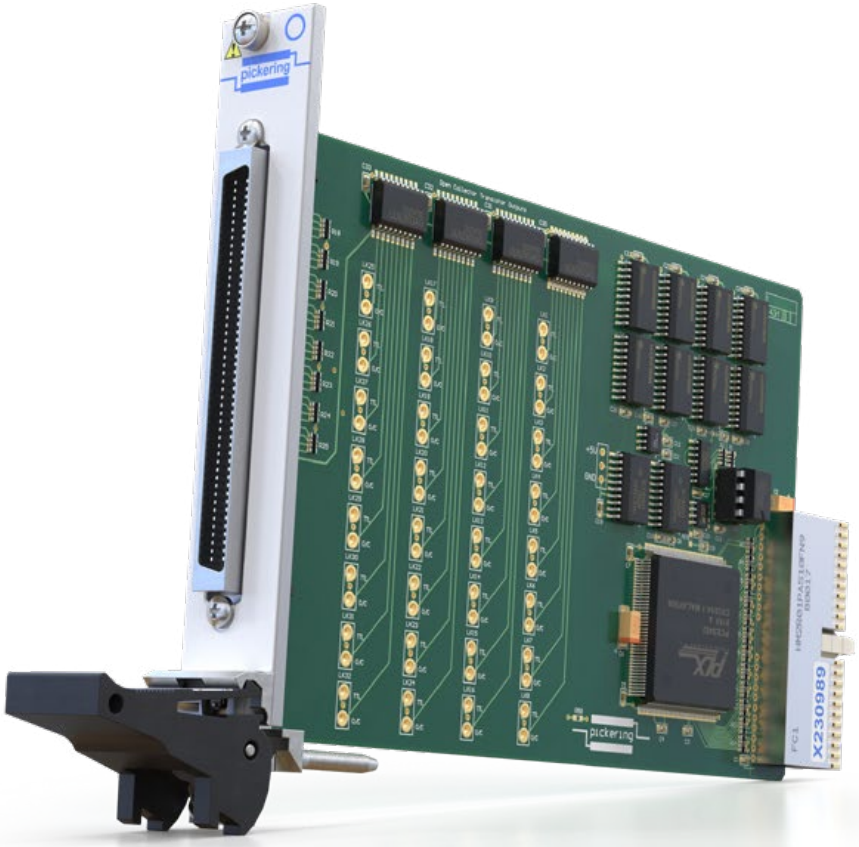
PXI Digital I/O Module



PXI

© Copyright (2026) Pickering Interfaces. All Rights Reserved.

No part of this publication may be reproduced, transmitted, transcribed, translated or stored in any form, or by any means without the written permission of Pickering Interfaces.

Technical details contained within this publication are subject to change without notice.

FM38792

Technical Support

For Technical Support please contact Pickering Interfaces either by phone, the website or via e-mail.

Warranty

All products manufactured by Pickering Interfaces are warranted against defective materials and workmanship for a period of three years, excluding programmable power supplies, from the date of delivery to the original purchaser. Any product found to be defective within this period will, at the discretion of Pickering Interfaces be repaired or replaced.

Products serviced and repaired outside of the warranty period are warranted for ninety days.

Extended warranty and service are available. Please contact Pickering Interfaces by phone, the website or via e-mail.

Environmental Policy

Pickering Interfaces operates under an environmental management system similar to ISO 14001.

Pickering Interfaces strives to fulfill all relevant environmental laws and regulations and reduce wastes and releases to the environment. Pickering Interfaces aims to design and operate products in a way that protects the environment and the health and safety of its employees, customers and the public. Pickering Interfaces endeavors to develop and manufacture products that can be produced, distributed, used and recycled, or disposed of, in a safe and environmentally friendly manner.

Worldwide Technical Support and Product Information

Pickering Interfaces Headquarters

Stephenson Road, Clacton-on-Sea, CO15 4NL United Kingdom
Tel: +44 (0)1255-687900
e-mail: sales@pickeringtest.com

USA

Tel: +1 781 897 1710
e-mail: ussales@pickeringtest.com

France

Tel: +33 9 72 58 77 00
e-mail: frsales@pickeringtest.com

Germany

Tel: +49 89 125 953 160
e-mail: desales@pickeringtest.com

Sweden

Tel: +46 340-69 06 69
e-mail: ndsales@pickeringtest.com

Czech Republic

Tel: +420 558 987 613
e-mail: desales@pickeringtest.com

China

Tel: +86 4008 799 765
e-mail: chinasales@pickeringtest.com

Malaysia

Tel: +60 12 833 7980
e-mail: aseansales@pickeringtest.com

Safety Symbols

The following safety symbols may be used on the product and throughout the product documentation.

Meaning/Description	Symbol
PROTECTIVE EARTH (GROUND) To identify any terminal which is intended for connection to an external conductor for protection against electric shock in case of a fault, or the terminal of a protective earth (ground) electrode.	
DANGEROUS VOLTAGE To indicate hazards arising from dangerous voltages.	
WARNING/CAUTION An appropriate safety instruction should be followed or caution to a potential hazard exists. Refer to the relevant instructions detailed within the product manual.	
HEAVY If this product is heavy reference should be made to the safety instructions for provisions of lifting and moving.	
STATIC SENSITIVE To indicate that static sensitive devices are present and handling precautions should be followed.	

Contents

Copyright Statement ..... (ii)
Technical Support and Warranty ..... (iii)
Product Safety ..... (iv)
Contents (this page) ..... (v)
Warnings and Cautions ..... (vi)

Section 1

Technical Specification 1.1

Section 2

Technical Description 2.1
- Functional Description 2.1
- Connecting To Open Collector Outputs 2.2

Section 3

Installation 3.1
- Pre Operation Checks 3.1
- Hardware Installation 3.2
- Software Installation 3.2
- Testing Operation 3.3

Section 4

Programming Guide 4.1
- Programming Options for Pickering PXI Modules 4.1
- Module Architecture 4.2
- Programming The Module - Input 4.3
- Programming The Module - Output 4.4
- Using Pickering Drivers In LabVIEW 4.5

Section 5

Connector Information 5.1

Section 6

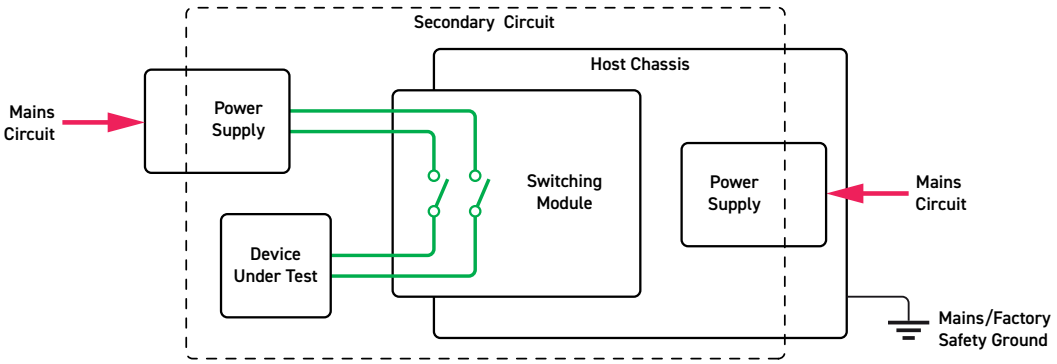
Trouble Shooting 6.1

Section 7

Maintenance Information 7.1

Warnings & Cautions

WARNING - Hazardous Environments	Symbol
This product is not specifically designed for use in hazardous environments, for example in explosive atmospheres. If the product is to be used in hazardous environments we recommend that the user ensures suitable protective measures are taken.	

WARNING - Danger of Electric Shock	Symbol
This module may contain hazardous voltages. Before removing the module from the rack remove all supplies and disconnect user I/O signals. Unused slots in the PXI/PXIe/LXI chassis are populated with blanking plates to prevent access to user I/O signals that may be present. Blanking panels are available to order from Pickering in a variety of slot widths. If the product is not used in this manner for example by using an extender card then additional care must be taken to avoid contact with exposed signals. Not to be used in safety critical circuits, refer to the Pickering Interfaces' terms & conditions of sale. This module must not be used for the switching of Mains Circuits. For the switching of voltages up to the module's full specification, Secondary Circuit power supplies and the Device Under Test must be fully isolated from the Mains Circuit and the safety earth. The host chassis must be correctly installed and be connected to mains or factory safety ground, please refer to your chassis installation manual.  **Diagram Showing Separation Between The Mains Circuit and Secondary Circuit / DUT** For the purposes of this document, a Mains Circuit is an installation classified as Overvoltage Category II up to 300 V. Separation between the Secondary Circuit and Mains Circuit is achieved by a transformer in which the primary windings are separated from the secondary windings by reinforced insulation, double insulation, or a screen connected to the protective conductor terminal.	

CAUTION - Handling of Electrostatic-Sensitive Devices	Symbol
Certain semiconductor devices used in this equipment are liable to damage due to static voltage. Observe the following precautions when handling these devices in their unterminated state, or sub-assemblies containing these devices: • Persons removing sub-assemblies from equipment using these devices must be earthed by a wrist strap and a resistor at the point provided on the equipment. • Soldering irons used during the repair operations must be low voltage types with earthed tips and isolated from the mains voltage by a double insulated transformer. • Outer clothing worn must be unable to generate static charges. • Printed Circuit Boards (PCBs) fitted with these devices must be stored and transported in anti-static bags.	

CAUTION - Product Documentation	Symbol
Suitably qualified & trained users should ensure that the accompanying documentation is fully read and understood before attempting to install or operate the product.	

Safety Instructions

Safety Instructions
All cleaning and servicing requires the equipment to be isolated and disconnected from the power source and user I/O signals (refer to the Maintenance Section). • Appropriate manual handling procedures should be followed as dictated by the weight of the individual module or the combined weight of the modules & chassis. • Should a fault occur with the module or chassis, immediately isolate and disconnect the incoming power to the chassis and the user I/O signals. • Ensure the equipment is installed, operated and maintained by trained and authorised personnel. • For suitably equipped products in the event of an emergency press the red "emergency stop" button situated on the front of the unit.

Section 1 - Technical Specification

- Digital I/O Module - 32-Bits Out, 32-Bits In
- Open Collector and TTL Output Versions
- Programmable By Bit, Byte or Word
- TTL Outputs Suitable for Driving External Logic
- Open Collector Transistor Outputs Suitable for Driving External Relay Coils
- Operating Speed <10 µs
- VISA, IVI & Kernel Drivers Supplied for Windows
- Drivers Supplied for Windows & Linux, Plus Support for Real-time Systems
- 3 Year Warranty

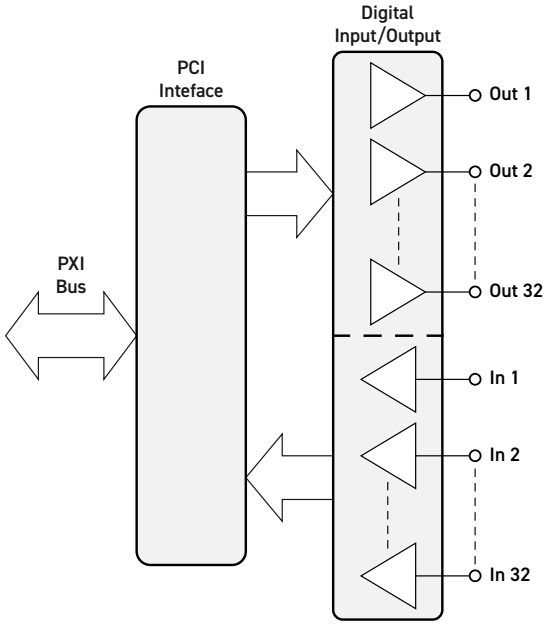


The 40-410 range of digital I/O modules are suitable for operating external devices, such as heavy duty relays (power, RF and high voltage types), solenoids and lamps. They can also be used for interfacing with external logic such as a programmable instrument with a BCD interface.t

Two choices of output drive are available: TTL for interacting with external logic and Open Collector Transistor for operating external devices with voltages to 50 VDC and current to 500 mA.

Writing and reading can be done at bit, byte or word level to simplify programming effort. Applications include generating control signals, stimulus and sensing status from digital devices.

If you would like to build your own circuitry into a digital I/O module then please look at our 40-220 Breadboard Module.



Digital I/O Capabillity Of The 40-410

Section 1 - Technical Specification

General Specification

TTL Output Driver	
Maximum Drive:	15 TTL loads
Maximum Voltage:	7 V*
Maximum Current Drive:	Sink 8 mA, Source 0.4 mA
Operate/Release Time:	<10 µs

Digital Input (All Models)	
Input Range:	TTL input thresholds, absolute maximum input: -1.5 V to +6.5 V, ±20 mA

* For full voltage rating, signal sources must be fully isolated from mains supply and safety earth.

Open Collector Transistor	
Driver I.C.:	ULN2803LW O.C. driver
Maximum Standoff Voltage:	50 V*
Maximum Current Sink:	500 mA single output per byte, 120 mA all outputs on.
Operate/Release Time:	<10 µs

Note: Care must be taken when interfacing the 40-410 smodule with external circuits which may produce high voltage spikes or RF interference. Additional noise protection may be required, please contact Pickering if you wish to discuss your requirement.

Power Requirements

+3.3 V	+5 V	+12 V	-12 V
0	0.2 A	0	0

Mechanical Characteristics

Single slot 3U PXI (CompactPCI card).
3D models for all versions in a variety of popular file formats are available on request.

Connectors

PXI bus via 32-bit P1/J1 backplane connector.
Signals via front panel 96-pin male 1.27 mm pitch connector, for pin outs please refer to the operating manual.

Operating/Storage Conditions

Operating Conditions

Operating Temperature:	0 °C to +55 °C
Humidity:	Up to 90 % non-condensing
Altitude:	5000 m

Storage and Transport Conditions

Storage Temperature:	-20 °C to +75 °C
Humidity:	Up to 90 % non-condensing
Altitude:	15000 m

PXI & CompactPCI Compliance

The module is compliant with the PXI Specification 2.2. Local Bus, Trigger Bus and Star Trigger are not implemented.

Uses a 33 MHz 32-bit backplane interface.

Safety & CE Compliance

All modules are fully CE compliant and meet applicable EU directives:

Low-voltage safety EN61010-1:2010,
EMC Immunity EN61326-1:2013,
Emissions EN55011:2009+A1:2010.

Product Order Codes

Digital I/O Module	
32 In/32 Out (TTL)	40-410-001
32 In/32 Out (Open Collector)	40-410-002

Product Customization

Pickering PXI modules are designed and manufactured on our own flexible manufacturing lines, giving complete product control and enabling simple customization to meet very specific requirements.

All customized products are given a unique part number, fully documented and may be ordered at any time in the future. Please contact your local sales office to discuss.

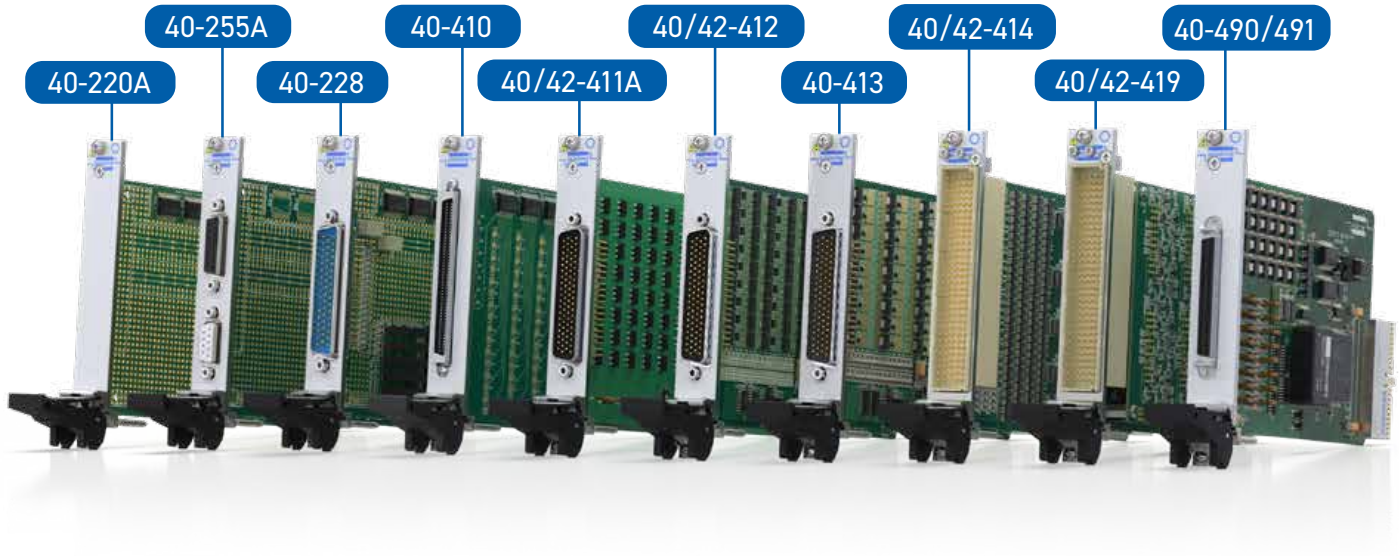
Mating Connectors & Cabling

For connection accessories for the 40-410 modules please refer to the 90-016D 96-pin 1.27 mm pitch Connector Accessories data sheet where a complete list and documentation can be found for accessories, or refer to the website.

The 40-410 is part of a range of digital input/output modules that includes modules suitable for prototyping.

Pickering's Range of PXI/PXIe Input/Output & Prototyping Modules				
Module Configuration	Input Channels	Output Channels	Output Capability	Model No.
Prototyping with I/O	32	32	TTL & OC	40-220A
Prototyping only	-	-	-	40-225A
Prototyping with I/O & Power Distribution	32	32	TTL & OC	40-228
Digital I/O	32	32	TTL & OC	40-410
Relay Driver	-	16, 32 48 or 64	60 V /1 A	40/42-411A
Digital Output	-	16, 32 48 or 64	50 V/ 0.5 A	40/42-412A
Digital I/O, programmable threshold	32	32	40 V / 2 A	40-413
Digital Input	32, 64, 96, 128	-	-	40/42-414
Digital I/O, semi dynamic	16, 32 48 or 64	16, 32 48 or 64	60 V / 0.3 A	40/42-419
Digital I/O, opto-isolated	16	32	40 V / 0.4 A	40-490
Digital I/O, opto-isolated with DC-DC converter	16	32	40 V / 0.4 A	40-491





Functional Description

A functional block diagram is provided in Figure 2.1. The Module is powered by the +5V supply from the PXI backplane via Compact PCI connector J1. The interface to the user test equipment is via the front panel mounted 96-pin 1.27mm pitch connector, J2. The module comprises Open Collector output drivers U16 to U19, TTL input/output drivers U8 to U15, control logic U3 to U4, configuration EEPROMS U2 and U7 and PCI Bridge U1. The module configuration, i.e. Open collector output or TTL output, is determined by data stored in EEPROM U7. U16 to U19 and U8 to U15 are addressed by PCI bridge U1 to output the required signal. PCI Bridge U1 is configured by EEPROM U2.

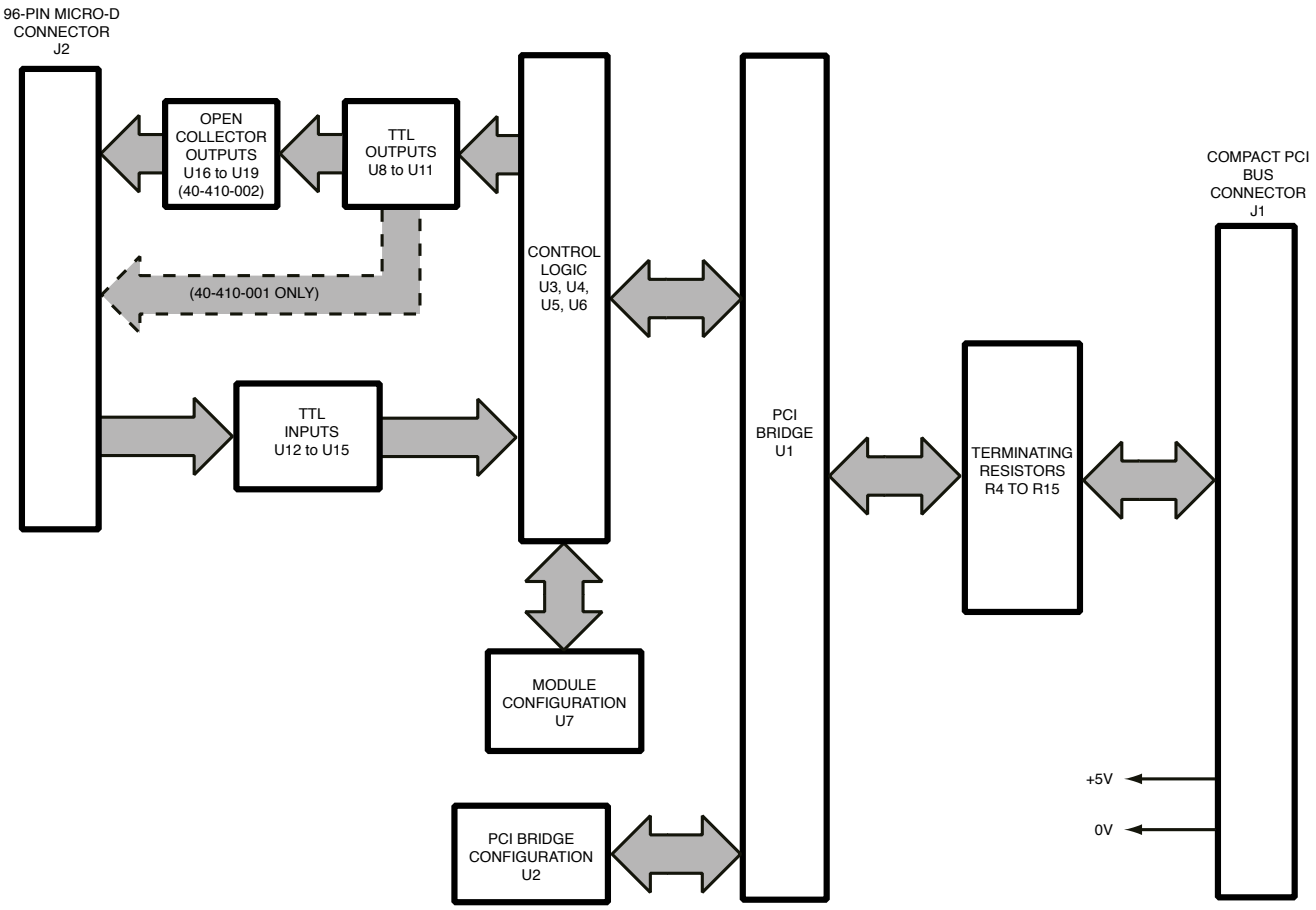


Figure 2.1 - Digital I/O Module 40-410: Functional Block Diagram

Connecting To Open Collector Outputs

A typical user connection to an open collector output of the 40-410-002 module is shown in Figure 2.2 below.

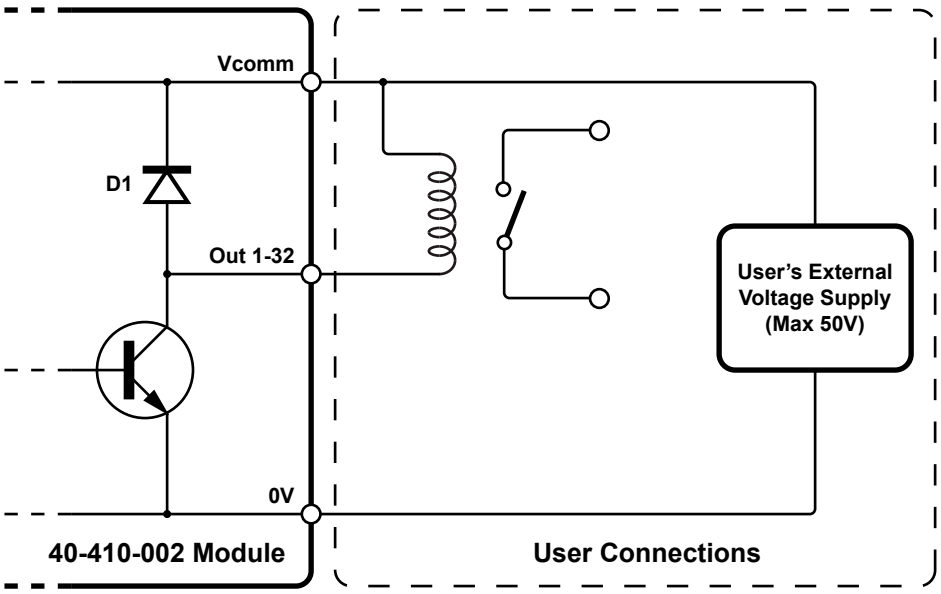


Figure 2.2 - Using An Open Collector Driver Output (40-410-002)

Output connections 1-32

Each open collector output features a peak load current of 500mA and can withstand 50V in the off state, Outputs may be paralleled for higher current capability.

Vcomm connections

The Vcomm connection offers the user an optional protection diode (D1). This diode is present to protect the output device from a high voltage transient pulse often caused when switching large inductive loads such as relay coils. When Vcomm is connected to an external voltage all output protection diodes are in circuit.

Section 3 - Installation

Refer to the Warnings and Cautions at the front of this manual

Modular products require installation in a suitable PXI/LXI chassis. The module is designed for indoor use only.

Pre-operation Checks (Unpacking)

1. Check the module for transport damage and report any damage immediately to Pickering Interfaces. Do not attempt to install the product if any damage is evident.
2. Position the chassis relative to any other equipment the module(s) will connect with. Ensure the chassis is not connected to the electrical supply.
3. Ensure that the designated area for the chassis containing the module is of flat and solid construction to withstand and support the combined weight of the module(s) and chassis.

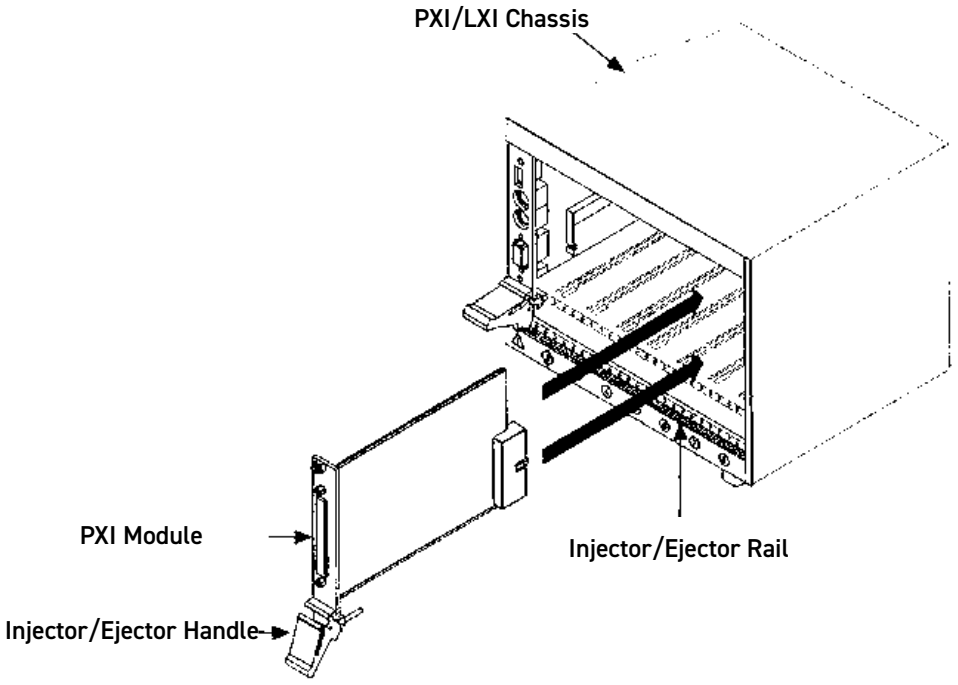


Figure 3.1 - Installing the Module into a PXI/cPCI/LXI Chassis

Hardware Installation Electrical Connection (Chassis)

The chassis must be electrically installed in accordance with local regional electrical codes by a qualified engineer.

The chassis must be grounded.

Electrostatic discharge can damage the components on the module. To avoid such damage in handling the board refer to page vi.

Ensure that there is adequate ventilation.

The module should be installed in accordance with the following procedure:

1. Ensure that the system is turned OFF but still connected to mains so that it remains grounded.
2. Choose an appropriate slot in the rack.
3. Remove the blanking plate for the chosen slot.
4. Ensure that the injector/ejector handle is in its downward position. Align the module with the card guides on the top and bottom of the slot.
   Do not raise the injector/ejector handle whilst inserting the module as the module will not insert properly.
5. Hold the handle whilst slowly sliding the module into the card guides until the handle catches on the injector/ejector rail (refer to Figure 3.1).
6. Raise the injector/ejector handle until the module firmly seats into the backplane. The front panel of the module should be flush with the front panel of the chassis.
7. Secure the front panel of the module using both screws to the chassis front panel mounting rails.
8. In a system employing a remote control interface to connect an external controller to a PXI chassis or to link multiple chassis, power-up the system as follows:
   a. For a system comprising an external controller and one chassis, power up the chassis before powering up the external controller.
   b. For a system comprising more than one chassis, turn ON the last chassis in the system followed by the penultimate, etc, and finally turn ON the external controller or chassis containing the system controller.
9. For Pickering Interfaces modular LXI installation there is no requirement to use any particular power up sequence.

Software Installation

First install the appropriate Pickering PXI switch card drivers by running the installer program Setup.exe (provided in a compressed zip file), either from the CD-ROM supplied, or by downloading the latest version from our website: pickeringtest.com - the recommended method. Setup is accompanied by a ReadMe file containing additional installation information. A single installation covers all Pickering switching and simulation PCI, PXI and PXIe products.

When installation completes, the installed drivers' ReadMe file is offered for display. It can also be displayed later using a shortcut on the Programs>>Pickering menu.

If you are not a LabVIEW user you should choose the "full" version, and once that has been installed run the LabVIEW Runtime Engine installer via the shortcut on the Programs>>Pickering menu. In the absence of LabVIEW the Runtime Engine is required to support the Pickering Test Panels application.

Testing Operation

After installation of the hardware and Pickering PXI Driver software package start the General Soft Front Panel (GSFP) using the desktop icon or via the Start menu (***Start Menu-> Pickering Interfaces Ltd -> General Soft Front Panel***).



Figure 3.2 - General Soft Front Panel Icon

A selector panel will appear, listing all installed Pickering PCI, PXI or LXI switch cards and resistor cards. Click on the card you wish to control, and a graphical control panel is presented allowing operation of the card. Panels can be opened simultaneously for all the installed cards.

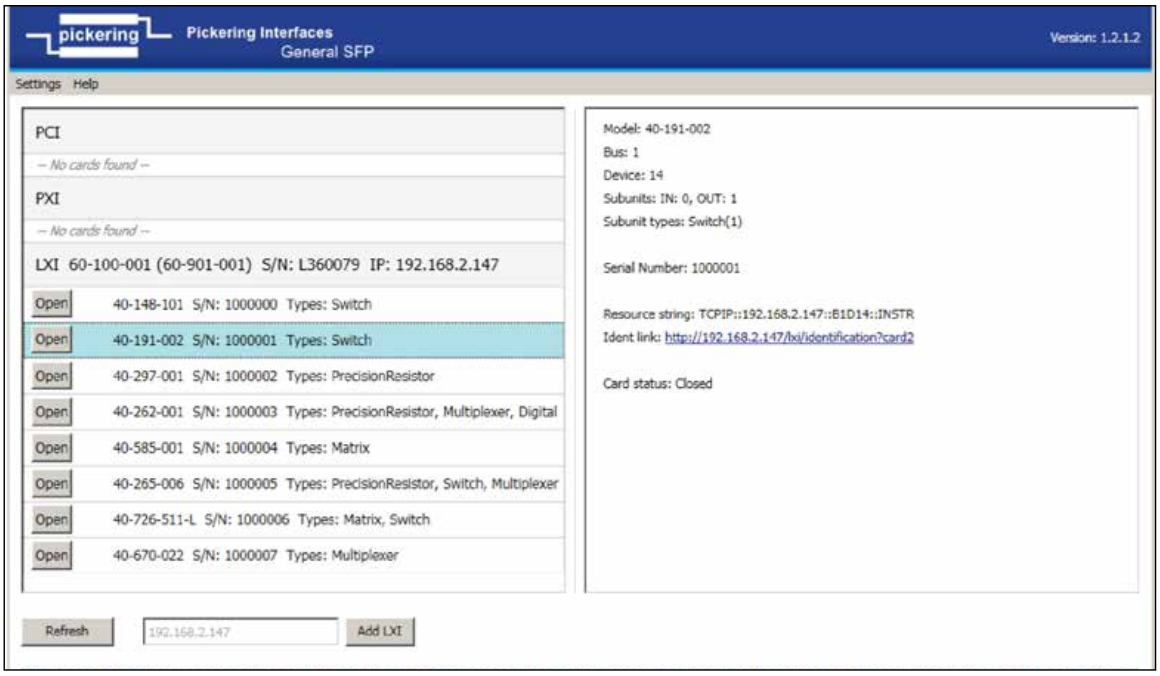


Figure 3.3 - General Soft Front Panel Selector

More details how to use the GSFP can be found in the manual, via menu ***Help\Manual***.

Section 4 - Programming

Programming options for Pickering Interfaces PXI Modules

For information on the installation and use of drivers and the programming of Pickering's products in various software environments, please refer to the Software User Manual.

This is available as a download from:
pickeringtest.com/support/software-drivers-and-downloads

Also, it can be accessed from the DVD supplied with the product:
<DVD_DRIVE>\downloads\Documentation\Software-Manual.pdf

Module Architecture

The 40-410-001 module has 32 TTL input and 32 TTL outputs, the 40-410-002 has 32 TTL inputs and 32 open collector outputs. When unconnected, the default condition of all inputs is the high logic state. The default (disabled) state of all TTL outputs is low, and the state when enabled is high. Open collector outputs default to the off or deactivated condition. When enabled (set high in software), an open collector output becomes low and acts at a current sink for the load (see Section 2 for a description of how to connect to an open collector output).

One input sub-unit of 32 bits is used to read the "IN" signals, and one output sub-unit of 32 bits used to activate and deactivate the "OUT" signals as outlined in the table below.

Table 4.1 - Sub Unit/Bit Allocations for Digital I/O Module

Input Sub-Unit	Bit	40-410-001/002 Signal
1	1	IN 1
1	2	IN 2
1	3	IN 3
1	4	IN 4
1	5	IN 5
1	6	IN 6
1	7	IN 7
1	8	IN 8
1	9	IN 9
1	10	IN 10
1	11	IN 11
1	12	IN 12
1	13	IN 13
1	14	IN 14
1	15	IN 15
1	16	IN 16
1	17	IN 17
1	18	IN 18
1	19	IN 19
1	20	IN 20
1	21	IN 21
1	22	IN 22
1	23	IN 23
1	24	IN 24
1	25	IN 25
1	26	IN 26
1	27	IN 27
1	28	IN 28
1	29	IN 29
1	30	IN 30
1	31	IN 31
1	32	IN 32

Output Sub-Unit	Bit	40-410-001/002 Signal
1	1	OUT 1
1	2	OUT 2
1	3	OUT 3
1	4	OUT 4
1	5	OUT 5
1	6	OUT 6
1	7	OUT7
1	8	OUT8
1	9	OUT 9
1	10	OUT 10
1	11	OUT 11
1	12	OUT 12
1	13	OUT 13
1	14	OUT 14
1	15	OUT 15
1	16	OUT 16
1	17	OUT 17
1	18	OUT 18
1	19	OUT 19
1	20	OUT 20
1	21	OUT 21
1	22	OUT 22
1	23	OUT 23
1	24	OUT 24
1	25	OUT 25
1	26	OUT 26
1	27	OUT 27
1	28	OUT 28
1	29	OUT 29
1	30	OUT 30
1	31	OUT 31
1	32	OUT 32

Programming The Module - Input

Here are examples of using the drivers to read the inputs of the 40-410 module:

Using PILPXI

To read channels, use the simple ReadBit or ReadSub commands

ReadBit

```
DWORD sub_unit = 1;
BOOL status;
PIL_ReadBit(card_num, sub_unit, 1, &status); // Reads Input IN1
PIL_ReadBit(card_num, sub_unit, 6, &status); // Reads Input IN6
```

ReadSub (Obtains the current state of all inputs in a Sub-unit)

```
DWORD sub_unit = 1;
DWORD data [1];
PIL_ReadSub(card_num, sub_unit, data);  // Reads all 32 inputs
```

Using PIPX40

To read channels, use the simple readInputState or readInputPattern commands

readInputState

```
ViUInt32 sub_unit = 1;
ViBoolean state;
pipx40_readInputState(vi, sub_unit, 1, &state);   // Reads Input IN1
pipx40_readInputState(vi, sub_unit, 6, &state);   // Reads Input IN6
```

readInputPattern

```
ViUInt32 sub_unit = 1;
ViUInt32 data [1];
pipx40_readInputPattern(vi, sub_unit, data); // Reads all 32 inputs
```

Using pi40iv

To read channels, use the simple GetInputBit command

```
ViUInt32 sub_unit = 1;
ViUInt32 state;
pi40iv_GetInputBit(vi, sub_unit, 1, &state); // Reads Input IN1
pi40iv_GetInputBit(vi, sub_unit, 6, &state); // Reads Input IN6
```

Programming The Module - Output

Here are examples of using the drivers to set the outputs of the 40-410 module:

Using PILPXI

To operate a channel the user could use the simple OpBit command or the WriteSub commands

OpBit

```
DWORD sub_unit = 1;
PIL_OpBit( card_num, sub_unit, 1, 1);   // Sets output OUT1 high
PIL_OpBit( card_num, sub_unit, 1, 0);   // Sets output OUT1 low
PIL_OpBit( card_num, sub_unit, 6, 1);   // Sets output OUT6 high
```

WriteSub

```
// Sub-unit is 32 bits wide, so 1 DWORD is needed to hold the pattern
DWORD data[1];
data[0] = 1;       // Sets output OUT1 high and all other outputs low
PIL_WriteSub( card_num, sub_unit, data);
data[0] = 0x20;    // Sets output OUT6 high and all other outputs low
PIL_WriteSub( card_num, sub_unit, data);
```

Using PIPX40

setChannelState

```
ViUInt32 sub_unit = 1;
pipx40_setChannelState(vi, sub_unit, 1, VI_ON);   // Sets output OUT1 high
pipx40_setChannelState(vi, sub_unit, 1, VI_OFF);  // Sets output OUT1 low
pipx40_setChannelState(vi, sub_unit, 6, VI_ON);   // Sets output OUT6 high
```

setChannelPattern

```
// Sub-unit is 32 bits wide, so 1 ViUInt32 value is needed to hold the entire pattern
ViUInt32 data[1];
data[0] = 1;       // Sets output OUT1 high and all other outputs low
pipx40_setChannelPattern(vi, sub_unit, data);
data[0] = 0x20;    // Sets output OUT6 high and all other outputs low
pipx40_setChannelPattern(vi, sub_unit, data);
```

Using pi40iv

The IVI driver has no special labelling for this card and treats the array of switches as a simple array, labelling the channels using the normal com./ch labelling tags.

```
pi40iv_Connect(vi, com1, ch1);     // Sets output OUT1 high
pi40iv_Disconnect(vi, com1, ch1); // Sets output OUT1 low
pi40iv_Connect(vi, com6, ch6);     // Sets output OUT6 high
```

The IVI Swtch driver specification contains no bulk setting capabilities.

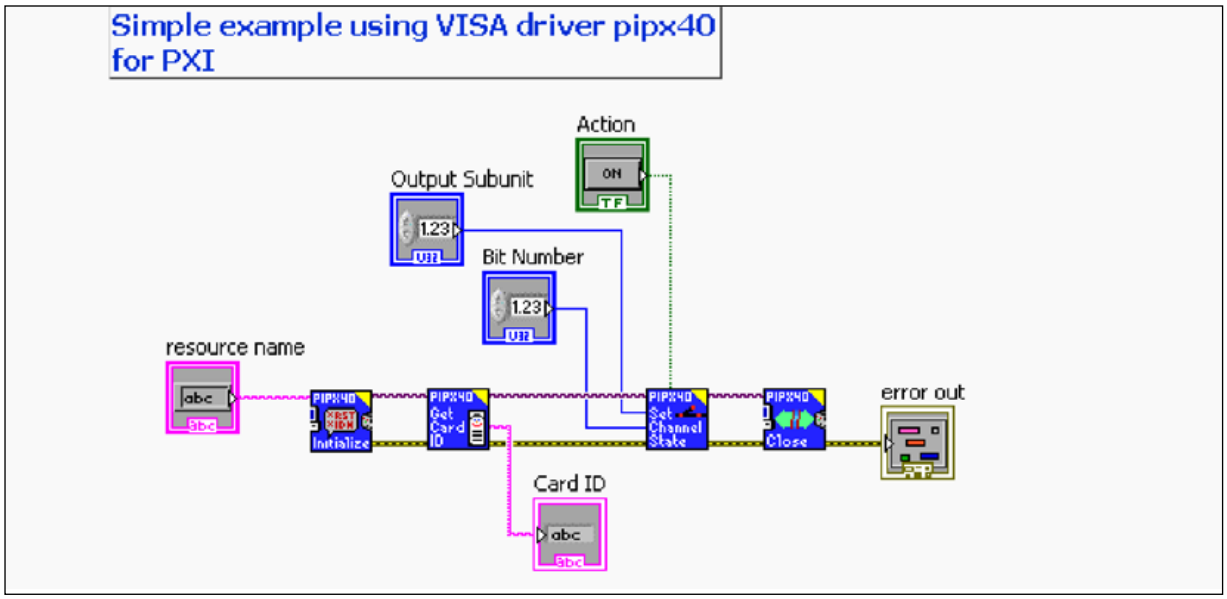
Using Pickering Drivers In LabVIEW

Most Pickering drivers include a LabVIEW wrapper to permit full operation of the Pickering product from the LabVIEW environment. These wrappers are normally installed to the current LabVIEW folder system during installation of the Pickering driver.

The process of controlling a Pickering product normally consists of the following steps:

1. Open a control session on the product.
2. Use functions in the library to operate the product.
3. Close the control session.

Following is a simple example of the use of the most common Pickering drivers:



Example Use of Pickering Drivers in LabVIEW

To download LabVIEW examples, please go to:

Using Pickering Drivers in LabVIEW

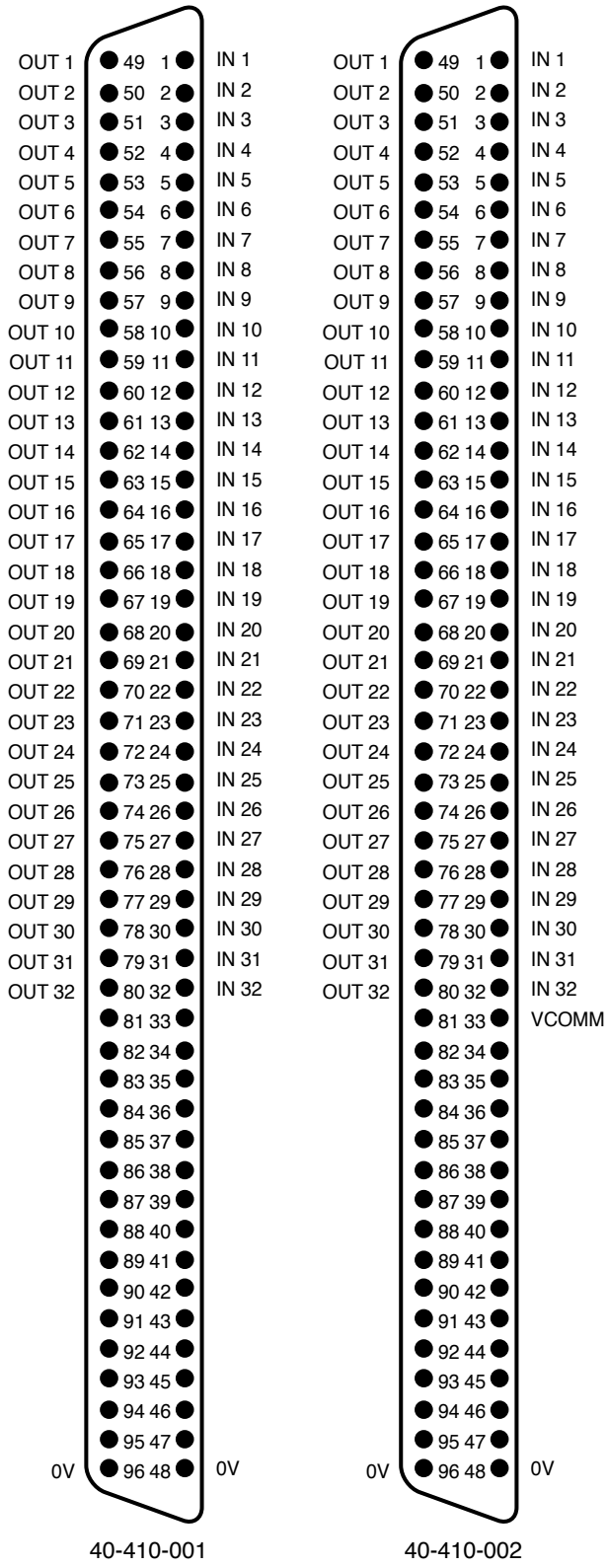


Figure 5.1 - Digital I/O Module 40-410: Pin Outs
(96-pin male 1.27mm pitch Connector Viewed From Front of Module)

Section 6 - Troubleshooting

Refer to the Warnings and Cautions at the front of this manual. 

Installation Problems

The Plug & Play functionality of Pickering switch cards generally ensures trouble-free installation.

If you do experience any installation problems you should first ensure that all cards are properly seated in their slots. Improperly mated cards may go undetected by the operating system, or may be detected as a card of an unknown type. They can also cause the computer to freeze at various stages in the boot sequence.

If your system employs a remote control interface you should check the integrity of all remote control interface links. When the system is powered up, and during Windows start-up, you should expect to see periodic activity on the remote control interface RX/TX (yellow) indicators, clearing to leave only the PWR/LNK (green) LEDs illuminated. The RX/TX indicators should show activity when you attempt to access a card.

Diagnostic Utility

The Pickering Diagnostic Utility (accessible through the Programs>>Pickering>>PXI Utilities menu) generates a diagnostic report of the system's PCI configuration, highlighting any potential configuration problems. Specific details of all installed Pickering switch cards are included. All the installed Pickering switch cards should be listed in the "Pilpxi information" section - if one or more cards is missing it may be possible to determine the reason by referring to the PCI configuration dump contained in the report, but interpretation of this information is far from straightforward, and the best course is to contact Pickering support: support@pickeringtest.com, if possible including a copy of the diagnostic report.

In the "VISA information" section, if VISA is not installed its absence will be reported. This does not affect operation using the Direct I/O driver, and is not a problem unless you wish to use VISA. VISA is a component of National Instruments LabWindows/CVI and LabVIEW, or is available as a standalone environment.

If VISA is present and is of a sufficiently recent version, the section "Pipx40 information" should present a listing similar to "Pilpxi information".

Please note that the Diagnostic Utility cannot access cards if they are currently opened by some other application, such as the Test Panels or Terminal Monitor.

Section 7 - Maintenance Information

Refer to the Warnings and Cautions at the front of this manual. 

Periodic Maintenance

This product and its corresponding chassis do not require any periodic maintenance.

General Cleaning

- Isolate the electrical power from the chassis and ensure that no user I/O signals are being applied.
- Wipe the product & chassis surfaces with a clean dry anti-static cloth only.

Software Update

For PXI modules operating in a PXI chassis, no module software updates are required. For the latest version of the driver please refer to our web site pickeringtest.com where links to our Software Download page will provide the latest version of the driver software for the various programming environments encountered.

For PXI modules which are supported in one of Pickering Interfaces' Modular LXI Chassis (such as the 60-102B and 60-103B) no module software update is required. If the module was introduced after the LXI chassis was manufactured the module may not be recognized, in this case the chassis firmware may need upgrading. This is a simple process which is described in the manual for the Modular LXI Chassis.

PCB Component Layout

The PCB component layout is as detailed in Figure 7.1 and Figure 7.2 below.

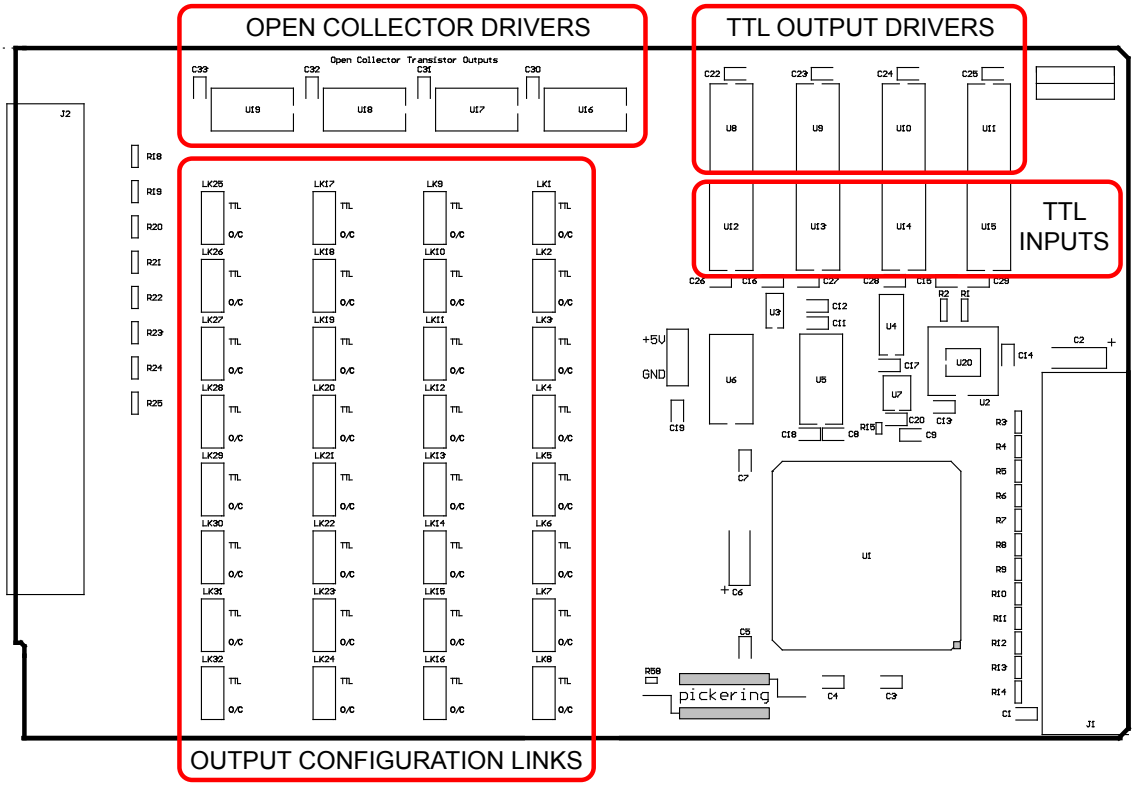


Figure 7.1 - Digital I/O Module 40-410: Component Layout

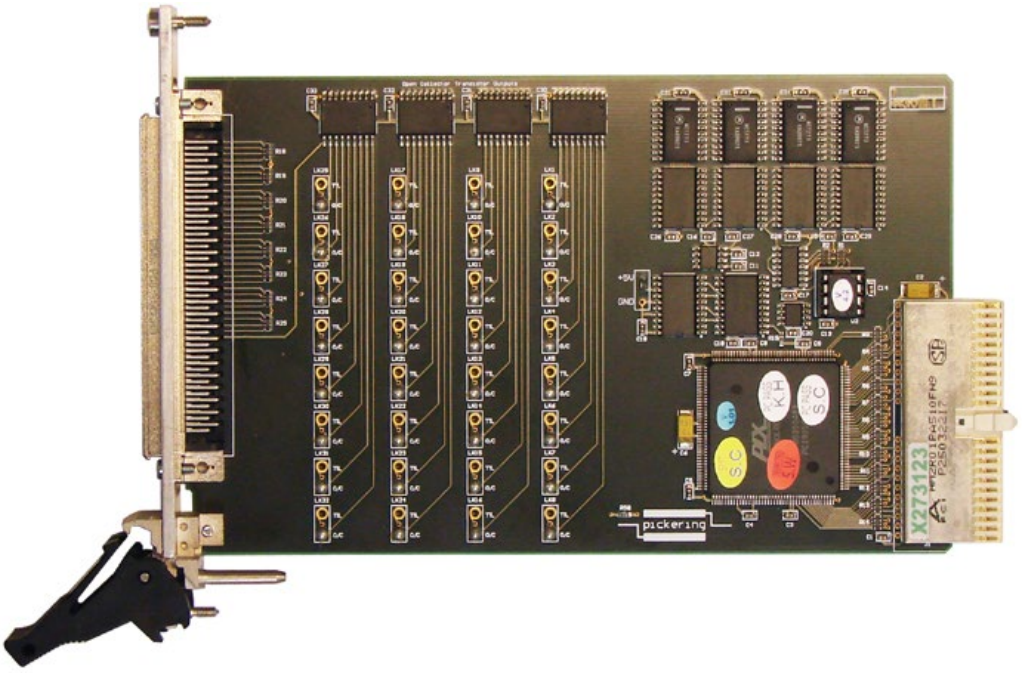


Figure 7.2 - Digital I/O Module 40-410 Side View