# SEALEVEL I/O FAMILY

#### Innovative I/O

THURSDAY

Sealevel Digital I/O products are designed to simplify your automation and control projects. Terminal Block options are available to support all of your field wiring needs.

# Relay/Digital I/O

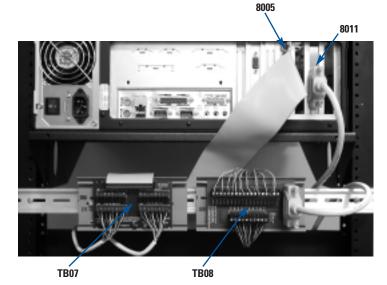
#### Form A and Form C Relays

Form A reed relays provide high quality, long life, low current (10 Watt maximum) dry contact switch closures. Reed relays are suited for low current (primarily resistive load) applications. The relays are normally open, and close when energized. Each relay can be individually energized by writing a "1" to the proper port bit, and opened by writing a "0". The relays power up reset in the open state.

Form C electromechanical relays are optimized for higher current applications (up to 2A). Sealevel's PLC16.PCI Part # 8011 board provides eight Form C relays and eight isolated inputs. The 8011 is shown in the photo connected to our TB08 terminal block via DB44 cable to simplify field wiring.

# Digital I/O

Digital I/O is used to control or monitor devices for computerized automation. Typically, digital outputs are used to drive relays. These relays are responsible for converting the digital signal to an appropriate current and voltage level that is capable of controlling the desired device such as a motor, PLC or



alarm system just to name a few. Conversely, optically isolated inputs are used to convert incoming control signals to electrical levels that are compatible with the host computer. Optical isolation is often used to protect the PC from voltage spikes or over-current situations.

Whether you're setting up a fall back

circuit for your network, automating studio equipment or receiving inputs from users via push buttons, Relay and Digital I/O can often provide the solution you need. Pictured on the left is Sealevel Part # 8005 (PCI 48 channel Digital I/O adapter) connected to TB07 terminal block via ribbon cable.



5

RELAY/DIGITAL 1/0 BOARD

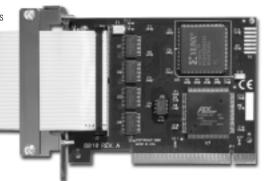
The PIO-24.PCI and PIO-32.PCI provide 24 or 32 channels of buffered Digital I/O emulating 8255s for industrial control applications. 10K pull up resistors are included on each port bit. The mode of each of the ports is user selectable as input or output. This gives the user the ability to customize the combination of inputs and outputs as needed. In addition, the low order bit of the first port can be set to generate an interrupt for status monitoring applications. A special factory configurable interrupt feature allows the user to request conditional I/O combination occurs, a hardware interrupt is triggered.

| ORDERING INFORMAT                                                                                                     | ION                             |                                        |
|-----------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------------------------|
| Description                                                                                                           | Part No.                        | Price                                  |
| 24 Channel Digital I/O                                                                                                | 8008                            | \$159.00                               |
| 32 Channel Digital I/O                                                                                                | 8010                            | \$179.00                               |
| Cable Options<br>50 pin Terminal Block<br>TB07 and CA167 Cable<br>40 in. 50 pin Edge Cable<br>40 in. 50 pin IDC Cable | TB07<br>KT107<br>CA135<br>CA167 | \$39.95<br>\$48.95<br>\$9.95<br>\$9.95 |
|                                                                                                                       | 0/110/                          | ψ0.00                                  |

#### Unique Features

- 24 and 32 Channels of buffered digital I/O configurable as inputs or outputs
- Implemented as eight-bit I/O ports
- 8255 compatible
- 10K pull up resistors on each port bit
- Factory configured interrupt feature allows conditional interrupt generation

## Technical Specifications



8010 with CA167 pictured above



# PCI 48 and 96 Channel Digital I/O Interface (

# PIO-48.PCI/PIO-96.PCI

The PIO-48.PCI and PIO-96.PCI provide 48 and 96 channels of buffered Digital I/O emulating 8255s for industrial control applications. The PIO family was designed to be 8255 hardware and software compatible. 10K pull up resistors are included on each port bit. The PIO boards contain groups of eight-bit I/O ports configurable as inputs or outputs to suit the automation task. The mode of each of the ports is user selectable as input or output. This gives the user the ability to customize the combination of inputs and outputs as needed. In addition, the low order bit of the first port can be set to generate an interrupt for status monitoring applications. A special factory configurable interrupt feature allows the user to request conditional I/O combinations for interrupt generation. When the I/O combination occurs, a hardware interrupt is triggered.

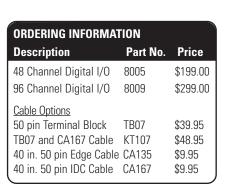
# Unique Features

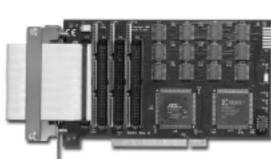
- 48 and 96 Channels of buffered Digital I/O configurable as inputs or outputs
- Implemented as eight-bit I/O ports
- 8255 compatible
- 10K pull up resistors on each port bit
   Factory configured interrupt feature allows conditional interrupt generation

# Technical Specifications

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| Number of channels       | 48, 96                |
|--------------------------|-----------------------|
| Operating temperature    | 0-50° C               |
| Storage temperature      | 20-70° C              |
| Humidity range           | 10-90% R.H.           |
| Output specifications    | Sink/Source 24mA      |
| Current specifications . | 8005 - +5V @ 794mA    |
|                          | 8009 - +5V @ 1000mA   |
| Connector(s)             | (2 or 4) 50 pin IDC   |
|                          | with cable lock       |
| Physical dimensions      | 8005 - 6.1″L x 4.1″H  |
|                          | (15.49 x 10.41 cm)    |
|                          | 8009 - 4.72"L x 3.7"H |
|                          | (11.99 x 9.39 cm)     |
|                          |                       |









8009 with CA167 pictured above

# PCI 8 Input/8 Relay Output Digital I/O Interface

## **DIO-16.PCI**

The DIO-16.PCI provides 8 Inputs and 8 Outputs, which can be utilized for PC-based control and automation of equipment including sensors, switches, satellite antenna control systems, video and audio studio automation, security control systems, and other industrial automation systems. In addition, the DIO-16.PCI is the perfect choice for integrating unattended status monitoring equipment, and fall-back network switching circuits. The DIO-16.PCI's 8 Inputs provide optical isolation to protect the PC and other sensitive equipment from spikes and ground loop current that can be generated in industrial environments. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

| ORDERING INFORMATION                                           |          |          |
|----------------------------------------------------------------|----------|----------|
| Description                                                    | Part No. | Price    |
| 8 Input/8 Output                                               | 8002     | \$239.00 |
| 8002 with KT101 Kit                                            | 8002-KT  | \$279.00 |
| <u>Cable Options</u><br>Terminal Block with<br>6 ft. M/F Cable | KT101    | \$48.95  |

The 8 reed relay outputs provide high quality, long life, low current (10 Watt maximum), dry contact switch closures. Reed relays are well suited for low current applications. The relays are normally open, and close when energized. For development purposes, the card's DB-37 connector can be interfaced directly to Sealevel's terminal block kit, Part# KT-101.

## **Unique Features**

- 8 SPST relays
- 1 eight bit optically isolated input port
- DB-37 Male connector
- Highly reliable 10 VA DIP reed relays
- Multiple adapters can reside in same PC
- · PCI bus compliant
- Terminal Block and cable kit available to simplify field wiring requirements
- Supports all PCI interrupts

# **Technical Specifications**

Operating temperature ...0-50° C Storage temperature ....-20-70° C 



PRODUCT

8002-KT pictured above



Current specifications ...+5V @ 280mA Connector(s) .....DB37P Physical dimensions .....5.00" L x 3.9" H (12.70 x 9.91 cm) 

# PCI 8 Input/8 Form C Relay Output Digital I/O Interface

#### PLC-16.PCI

The PLC-16.PCI provides 8 Inputs and 8 Form C relay outputs, which can be utilized for PC-based control and automation. The PLC-16.PCI's 8 Inputs provide optical isolation to protect the PC and other sensitive equipment from spikes and ground loop current that can be generated in industrial environments.

The 8 Form C electromechanical relay outputs provide higher current capabilities (up to 2A) than reed relays. The PLC-16.PCI allows full access to both sides of all 8 Form C relays, providing a no compromise solution. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

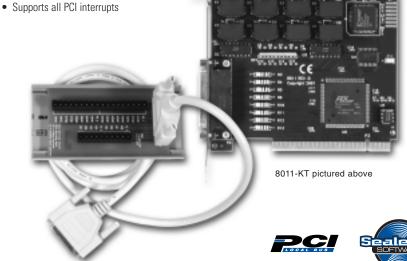
| ORDERING INFORMATION                                                                                                 |                                |                                          |
|----------------------------------------------------------------------------------------------------------------------|--------------------------------|------------------------------------------|
| Description                                                                                                          | Part No.                       | Price                                    |
| 8 input / 8 Form C output<br>8011 w/ KT108<br>8011 w/ KT109                                                          | 8011<br>8011-KT<br>8011-KT2    | \$249.00<br>\$299.00<br>\$339.00         |
| <u>Cable Options</u><br>8011 Terminal Block<br>TB08 and CA185 Kit<br>37 pin Terminal Block<br>(2) TB02 and CA184 Kit | TB08<br>KT108<br>TB02<br>KT109 | \$39.95<br>\$58.95<br>\$39.95<br>\$99.95 |

#### **Unique Features**

- 8 SPDT (single pole double throw) relays
- 1 eight bit optically isolated input port
- Optimized for 0-24 VAC or DC operation
- HD44 connector provides full access to all inputs and outputs
- · Works with third party PC-based control programs
- TB08 provides PLC like connections
- Multiple adapters can reside in same PC
- · PCI bus compliant

# **Technical Specifications**

| Number of I/O                                         |
|-------------------------------------------------------|
| Operating temperature0-50° C                          |
| Storage temperature20-70° C                           |
| Humidity range                                        |
| Current specifications5V @ 240mA                      |
| Connector(s)DB44S (Female)                            |
| Physical dimensions4.9" L x 4.2" H (12.45 x 10.67 cm) |
| Product Weight                                        |









## DIO-32.PCI

RELAY/DIGITAL 1/0 BOARDS

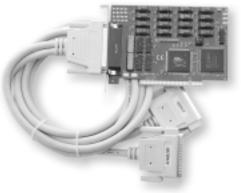
The DIO-32.PCI provides 16 Inputs and 16 Outputs, which can be utilized for PC-based control and automation of equipment including sensors, switches, satellite antenna control systems, video and audio studio automation, security control systems, and other industrial automation systems. The DIO-32.PCI's 16 Inputs provide optical isolation to protect the PC and other sensitive equipment from spikes and ground loop current that can be generated in industrial environments.

The 16 reed relay outputs provide high quality, long life, low current (10 Watt maximum), dry contact switch closures. Reed relays are well suited for low current applications. The relays are normally open, and close when energized. The card's included cable terminates in dual DB37 connectors for connection to Sealevel's terminal block Part# TB02. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

# Unique Features

- 2 sets SPST relays with each set having 8 relays
- 2 eight bit optically isolated input ports
- Highly reliable 10 VA DIP reed relays
- Multiple adapters can reside in same PC
- PCI bus compliant
- Terminal Block and cable kit available to simplify field wiring requirements
- Supports all PCI interrupts
- Includes a DB78 to (2) DB37 connector cable

# **Technical Specifications**







| ORDERING INFORMATION                   |          |          |
|----------------------------------------|----------|----------|
| Description                            | Part No. | Price    |
| 16 Input/16 Output                     | 8004     | \$399.00 |
| 8004 with (2) TB02<br>Terminal Blocks  | 8004-KT  | \$469.00 |
| <u>Cable Options</u><br>Terminal Block | TB02     | \$39.95  |

# PCI 16 Relay Output Digital I/O Interface

# REL-16.PCI

The REL-16.PCI provides 16 Outputs, which can be utilized for PC based control and automation of equipment including switches, satellite antenna control systems, video and audio studio automation, security control systems, and other industrial automation systems. In addition, the REL-16.PCI is the perfect choice for integrating unattended status monitoring equipment, and fall-back network switching circuits. The REL-16.PCI's reed relay outputs provide high quality, long life, low current (10 Watt maximum), dry contact switch closures. Reed relays are well suited for low current applications.

| ORDERING INFORMAT                                              | ΓΙΟΝ            |                      |
|----------------------------------------------------------------|-----------------|----------------------|
| Description                                                    | Part No.        | Price                |
| 16 Reed Relay Outputs<br>8003 with KT101 Kit                   | 8003<br>8003-KT | \$259.00<br>\$299.00 |
| <u>Cable Options</u><br>Terminal Block with<br>6 ft. M/F Cable | KT101           | \$48.95              |

#### **Unique Features**

- 2 sets of SPST relays, 8 relays per set
- Highly reliable 10 VA DIP reed relays utilized
- Multiple adapters can reside in same computer
- DB-37 Male connector
- Terminal Block and cable kit available to simplify field wiring requirements



# PRODUCT



#### Technical Specifications

8003-KT pictured above

# PCI 16 Optically Isolated Input Digital I/O Interface



# **ISO-16.PCI**

The ISO-16.PCI provides 16 optically isolated inputs for connection to devices including sensors, switches, push buttons, and other user inputs. The inputs can sense both AC and DC voltage while providing optical isolation, which eliminates spikes and surges present in industrial environments.

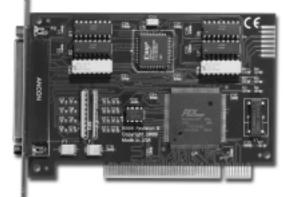
# **Unique Features**

- 16 Optically isolated AC or DC inputs
- · Socketed dip resistor allows user specified input range
- Power (+5 and +12) and ground provided on connector
- DB-37 Female connector
- Terminal Block and cable kit available to simplify field wiring requirements

# Technical **Specifications**

| Number of I/O16 inputs              |
|-------------------------------------|
| Operating temperature0-50° C        |
| Storage temperature20-70° C         |
| Humidity range                      |
| Current specifications DB37P        |
| Connector(s)+5V @ 260mA             |
| Physical dimensions5.20" L x 3.5" H |
| (13.21 x 8.89 cm)                   |
| Product Weight                      |
|                                     |

| ORDERING INFORMA                                               | TION     |          |
|----------------------------------------------------------------|----------|----------|
| Description                                                    | Part No. | Price    |
| 16 Isolated Inputs                                             | 8006     | \$219.00 |
| 8006 with KT-101 Kit                                           | 8006-KT  | \$259.00 |
| <u>Cable Options</u><br>Terminal Block with<br>6 ft. M/F Cable | KT101    | \$48.95  |
|                                                                |          |          |





# PCI 32 Relay Output Digital I/O Interface

# REL-32.PCI

The REL-32.PCI provides 32 reed relay outputs, which can be utilized for PC based control and automation of equipment including switches, satellite antenna control systems, video and audio studio automation, security control systems, and other industrial automation systems. In addition, the REL-32.PCI is the perfect choice for integrating unattended status monitoring equipment, and fall-back network switching circuits. The REL-32.PCI's reed relay outputs provide high quality, long life, low current (10 Watt maximum), dry contact switch closures. Reed relays are well suited for low current applications. The relays are normally open, and close when energized.

# **Technical Specifications**

| Number of I/O                                           |
|---------------------------------------------------------|
| Operating temperature 0-50° C                           |
| Storage temperature20-70° C                             |
| Humidity range 10-90% R.H.                              |
| Current specifications +5V @ 550mA                      |
| Connector(s) (2) DB37P                                  |
| Physical dimensions 6.625" L x 3.9" H (16.38 x 9.91 cm) |
| Product Weight 3.2 oz. (90.71g)                         |

# **Unique Features**

- 4 sets SPST relays with each set having 8 relays
- Highly reliable 10 VA DIP reed relays utilized
- Included 6ft. DB78 cable terminates in two DB37 Male connectors
- Terminal Block and cable kit available to simplify field wiring requirements
- Windows and Linux drivers provided



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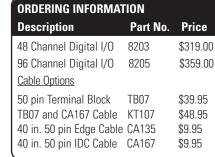
| ORDERING INFORM                         | ATION    |          |
|-----------------------------------------|----------|----------|
| Description                             | Part No. | Price    |
| 32 Relay Output<br>(2 DB37P connectors) | 8007     | \$469.00 |
| 8007 with (2) TB02<br>Terminal Blocks   | 8007-KT  | \$539.00 |
| <u>Cable Options</u><br>Terminal Block  | TB02     | \$39.95  |
| Terminal Block<br>with 6ft. M/F Cable   | KT101    | \$48.95  |

#### SeaPORT<sup>TH</sup> PIO Series

The SeaPORT<sup>™</sup> PIO Series contains 48 or 96 channels of buffered digital I/O emulating 8255s for industrial control applications. The SeaPORT PIO Series is designed to be 8255 hardware and software compatible. 10K pull up resistors are included on each port bit. The SeaPORT PIO Series contains eight-bit I/O ports, configurable as inputs or outputs to suit the automation task. The mode of each of the ports is user selectable as input or output. This gives the user the ability to customize the combination of inputs and outputs as needed. In addition, the low order bit of the first port can be set to generate an interrupt for status monitoring applications. A special factory configurable interrupt feature allows the user to request conditional I/O combinations for interrupt generation. When the I/O combination occurs, a hardware interrupt is triggered.

# **Technical Specifications**

| Number of channels48, 96                  |
|-------------------------------------------|
| Operating temperature0-50° C              |
| Storage temperature20-70° C               |
| Humidity range                            |
| Power specificationsFrom AC adapter       |
| Output specifications Sink 64mA           |
| Source 32mA                               |
| Logic level                               |
| Connector(s)(2 or 4) 50 pin IDC           |
| Physical dimensions7.0"L x 5.25"W x 1.5"H |
| (17.78 x 13.34 x 3.81cm)                  |



PRODUCT

# **Unique Features**

RELAY/DIGITAL 1/0 BOARDS

- Implemented as eight-bit I/O ports
- 10K pull up resistors on each port bit
- True "Hot Swapping"/auto configuration
- Factory configured interrupt feature allows conditional interrupt generation
- Includes Seal/O Windows 98/ME/2000 drivers and sample applications

# Relay I/O Cables and Kits

These kits have been assembled to simplify connections from Sealevel Systems' Relay/Digital I/O boards to I/O modules, Relay Mounting Boards, Signal Conditioning Boards, Terminal Blocks and other I/O devices. When used with the appropriate I/O board, these kits create a comprehensive, low-cost I/O solution.



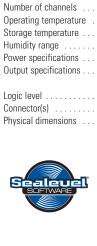
## Digital I/O Terminal Block

| PHOTO ABOVE:                         |          |         |                                          |
|--------------------------------------|----------|---------|------------------------------------------|
| Description                          | Part No. | Price   | For Use With:                            |
| 50 Pin Terminal Block                | •TB07    | \$39.95 | 8005, 8008, 8009, 8010, 8203, 8205, 4030 |
| TB07 with 40 in. IDC<br>Ribbon Cable | •KT107   | \$48.95 | 8005, 8008, 8009, 8010, 8203, 8205, 4030 |

# Relay I/O Terminal Block

#### PHOTO ABOVE:

| Description                            | Part No. | Price   | For Use With:                                              |
|----------------------------------------|----------|---------|------------------------------------------------------------|
| Terminal Block<br>with 6 ft. M/F Cable | •KT101   | \$48.95 | 8002, 8003, 8004, 8006, 8007, 3093, 3094, 3095, 3096, 3098 |





#### **PIO-48**

The Sealevel Systems' PIO-48 Digital I/O interface is designed around two 8255 chips, each providing 24 I/O lines. The board has a Dip-switch for flexible I/O addressing, IRQ jumpers for interrupts and two sets of connectors for each port. A standard 50-pin solid state relay I/O module connector and a 40-pin connector with power and IRQ signals is provided. The 50-pin connects (through an optional cable) to industry standard PB-8, -16 or -24 solid state relay I/O modules.

The 40-pin connector, terminated in an optional DB37 cable, matches the pin-out of "Generic" PI0-12 boards. By using the PI0-48 with two of these cables, you can get two times the I/O of the PI0-12 on one board. Also provided is a software interface that allows you to set, reset, examine or monitor any bit or I/O line. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

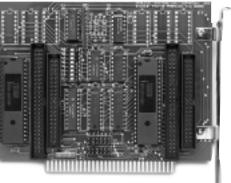


# Unique Features

- Two 8255 I/O ports
- Interfaces two 24-module relay racks
- Example driver software provided
- Cables available

# **Technical Specifications**

| I/O chips(2) 82                    | 55 parallel I/O chips        |
|------------------------------------|------------------------------|
| Number of ports Three              | 8-bit parallel ports         |
| Operating temperature0-50°         | С                            |
| Storage temperature20-70           | )° C                         |
| Humidity range                     | % R.H.                       |
| Physical dimensions5.25"<br>(13.33 | L x 4.2" H<br>35 x 10.66 cm) |



| ORDERING INFORMATION                  |          |          |
|---------------------------------------|----------|----------|
| Description                           | Part No. | Price    |
| 48-Line Digital I/O                   | 4030     | \$109.00 |
| PIO-48 with (2) 6 in.<br>DB37P Cables | 4031     | \$129.00 |
| 4031 with (2) KT101 Kits              | 4031-KT  | \$209.00 |
| Cable Options                         |          |          |
| 50 pin Terminal Block                 | TB07     | \$39.95  |
| TB07 and CA167 Cable                  | KT107    | \$48.95  |
| 40 in. 50 pin Edge Cable              | CA135    | \$9.95   |
| 40 in. 50 pin IDC Cable               | CA167    | \$9.95   |

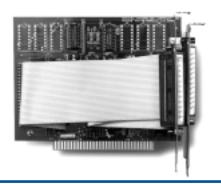
# PIO-48 Cable Options

These kits have been assembled to simplify connections from Sealevel Systems' 48 channel ISA I/O board to I/O modules, Relay Mounting Boards, Signal Conditioning Boards, Terminal Blocks and other I/O devices. These kits create a comprehensive, low-cost I/O solution.

#### **Option I**:

Part No. 4031 with (2) six in. DB37P Cables

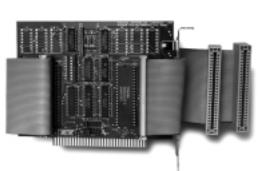
\$129.00



#### Option 2:

Part No. 4030 with (2) CA135 Cables

\$129.00





# DIAGRAM ABOVE:

| Description                         | Part No. | Price   |
|-------------------------------------|----------|---------|
| Terminal Block with 6 ft. M/F Cable | •KT101   | \$48.95 |



#### **DIAGRAM ABOVE:**

| Description              | Part No. | Price  |
|--------------------------|----------|--------|
| 40 in. Edge Ribbon Cable | •CA135   | \$9.95 |
| 40 in. IDC Ribbon Cable  | •CA167   | \$9.95 |

# **DIO-16**

RELAY/DIGITAL 1/0 BOARDS

The DIO-16 provides 16 channels of Digital I/O for the PC. 8 isolated inputs are available providing protection to connected equipment. Use isolated inputs for communicating alarm conditions from remote locations or remote processes. 8 Reed relay outputs are also provided allowing PC control of lights, buzzers, switches, motors and other low current devices supporting on/off control. The DIO-16 is software compatible with the DIO-32B. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

## **Unique Features**

• 8 Reed relay outputs

- Highly reliable 10VA DIP Reed relays utilized
- 8 optically isolated AC or DC inputs
- Output ports have non-destructive read-back
- Supports interrupts 2-7
- Selectable port address (four port boundary)
- DB37 connector for all 8 inputs and 8 outputs
- Socketed DIP resistor allows user specified input range (3-12V AC/DC standard)

## **Technical Specifications**

| Number of I/O          |             |
|------------------------|-------------|
| Input isolation        |             |
| Output relay specs     |             |
| Throughput             | 660Hz       |
| Operating temperature  | 0-50° C     |
| Storage temperature    | 20-70° C    |
| Humidity range         | 10-90% R.H. |
| Connector(s)           | (1) DB37P   |
| Current Specifications | +5V @ 270mA |
| Physical dimensions    |             |



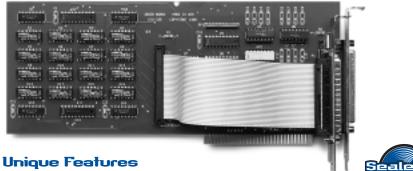
| ORDERING INFORMATION                                           |                 |                      |
|----------------------------------------------------------------|-----------------|----------------------|
| Description                                                    | Part No.        | Price                |
| 8 Input/8 Output<br>3096 w/KT101 Kit                           | 3096<br>3096-KT | \$179.00<br>\$219.00 |
| <u>Cable Options</u><br>Terminal Block with<br>6 ft. M/F Cable | KT101           | \$48.95              |

# ISA 16 Input/16 Relay Output Digital I/O Interface

# DIO-32B

The DIO-32B provides 32 channels of isolated Digital I/O for the PC. The card is designed with four ports containing 8 channels each. Ports A and B each offer 8 channels of optically isolated inputs. Each input is isolated from ground, host PC ground, and from all other channels. Isolation is provided for up to 400V DC. Ports C and D each offer 8 bits of Reed relay outputs for controlling the on/off status of external devices or other low current level applications. These ports have nondestructive read-back capability. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

| ORDERING INFORMATION                                           |                 |                      |
|----------------------------------------------------------------|-----------------|----------------------|
| Description                                                    | Part No.        | Price                |
| 16 Input/16 Output<br>3093 w/(2) KT101 Kits                    | 3093<br>3093-KT | \$339.00<br>\$419.00 |
| <u>Cable Options</u><br>Terminal Block with<br>6 ft. M/F Cable | KT101           | \$48.95              |



# 16 Reed relay outputs

- Ib Reed relay outputs
- Highly reliable 10VA DIP Reed relays utilized
- 16 optically isolated AC or DC inputs
- Output ports have non-destructive read-back
- Supports interrupts 2-7
- Selectable port address (four port boundary)
- DB37 connectors for all 16 inputs and 16 outputs
- Socketed DIP resistor allows user specified input range (3-12V AC/DC standard)

# **Technical Specifications**

| Number of I/O 16 Input, 16 Output                          |
|------------------------------------------------------------|
| Input range                                                |
| Input isolation Optical, 400V                              |
| Output relay specs 200M Operations<br>10VA, Resistive Load |
| Throughput660Hz                                            |
| Operating temperature 0-50° C                              |
| Storage temperature20-70° C                                |
| Humidity range 10-90% R.H.                                 |
| Connector(s) (1) DB37P, (1) DB37S                          |
| Current Specifications +5V @ 800mA                         |
| Physical dimensions 9.75" L x 4.2" H<br>(24.77 x 10.66 cm) |

# ISA 16 Isolated Input and 16 Relay Output Digital I/O Interface

# ISO-Ib and REL-Ib

The Sealevel Systems' ISO-16 provides 16 optically isolated inputs for connection to devices including push buttons, switches and other user inputs. The REL-16 provides 16 Reed relay outputs for controlling devices via on/off closures. Each card provides 1/2 of the inputs and outputs of the DIO-32B card. Simply write to the address corresponding to the relay to change the relays state. All relays power up in an open state. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

| ORDERING INFORMATION                                           |          |          |
|----------------------------------------------------------------|----------|----------|
| Description                                                    | Part No. | Price    |
| 16 Isolated input interface                                    | 3094     | \$149.00 |
| 3094 with KT101 Kit                                            | 3094-KT  | \$189.00 |
| 16 relay output interface                                      | 3095     | \$189.00 |
| 3095 with KT101 Kit                                            | 3095-KT  | \$229.00 |
| <u>Cable Options</u><br>Terminal Block with<br>6 ft. M/F Cable | KT101    | \$48.95  |

# **Unique Features**

#### ISO-16

- 16 optically isolated AC or DC inputs
- DB37S connectors for 16 inputs
- Socketed DIP resistor allows user specified input range (3-12V AC/DC)
- · Selectable port address
- Power (+5, +12) and ground provided on connector

#### REL-16

- 16 Reed relay outputs
- Highly reliable 10 VA DIP Reed relays utilized
  Power (+5, +12) and ground provided
- on connector
- DB37 Male connector for relay outputs
  Output ports have non-destructive
- read-back capability
- Selectable port address/Software compatible with DI0-32B



# **Technical Specifications**

| Number of I/O<br>Part No. 3094 | 16 Isolated Inputs                   |
|--------------------------------|--------------------------------------|
| Part No. 3095                  |                                      |
|                                | .3-12V AC/DC (Part No. 3094)         |
| Input isolation                | Optical, 400V (Part No. 3094)        |
| Relay specifications           | .25VA dual coil (Part No. 3095)      |
| Output relay specs             | 200M operations,                     |
|                                | 10VA, Resistive load                 |
| Throughput                     | .660Hz                               |
| Operating temperature          |                                      |
| Storage temperature            |                                      |
| Humidity range                 | 10-90% R.H.                          |
| Current specifications-        | FV @ 200 A                           |
| Part No. 3094                  |                                      |
| Connector(s)                   | 10V @ 300 IIIA                       |
| Part No. 3094                  | .DB37S                               |
| Part No. 3095                  | .DB37P                               |
| Physical dimensions            |                                      |
|                                | .4.9" L x 4.2" H (12.446 x 10.66 cm) |
| Part No. 3095                  | 4.9" L x 4.2" H (12.446 x 10.66 cm)  |

# ISA 32 Switched Relay Output Digital I/O Interface

# REL-32

The REL-32 Relay output adapter provides four banks of eight switched Reed relays. The card's DB37 connector brings out the A-side of all relays while the optional B-side connector brings out the B-side and commons of all relays to a second DB37 connector. This allows access to both sides of all 32 switches. For increased flexibility, an onboard jumper header allows the user to create any custom switch interconnection wiring desired. The REL-32 can easily be configured as 32 independent relays, or as a 4x8, 2x16 or 1x32 matrix switch. The cable is only necessary if you want the 32 independent relay option. Our Seal/O Windows Digital I/O drivers are included allowing rapid application development.

| ORDERING INFORMATION                                           |          |          |
|----------------------------------------------------------------|----------|----------|
| Description                                                    | Part No. | Price    |
| 32 Channel Relay<br>interface                                  | 3098     | \$389.00 |
| 3098 with (2) KT101 Kits and CA108                             | 3098-KT  | \$479.00 |
| <u>Cable Options</u><br>Terminal Block with<br>6 ft. M/F Cable | KT101    | \$48.95  |

# Switching Relays

Reed relays provide high quality, long life, low current (10 Watt maximum) dry contact switch closures Reed relays are suited for low current (primarily resistive load) applications. The relays are normally open, and close when energized. Each relay can be individually energized by writing a "1" to the proper port bit, and opened by writing a "0". The relays power up reset in the open state.

# **Unique Features**

- 32 Reed relay outputs
- 4 sets SPST relays with each set having 8 relays
- Selectable I/O port addressing from 200H 3F8H
- Highly reliable 10 VA DIP Reed relays
- Switch power, data and other electronic signals
- Multiple switching combinations enabled by onboard option header
- Discreet access to both sides of all relays accessible with optional B-side cable
- +5V DC, +12V DC and relay group commons fused at 1 amp are available from PC

# **Technical Specifications**

| Number of I/O                                            |
|----------------------------------------------------------|
| Output relay specs 200M Operations                       |
| 10VA, Resistive Load                                     |
| Contact Speed 5 mSec (operate, release, bounce)          |
| Operating temperature 0-50° C                            |
| Storage temperature20-70° C                              |
| Humidity range 10-90% R.H.                               |
| Current specifications +5V @ 800mA                       |
| Physical dimensions 13.33" L x 4.2" H (33.85 x 10.66 cm) |
|                                                          |

