Chassis Interface Module for 1746 Local I/O

(Catalog Number 1747-PCIL)

Use this document to install the Chassis Interface module for 1746 Local I/O and connect it to a PCI Bus card for 1746 Local I/O.

The Chassis Interface module works with the PCI Bus card (Cat. No. 1747-PCIS/PCIS2) and a connecting cable to make up the 1747 PCI Bus Interface.

In the instructional text of this document, we refer to the Chassis Interface module as the adapter and the PCI Bus card as the scanner.

For additional information on the installation and configuration of the PCI Bus card, see publication 1747-5.31.

Publication 1747-5.32–April 1998

Compliance to European Union Directives

If this product bears the CE marking, it is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

EMC Directive

This product is tested to meet Council Directive 89/336/EEC Electromagnetic Compatibility (EMC) and the following standards, in whole or in part, documented in a technical construction file:

- EN 50081-2 EMC - Generic Emission Standard, Part 2 - Industrial Environment
- EN 50082-2 EMC - Generic Immunity Standard, Part 2 - Industrial Environment

This product is intended for use in an industrial environment.

Low Voltage Directive

This product is tested to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131-2 Programmable Controllers, Part 2 - Equipment Requirements and Tests.

For specific information required by EN 61131-2, see the appropriate sections in this publication, as well as the following Allen-Bradley publications:

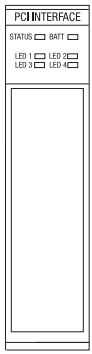
- Industrial Automation Wiring and Grounding Guidelines For Noise Immunity, publication 1770-4.1
- Automation Systems Catalog, publication B111

This equipment is classified as open equipment and must be installed (mounted) in an enclosure during operation as a means of providing safety protection.

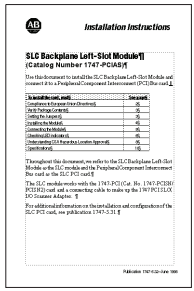
Verify Package Contents

Make sure that you have these items before you discard any packing material. If an item is missing or incorrect, contact your local sales representative.

Chassis Interface module



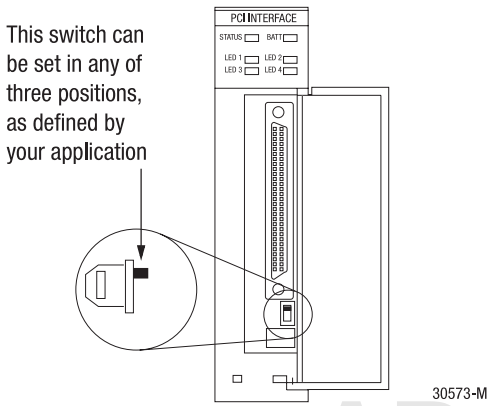
Installation instructions (Publication 1747-5.32)



Watchdog connector

Setting the User Switch

The adapter has a three-position user switch. Your software application program has the ability to read the state of this jumper. If you are using the API software, refer to publication 1747-6.5.3. If you are using another software application refer to the documentation for that software.



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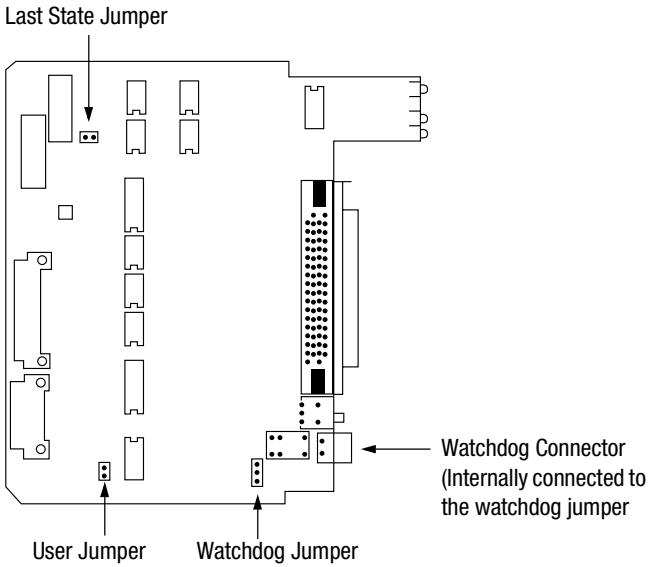
Setting the Jumper

The adapter has three separate jumpers on board.



Last State Jumper

This jumper defines the state of I/O in case of a communication failure. You must set the jumper to one of the following two settings:

- Last State –When communication with the scanner is lost (for example, the cable is unplugged or the computer is turned off), the 1746 I/O will hold their last state.
- Reset – When communication with the scanner is lost, the 1746 I/O will be reset.

Watchdog Jumper

This jumper is internally connected to the watchdog connector. A detailed explanation of this jumper's usage is on the next page.

User Jumper

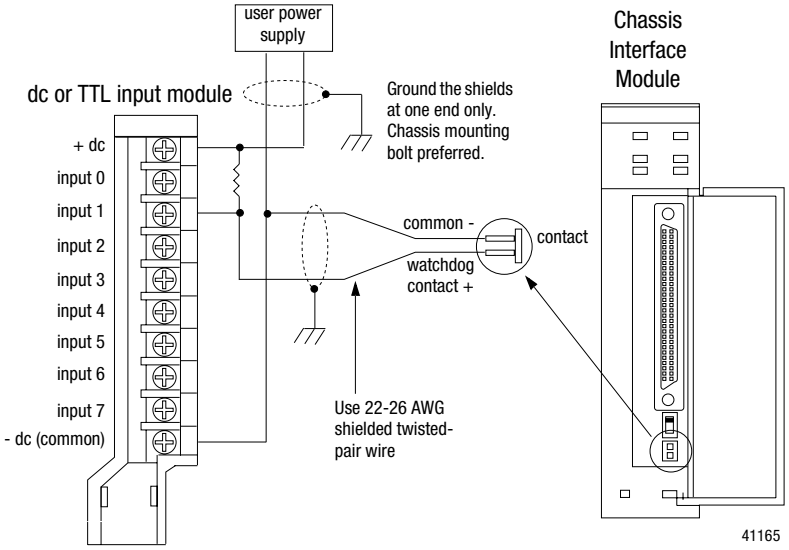
Your software application program has the ability to read the state of this jumper. If you are using the API software, refer to publication 1747-6.5.3. If you are using another software application refer to the documentation for that software.

Using the Watchdog Jumper with the External Watchdog Connector

This jumper works in junction with the watchdog connector on the front of the chassis interface module. The watchdog connector output is a solid state switch that can switch a voltage range of 4.5V dc to 26.4V dc. The connector plugs onto the front of the chassis interface module.

You need an external power supply to use the external watchdog. Adjust the external load switched by the watchdog output to 20mA or less. The watchdog output is normally off and turns on as a result of a watchdog timeout condition due to an internal hardware failure. When this condition occurs, a red indicator will light up on the status LED.

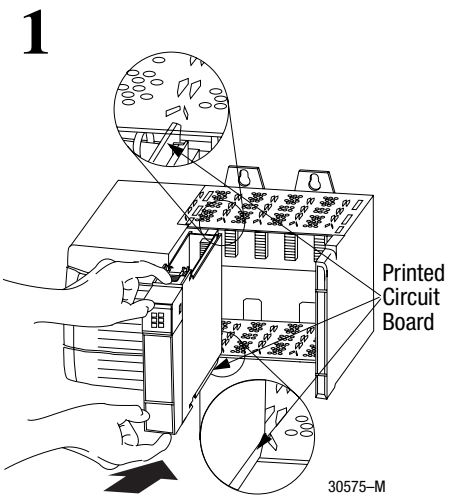
You must adhere to the watchdog output polarization to guarantee proper operation.



Installing the Adapter .

ATTENTION: Never install, remove, or connect cables to the adapter with power applied to chassis.

Important: The adapter must be installed in the left slot of the chassis as shown below.



Align circuit board with top and bottom chassis guides.

Slide adapter into chassis until adapter tabs 'click'.

Selecting the Cable for Your Connections

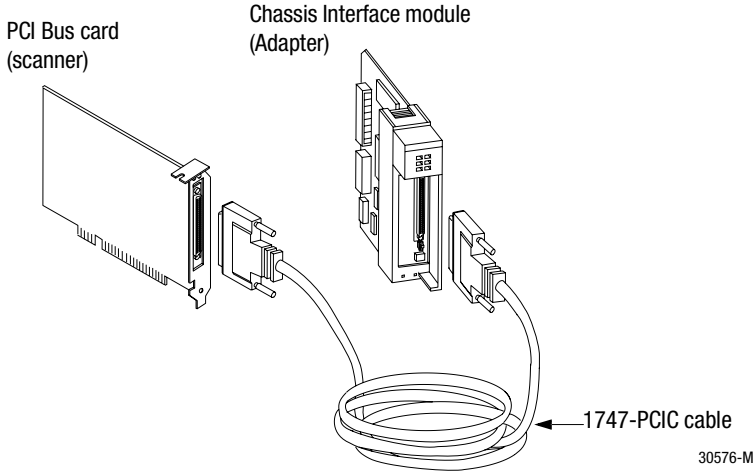
The adapter must be connected to the scanner. Use one of the following cables to make the connection:

- 3m interconnect cable (Cat. No. 1747-PCIC)
- 10m interconnect cable (Cat. No. 1747-PCIC2)

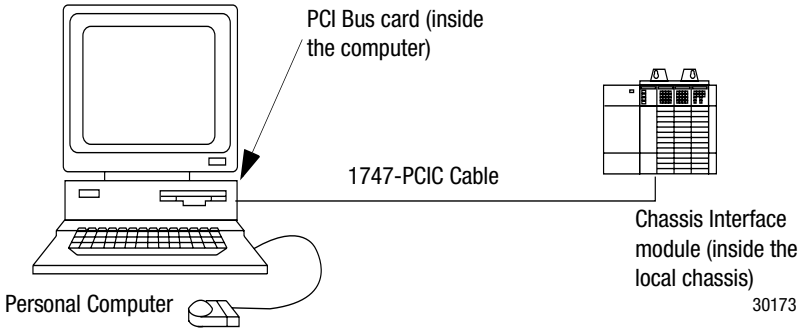
Connecting the Adapter to the Scanner

To connect the adapter to the scanner, you:

1. Connect one end of the 1747-PCIC cable to the adapter.
2. Connect the other end of the 1747-PCIC cable to the scanner.

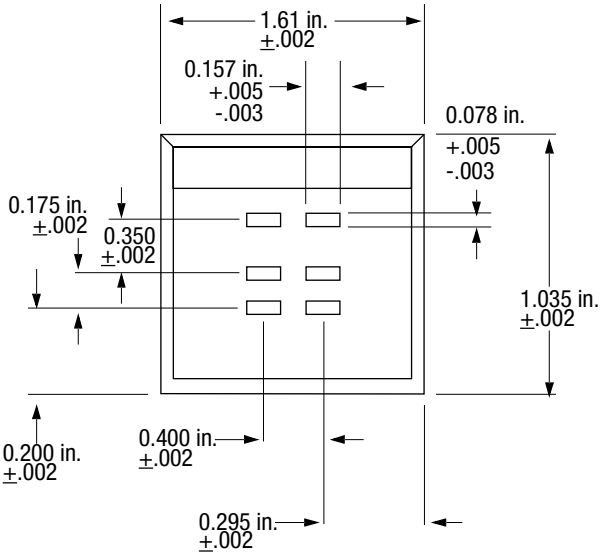


The figure below shows an example of a connection between a Chassis Interface module inside a local chassis and a PCI Bus card inside the computer.



Adapter LED Templates

The adapter LED template allows you to create a custom template for your application. Use the follow dimensions to create a template.



NOTES: Obtain these parts to make a custom LED.

1) Color is pantone #431 grey over white for opacity, opposite adhesive side

2) Selective adhesive around the perimeter on the back

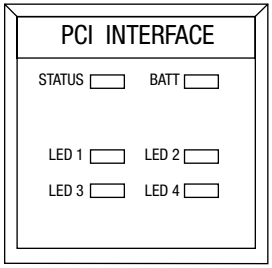
3) Clear windows

4) Protective cling mask

5) Material .019 +/- glossy polycarbonate

Initially, the LED template is easily removed from the front of the adapter. After you have set the LED positions for your application, place the display on the module and push it into place.

Checking LED Indicators



STATUS

The STATUS indicator reports the status of the scanner. The following table lists the LED states for STATUS:

This state:	Means:	Take this action:
Yellow	The scanner is running POST.	None
Flashing green	The scanner is in idle mode and is not scanning I/O.	None
Solid green	The scanner is scanning I/O.	None
Flashing red	An I/O fault has occurred.	Check software to identify fault condition.
Solid red	A scanner internal fault has occurred.	Power system off and back on. If the problem persists, service may be required.
Off	The adapter is not powered up.	Turn on power.

BATT

The BATT indicator reports the health of the battery on the PCI scanner board. The following table lists the LED states for BATT:

This state:	Means:	Take this action:
Off	The battery is OK.	None
Red	The battery is low or dead.	Replace the battery.

LED 1, LED 2, LED 3, LED 4

Your application program can control the state of the four user LEDs on the front of the adapter module. The default state is off. The following table lists the possible LED states that your program can set.

This LED:	Can have these states:	Take this action:
LED 1 & LED 2	Solid red Flashing red Solid green Flashing green Off	These actions are determined by your specific application.
LED 3 & LED 4	Solid red Solid green Off	These actions are determined by your specific application.

During the power-on self test (POST), LED 1, LED 2, LED 3, and LED 4 indicate which test is running (if the STATUS LED is yellow) or which test failed (if the STATUS LED is red). The following table lists the LED patterns during POST.

This LED:	Can have these states:	Which indicate these tests:
LED 1	Solid red Flashing red Solid green Flashing green	Software CRC checksum Reserved 128K bytes RAM Dual-port RAM
LED 2	Solid red Flashing red Solid green Flashing green	Backplane Reserved Reserved Reserved
LED 3	Solid red Solid green	Reserved Temperature sensor
LED 4	Solid red Solid green	Interrupt adapter Timer

General Operation

The adapter has no microprocessor on board that scans or controls the 1746 backplane. The scanner board contains the I/O scanner microprocessor and connects to the I/O backplane via the parallel cable (1747-PCIC) and adapter module.

The control program running on the PC monitors and controls the 1746 I/O via the scanner's dual port memory. All LED indicators on the adapter are controlled by the scanner.

Understand CSA Hazardous Location Approval

CSA certifies products for general use as well as for use in hazardous locations. Actual CSA certification is indicated by the product label as shown below, and not by statements in any user documentation.

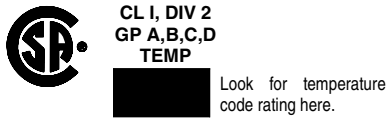
Example of the CSA certification product label:

To comply with CSA certification for use in hazardous locations, the following information becomes a part of the product literature for this CSA-certified industrial control product.

- This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D, or non-hazardous locations only.
- The products having the appropriate CSA markings (that is, Class I, Division 2, Groups A, B, C, D) are certified for use in other equipment where the suitability of combination (that is, application or use) is determined by the CSA or the local inspection office having jurisdiction.

Important: Due to the modular nature of a programmable control system, the product with the highest temperature rating determines the overall temperature code rating of a programmable control system in a Class I, Division 2, location. The temperature code rating is marked on the product label as shown.

Temperature code rating:



The following warnings apply to products having CSA certification for use in hazardous locations.

WARNING: Explosion hazard--

- Substitution of components may impair suitability for Class I, Division 2.
- Do not replace components unless power has been switched off or the area is known to be non-hazardous.
- Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
- Do not disconnect connectors unless power has been switched off or the area is known to be non-hazardous. Secure any user-supplied connectors that mate to external circuits on this equipment by using screws, sliding latches, threaded connectors, or other means such that any connection can withstand a 15 Newton (3.4 lb.) separating force applied for a minimum of one minute.
- Batteries must only be changed in an area known to be non-hazardous.

Approbation d'utilisation dans des environments dangereux par la CSA

La CSA certifie des produits pour une utilisation générale aussi bien que pour une utilisation en environnements dangereux. La certification CSA en vigueur est indiquée par l'étiquette produit et non par des indications dans la documentation utilisateur.

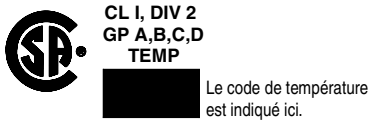
Exemple d'étiquette de certification d'un produit par la CSA :

Pour satisfaire à la certification CSA en environnements dangereux, les informations suivantes font partie intégrante de la documentation des produits de commande industrielle certifiés.

- Cet équipement ne convient qu'à une utilisation dans des environnements de Classe I, Division 2, Groupes A, B, C, D ou non dangereux.
- Les produits portant le marquage CSA approprié (c'est-à-dire Classe I, Division 2, Groupes A, B, C, D) sont certifiés pour une utilisation avec d'autres équipements, les combinaisons d'applications et d'utilisation étant déterminées par la CSA ou le bureau local d'inspection.

Important: De par la nature modulaire des systèmes de commande programmables, le produit ayant le code de température le plus élevé détermine le code de température global du système dans un environnement de Classe I, Division 2. Le code de température est indiqué sur l'étiquette produit.

Code de température :



Les avertissements suivants s'appliquent aux produits ayant la certification CSA pour une utilisation dans des environnements dangereux.

AVERTISSEMENT : Risque d'explosion --

- La substitution de composants peut rendre ce matériel inadapté à une utilisation en environnement de Classe I, Division 2.
- Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de remplacer des composants.
- Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement.
- Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs fournis par l'utilisateur pour se brancher aux circuits externes de cet appareil à l 'aide de vis, loquets coulissants, connecteurs filetés ou autres, de sorte que les connexions résistent à une force de séparation de 15 Newtons (1,5 kg - 3,4 lb.) appliquée pendant au moins une minute.
- S'assurer que l'environnement est classé non dangereux avant de changer les piles.

Le sigle CSA est une marque déposée de la Canadian Standards Association.

Specifications

Adapter Location	Left slot of a 1746 I/O chassis
Backplane Current	100mA @ 5V dc
Environmental Conditions Slot Operating Temperature Slot Storage Temperature Relative Humidity Vibration Operating Shock Storage Shock	 0 to 60°C -40o to 95oC 5-95% without condensation Constant 10-60Hz, 0.015 in. displacement Constant 60-2000Hz, 2.5G acceleration 30G 50G
Wiring Category	2
Agency Certification (when product or packaging is marked)	c UL us listed CE marked for all applicable directives

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