring

2. Hardware Overview

2.1. Circuitry

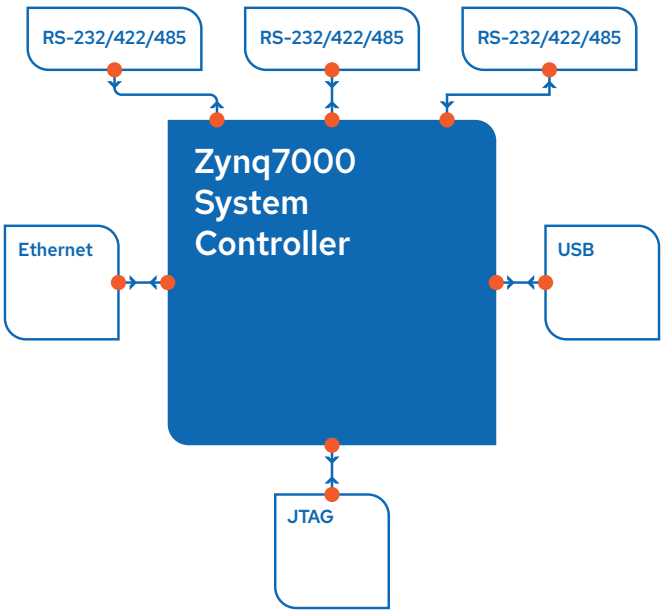


Figure 1: Block Diagram of DE1100

2.2. Hardware Specifications

2.2.1. Electrical

Specification	Minimum	Typical	Maximum	Notes
Input Voltage	—	5.4 V	5.5 V	—
Input Current	200 mA	—	1 A	
Total Power	1.08 W	—	5.4 W	—
Access Rate to Modules	—	—	50 Mbps	—
RS-232 Speed	—	—	1 Mbps	—
RS-422/485 Speed	—	—	10 Mbps	—
Ethernet Speed	—	—	1 Gbps	—
USB 2.0 Speed	—	Full Speed	—	

2.2.2. Physical

Specification	Minimum	Typical
Front Panel Connector	DSUB-50	MPN: M24308/23-29Z

2.2.3. Environmental

Specification	Condition	Value
Operating Temperature	-	-40 °C - +45 °C

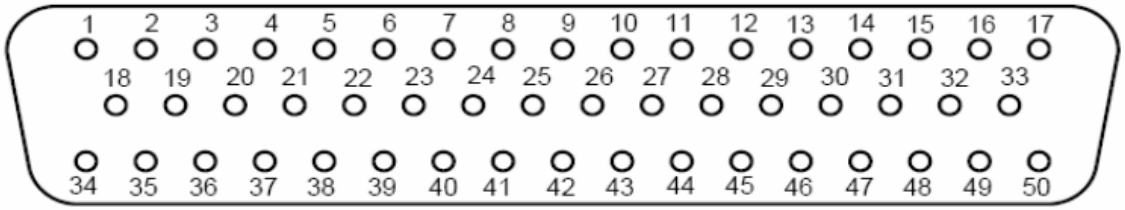
3. Signal Connections

3.1. J1 Connector Pinout

Table 1: J1 Connector Pin Assignments

DSUB Pin Number	Signal Name
1	RS-RX3-P
2	RS-RX3-N
3	GND
4	ETH-MD0-P
5	ETH-MD0-N
6	ETH-MD1-P
7	ETH-MD1-N
8	ETH-MD2-P
9	ETH-MD2-N
10	ETH-MD3-P
11	ETH-MD3-N
12	GND
13	RS-RX2-P
14	RS-RX2-N
15	RS-TX2-N
16	RS-TX2-P
17	RS-RX1-N
18	GND
19	GND
20	GND
21	GND
22	GND
23	GND

DSUB Pin Number	Signal Name
24	GND
25	GND
26	GND
27	GND
28	GND
29	GND
30	GND
31	GND
32	GND
33	RS-RX1-P
34	RS-TX3-N
35	RS-TX3-P
36	GND
37	USB-N
38	USB-P
39	USP-5V
40	OTG-ID
41	GND
42	GND
43	JTAG 3V3
44	TCK OUT
45	TMS OUT
46	TDI OUT
47	TDO OUT
48	GND
49	RS-TX1-N
50	RS-TX1-P



4. Safety Guidelines

Caution

The DE1100 must not be operated in any manner not specified in this document. Misuse of the product may create a hazardous situation. The safety protection incorporated into the product can be compromised if it is damaged. In case of damage, the product should be returned for repair.

5. Electromagnetic Compatibility Guidelines

This product has been tested and found to comply with the applicable regulatory requirements and limits for electromagnetic compatibility (EMC). These requirements and limits are designed to provide reasonable protection against harmful interference when the product is operated within its intended electromagnetic environment.

The product is intended to be used in industrial locations. However, harmful interference may still be caused in certain installations, particularly when connected to peripheral devices or test objects, or when operated in residential or commercial environments. To reduce the potential for radio and television interference and to avoid unacceptable degradation in performance, the product must be installed and used strictly in accordance with the instructions provided in the documentation.

In addition, any changes or modifications to the product that are not expressly approved by DEICO are not permitted and could void the user's authority to operate the equipment under applicable regulatory provisions.

Caution

This product shall be operated only with shielded cables and accessories to ensure the specified EMC performance.