DIC334
Digital I/O Module with Galvanic Isolation

Features

- System Bus: PCIe interface;
- Digital input: 16 x digital / frequency input channels;
- Digital output: 8 x digital output channels;
- LEDs: Indication of inquiries (references);
- Power supply and power consumption: +5 V±5%, no more than 160 mA;
- Operating temperature range: from -40 to +85°C
- Resistance to sinusoidal vibration: 5 g for the frequencies from 10 to 500 Hz;
- Software comptibility: Linux, Windows XP Embedded;
- MTBF: 710,000 hours.

Overview

The module is implemented in the StackPC standard and has 16 x isolated digital input and 8 x isolated digital output channels.

All the channels are isolated from the system and from each other.

The channels have two-wire or single wire connection (with common ground). The connection of dry contact signals using an external (up to 52V) power supply source is possible.

The load connection: two-wire / single-wire.

Technical Specifications

System Bus

- PCIe interface (is a pass-through)

Digital input

- 16 x digital / frequency input channels
- Single-wire or double-wire connection of signals
- Input voltage from ±3.2 V up to ±52 V (logic level "1")

Digital output

- 8 x digital output channels
- Single-wire or double-wire connection of signals
- Switched output voltages / currents: 60 V/500 mA (with differential load connection)

LEDs

- Indication of inquiries (references)

Key features

- Input signal delay: 25µs
- Measuring frequencies using any channel
- Optoisolation of inputs between the channels: 500V
- Optoisolation of inputs between the channel and the ground:1000 V
- Programmable time interval for inputs debouncing

Key control capabilities

- Setting the range of module's input voltages
- Debouncing time programming

Power supply and power consumption

- +5 V±5%, no more than 160 mA

Operating temperature range

- from -40 to +85°C

Resistance to sinusoidal vibration

- 5 g for the frequencies from 10 to 500 Hz

Weight

- no more than 0.09 kg

Dimensions

- 100.0 x 96.0 x 24.0 mm

Resistance to single shocks

- 100 g.

Resistance to multiple shocks

- Peak acceleration 50g (number of shocks: 1000)

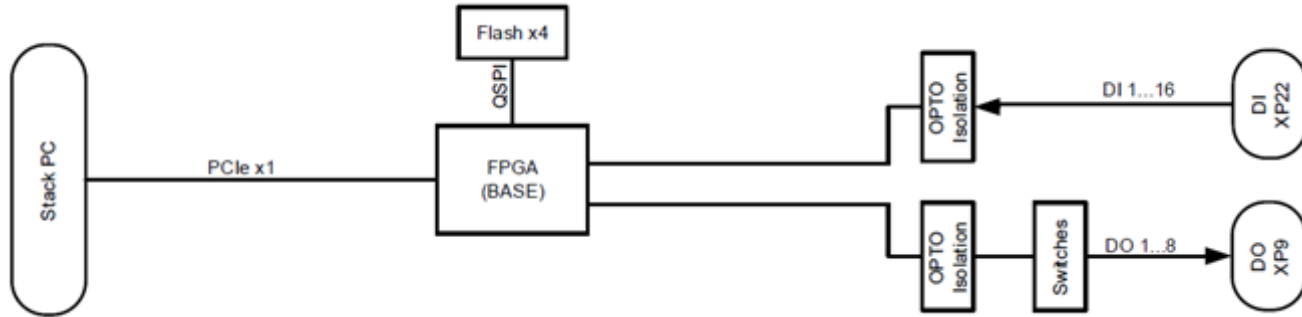### Software compatibility

- Linux
- Windows XP Embedded

MTBF

- 710,000 hours

Block Diagram / Connection Diagram

Block Diagram

Main functional elements:

- **FPGA (BASE)** – Xilinx XC7A15T-1CSG325I system FPGA;

- **Stack PC** – edge connector for 155 pins;

- **Digital_Inputs (DI)** – digital input connector (XP22);

- **Digital_Outputs (DO)** – digital output connector (XP9);

- **OPTO Isolation** – are output buffers with galvanic isolation;

- **Switches** – keys for switching the load.

Connection Diagram
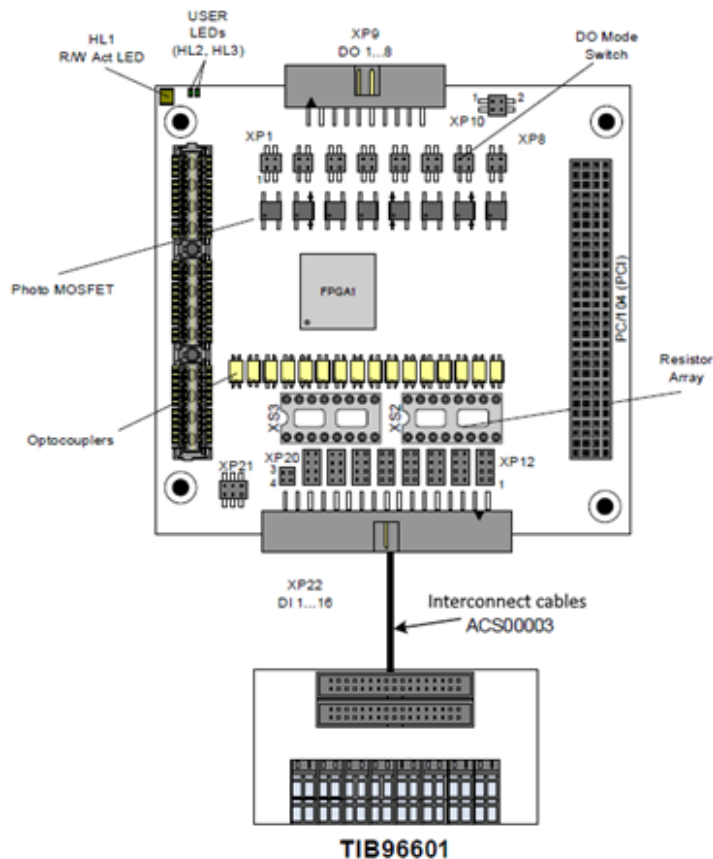
Connection to the DIC334 module is carried out with an ACS00003 / ACS00001 ribbon cable through the TIB96601 / TIB96401 terminal boards.

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Ordering Information

DIC334 Configuration

DIC334 \ Options

Configurations

DIC334-01   16 x digital or frequency input channels, 8 x digital output channels, StackPC, galvanic isolation

DIC334-01 \Coated   Version with conformal coating

Additional accessories

- **ACS00001**   Cable of FC-20 type, socket IDC-20/ socket IDC-20, length: 600 mm;
- **ACS00003**   Cable of FC-34 type, socket IDC-34/ socket IDC-34, length: 600 mm;
- **TIB96401**   Terminal board, 20 pins (TB20);
- **TIB96601**   Terminal board, 34 pins (TB34);

Delivery checklist

DIC334 delivery checklist contains:

1. DIC334 Digital I/O Module with Galvanic Isolation
2. Packaging

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