ADVANTECH

iDAQ-974

4-slot GbE Industrial DAQ Chassis

Startup Manual

Packing List

Before installation, please ensure that the following items are included with the product:

- 1 x iDAQ-974 chassis
- 1 x 2-pin power terminal
- 2 x DIN Rail mounting kit
- 1 x iDAQ-974 startup manual

If anything is missing or damaged, contact your distributor or sales representative immediately.

User Manual

For more detailed information about this product, refer to the iDAQ-974 user manual on the Advantech Support Portal.

Declaration of Conformity

FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference. In such cases, users are required to correct the interference at their own expense.

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This type of cable is available from Advantech. Please contact your local supplier for ordering information.

For more information about this and other Advantech products, please visit our website at

http://www.advantech.com/

For technical support and customer service, please visit our support website at

http://support.advantech.com

This manual is for iDAQ-974.

Part No. 2043097400 Edition 1
Printed in Taiwan November 2025

Specifications

Programmable Function Pins (PFP)

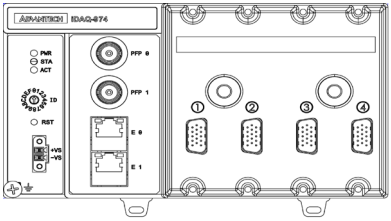
- **Channels:** BNC x 2
- **Direction:** Input or output, software configurable
- **Input level**
  - Logic high: +3.5 V min.
  - Logic low: +1.5 V max.
- **Input protection voltage:** +6.5 V max, -0.5 V min.
- **Pull-down resistor:** 10 kΩ
- **Input signal frequency:** 10 MHz max.
- **Response time:** 20 ns max.
- **Debounce filter:** 40 ns ~ 168 ms, software configurable
- **Output logic level**
  - Logic high: +4.5 V min., 20 mA source max.
  - Logic low: +0.5 V max., 20 mA sink max.

General

- **Interface:** Ethernet (100Base-TX/1000Base-T)
- **Ethernet port:** 2
- **iDAQ slot:** 4 slots
- **Power Input:** 10 VDC ~ 30 VDC
- **Power Consumption:** 28 W max., including modules
- **Power connector:** 2-pin spring terminal
- **Module dimensions:** 178 x 100 x 71 mm (7.01 x 3.93 x 2.80 in.)
- **Operating temperature:** -40°C to 70°C (-40°F to 158°F)
- **Storage temperature:** -40°C to 85°C (-40°F to 185°F)
- **Operating humidity:** 10% to 90% RH, non-condensing
- **Storage humidity:** 5% to 95% RH, non-condensing

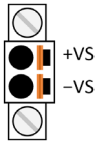
I/O Interfaces

Below shows the front view of the iDAQ-974 chassis. Please refer to the table for the descriptions of each I/O connector, indicator and switch.



I/Os	Description	Remark
Power	Power input	Refer to “Power Connector” and “Specifications”
ID	Chassis ID switch	Refer to Chassis ID
PFP<n>	Programmable Function Pin n = 0, 1	Configurable via software, see “Programmable Function Pin Connector” and “Specifications”
E0	E0 Ethernet Port 0	
E1	E0 Ethernet Port 1	
LEDs	PWR: Power STA: FPGA Code Updating Status ACT: Operating status of the iDAQ-974	Refer to “LED indicators”
iDAQ Slot<n>	Slot 1~4 to insert iDAQ modules	

Power Connector



Pin Name	Description
+VS	Positive terminal of power supply
−VS	Negative terminal of power supply

I/O Interface (Cont.)

Chassis ID

The chassis ID is a hardware switch used to assign a unique identifier to each iDAQ chassis in the system. Rotate the switch to set different IDs and distinguish each iDAQ chassis.

When connecting multiple iDAQ-974 units within the same LAN (DHCP network), make sure to manually set a different hardware ID for each chassis before connecting them to the network.

This prevents ID conflicts and allows the system to correctly recognize all iDAQ-974 devices simultaneously.

Switch Position	Chassis ID
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
A	10
B	11
C	12
D	13
E	14
F	15

Programmable Function Pin Connector

The PFP stands for programmable function pin. It provides multiple functions such as clock I/O and trigger I/O. For specific functionalities, please refer to the user manual and software manual.

Pin Name	Description
PFP	Positive terminal of programmable function pin
GND	Ground. Negative terminal of programmable function pin

I/O Interface (Cont.)

LED Indicators

The LED indicates the chassis status. Please refer to below table for the status indication with respective color state.

LED Name	LED Status	Description
PWR	Green On	Device is powered on
	Off	No power supply connected
STA	Yellow Blinking	FPGA code is updating
	Green On	Device operating properly
ACT	Green Blinking	iDAQ-974 operating normally
	Red On	iDAQ-974 error detected

Ethernet Port LED (Position)	LED Status	Description
Right (Link/Activity)	Green On	Ethernet link is established
	Green Blinking	Ethernet data active
	Off	No Ethernet link
Left (Speed)	Green On	1000 Mbps lin
	Orange On	100 Mbps link

Installation

iDAQ-974 Installation

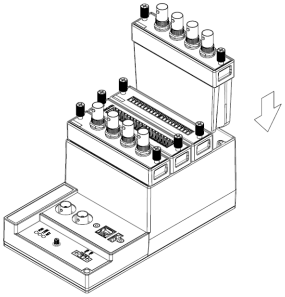
After the device drivers are installed, the iDAQ-974 chassis can be installed in your system. We recommend referring to the user manual or related documentation for detailed instructions. Alternatively, follow the steps outlined below for module installation.

1. Touch any metal surface of the computer to discharge any static electricity that may be in your body.
2. Insert the Ethernet cable into the designated Ethernet port.

After the chassis and iDAQ modules are installed, the device can be configured using the Advantech Navigator Program which was automatically installed during driver setup. Note that the iDAQ modules will only be recognized when the module is inserted in the iDAQ chassis.

iDAQ Module Installation

1. Insert the module and follow the guide rail to the end.
2. Screw the two screws tight onto the chassis.



Chassis Mounting

The iDAQ-974 provides two types of mounting method. One is DIN-rail and the other is wall mount.

DIN Rail Mount

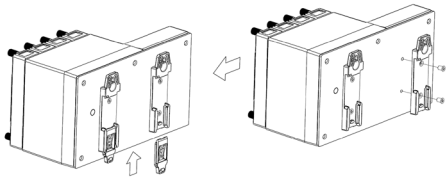
The DIN Rail mounting kit is attached along with the package. Please make sure that the mounting kit is well-packed and components are included as follows:

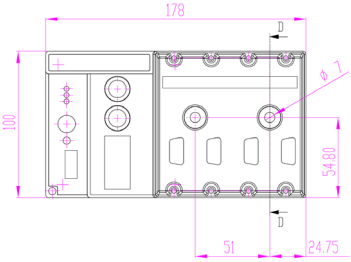
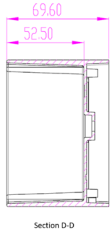
- 2 x frames
- 2 x buckles
- 4 x screws

If anything is missing, please contact local sales representative or sales channel.

Follow these assembly steps:

1. Screw the two frames onto the chassis.
2. Insert the buckle into the frame respectively.



Wall Mount

The iDAQ-974 chassis could be mounted on the wall or a flat surface using the holes reserved on the chassis. Align the chassis on the surface. Then, screw the chassis to the wall/surface using two M5 or T5 panhead screws. The related dimensions are in the following figures. Advantech does not provide these screws with the chassis. (unit: mm)