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IP-Unidig-I-O

IndustryPack Module With 24 Optically Isolated I/O Lines and Interrupts

Application Information

The IP-Unidig-I-O IndustryPack provides up to 24 optically isolated inputs and up to 24 optically isolated outputs. Three variants options are available, selectable by order options. Each can generate interrupts:

- IP-Unidig-I-O–24IO has 24 lines which can be used for either inputs or outputs
- IP-Unidig-I-O–12I12O has 12 dedicated inputs and 12 dedicated outputs
- IP-Unidig-I-O–24I has 24 dedicated inputs.

The IP-Unidig-I-O–24IO, and the IP-Unidig-I-O–24I are Type II IndustryPacks with components mounted on both sides of the board. The module is built with optical couplers which have an isolation voltage of 2500 volts and a common mode transient immunity of greater than 1000 volts/microsecond. Both transmitters and receivers are double buffered and can operate at up to 1 Mbit/second.

The transmitters have an open collector output with a 10 kOhm pull up resistor standard. A user provided external power supply of 5 to 24 volts powers the user's equipment and the IndustryPack's isolated transmitters. The use of this power supply assures full isolation between the user's system and the system containing the IndustryPack.

Writing a one to any output turns off the opto isolator, allowing the pull up resistor to set the line to a passive logic high. Writing a zero to any output turns on the opto isolator, driving the line to a logic low. All output lines may be enabled or disabled by writing a bit in the control register.

Interrupts are supported by five registers. Interrupts for each line may be individually masked and its edge polarity programmed. Logic ensures that edges are not missed while the polarity is being programmed.

The industryPack's double buffering capability makes it possible to update many inputs and outputs on several IPs simultaneously. A user provided clock common to all the IndustryPacks is used to latch the input and output registers. The IP-Unidig-T is ideally suited to provide this clock, though any source with sufficient drive capabilities may be used. Double buffering is controlled by a bit in the Control Register.

Isolated input voltages are from 2.5 to 20 volts. Reset disables all output transmitters and disables double buffering. A subroutine library and Windows NT drivers are available.

Features

- 24 optoisolated I/O lines on a single-wide IndustryPack
- All lines individually programmable to generate interrupts
- 64 mA 5 to 24 V output operation
- 2.5 to 20 V input operation
- Available in three configurations
- Double-buffered input and output

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Specifications

Form Factor	-I-O-24I, -I-O-24IO: Single-wide Type I IndustryPack -I-O-12I12O: Single-wide Type II IndustryPack
IndustryPack Interface	Complies with ANSI/VITA-4
Interface Speed	8 MHz
Wait States	None
Number of Digital Lines	-I-O-24IO: 24 individually programmable and input or output -I-O-12I12O: 12 input, 12 output -I-O-24I: 24 inputs
Input Driver	0 to 20 V common mode, 500 uA minimum
Output Driver	Open collector transistor with 10 kOhm pullup 64 mA @ 5 to 24 V
ESD Protection	None
Interrupts	Individually maskable and edge polarity programmable
Isolation Voltage	100 V minimum. Also subject to carrier board and other considerations
Dimensions	1.8 inches x 3.9 inches
Weight	0.06 kg (0.1 lb)
Power Requirements (no load)	+5 VDC, 510 mA typ
Environmental	Operating temperature: -0 to +70°C Humidity: 5 to 95% non-condensing Storage: –40 to +85°C

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Ordering Information

IP-UNIDIG-IO-24IO	IndustryPack with 24 optoisolated I/O lines, each programmable direction, with interrupts
IP-UNIDIG-IO-12I12O	IndustryPack with 24 optoisolated I/O lines, 12 input, 12 output, with interrupts
IP-UNIDIG-IO-24I	IndustryPack with 24 optoisolated input lines with interrupts
EKIP50-UNIDIG11	Engineering kit for IP-Unidig-I-O if mounted on a carrier with 50-pin ribbon cable header front panel I/O connectors. Contains: Six foot 50 conductor ribbon cable (C-IP50F-IP50F-6) Fifty screw terminal block with ribbon header (IP-TERM) *(More items as below)*
EKHD50-UNIDIG11	Engineering kit for IP-Unidig-I-O if mounted on a carrier with HD50 front panel I/O connectors. Contains: Six foot cable HD50 male to HD50 male (C-HD50M-HD50M) Fifty screw terminal block with HD50 female (IP-TERM-HD50) *(More items as below)*
EKCM50-UNIDIG11	Engineering kit for IP-Unidig-I-O if mounted on a carrier with Champ50 front panel I/O connectors. Contains: Six foot Champ50 male to HD50 male cable (C-HD50M-CM50M) Fifty screw terminal block with HD50 female (IP-TERM-HD50) *(More items as below)*
All IP-UNIDIG-I-O engineering kits include:	Printed hardware user manual Bill of materials Board schematics Assembly diagram Seimens: SFH6316 data sheet
QP-UNIDIG-INT	QuickPack subroutine library for IP-Unidig-I-O. Contains: Printed software user manual Floppy Disk containing: C source code Release notes
ND-SDPACK	Windows NT 4.0 SDpacK IndustryPack driver CDROM

Associated Products

IP-UNIDIG-O-24IO	IndustryPack with 24 optoisolated I/O lines, each programmable direction
IP-UNIDIG-O-12I12O	IndustryPack with 24 optoisolated I/O lines, 12 input, 12 output
IP-UNIDIG-O-24I	IndustryPack with 24 optoisolated input lines
C-IP50M-IP50M-3	Three foot 50 conductor ribbon cable
C-IP50M-IP50M-6	Six foot 50 conductor ribbon cable
C-CM50M-IP50M	Three foot Champ50 male to ribbon cable
C-HD50M-HD50M	Six foot HD50 male to HD50 male cable
C-HD50M-CM50M	Six foot Champ50 male to HD50 male cable
IP-TERM	50 screw terminal block with ribbon cable connector
IP-TERM-HD50	50 screw terminal block with HD50 female connector

SBS Technologies, Inc.
8371C Central Avenue, Newark, CA 94560
(510) 742-2500 • sales.mio@sbs.com • www.sbs.com

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