UNIO96-1
Multipurpose MicroPC I/O Card

Features

- 96-channel digital I/O card
- Compatibility with digital and analog opto-isolated modules Opto-22, Grayhill (including series 73G, 73L)
- Frequency measurement at any channel
  - From 9.2 to 73.0 kHz (accuracy 0.025%)
  - From 9.2 to 1900 kHz (accuracy 0.5%)
- Serial signal can be transmitted or received through any line (115200, 8, 1, N)
- Programmable debounce logic time on the lines: 40 ns, 320 ns, 4 ms, 60 ms
- Programmable configuration of channels as inputs or outputs in groups:
  - 8 groups of 8 channels and
  - 8 groups of 4 channels;
  - 48 groups of 2 channels
- 5 interrupt lines and a DMA channel
- Extended operating temperature range from –40°C to +85°C

Description

The module is a 96-channel digital I/O card in MicroPC format. UNIO96-1 accepts TTL-logic level signals.

The main application area of the module – to serve as an interface with opto-module racks MPB-24/TBI-24/TBI-16L (Opto-22, Grayhill) or with isolated I/O terminal boards TBI-xx/xx. Besides, the module can be used to control displays, LED-devices, for frequency measurements, for timing diagrams generation, for code conversion etc.

Opto-module Rack Interface

The main purpose of the UNIO96-1 is to provide an interface with opto-module racks (Opto-22, Grayhill) and with isolated I/O terminal boards TBI-xx/xx series (see connection diagram). The card allows to serve 96 modules of any type (analog, digital, input, output).

The serial data transseivers and frequency gage of the UNIO96-1 allow to control 1 input and 1 output Grayhill opto-isolated modules (73G/73L series) simultaneously using no processor resource (interrupt generation is possible).

Connections

Digital I/O lines of the UNIO96-1 are terminated with 4 26-pin IDC-type connectors. The TB-26 series terminal boards, MPB-xx series opto-racks, and TBI-xx/xx series isolated terminal boards can be used to connect the external lines to the module. The I/O channels can be pulled to +5 V or GND through 10 kΩ pull-up/pull-down resistors by groups of 24.

Technical Specifications

IInput voltage: CMOS and TTL levels compatible
Output voltage: CMOS level compatible
Output current: 0…12 mA (logic 0 level is 0.4 V or less), 0…4 mA (logic 1 level is 2.4 V or more)
Output current for opto-modules: 0…20 mA (not more than 1.0 V)
Analog conversion time: 900 µs max (series 73G-Ixx), 800 µs max (series 73G-Oxx), 600 µs max (series 73L-I/Oxx)
Power requirements Voltage: +5 V ±10%, consumption current 250 mA (without channels current)
Environmental Operating temperature range: –40 to +85°C, Relative humidity: 5% to 95% at +25°C

Modules Comparison Chart

	5600	UNIO96-1	UNIO96-5
I/O channels	96	96	96
Programmable I/O channels	8 groups of 8 lines + 8 groups of 4 lines	8 groups of 8 lines + 8 groups of 4 lines or 48 groups of 2 lines	Each line is individually programmable
Output capability, logical low/high (TTL levels), mA	2.5 / 2.5	12.0 / 4.0	8.0 / 8.0
Output capability for opto-modules, mA	15	20	30
Interface with analog Grayhill modules: conversion time for I/O channel, µs:			
Grayhill 73G series73L	–	900/800	125/200
Grayhill 73L series	–	300/300	33/75
Programmable debounce time	–	+	+
In-System Programming (ISP)	–	+ (with additional means)	+
Operating temperature range –40 to +85°C	+	+	+

Ordering information

DIC11101 Configuration

Device Type

DIC11101	UNIO96-1, multipurpose digital I/O module, 96 lines

Accessories

ACS00002	FC26-60, ribbon cable, 26 threads, IDC connectors, 0.6 m (2 ft)
DIB9120x	TBI-24/0C-x, digital input terminal boards, 24 channels
DIB91301	TBI-0/24C, isolated digital output terminal board, 24 channels
DIB91101	TBR8, relay switching module, 8 channels
TIB96101	TBI-24LC, terminal board for Grayhill 70L & 73L modules, 24 contacts
TIB96201	TBI-16L, terminal board for Grayhill 70L & 73L modules, 16 contacts
TIB96501	TB-26, terminal board, 26 contacts