

Micro Converter for USB

Setup Guide

High Speed IEEE-488.2 I/F
Micro Converter for USB2.0

GPIB-FL2-USB

CONTEC CO., LTD.

Thank you for purchasing this product. The product you have purchased consists of the following items.

Check, with the following list, that your package is complete.

If you find any item either missing or damaged, please contact the sales representative you purchased the product from.

Before actual use, read the Reference Manual which can be viewed on the CONTEC website to use this product properly.

The following manuals and driver software come with this product. Visit the CONTEC website and download them before using the product.

The name of the documents	Contents	How to get
Setup Guide (This document)	The outline of the product.	Included in the package (Printed matter)
Reference Manual	Descriptions of such as hardware settings, connections with external equipment (signal layout of connector), and product specifications.	Download (PDF)

The name of the driver	Contents	How to get
Driver software API-GPIB(WDM) for USB	Driver software for GPIB communication.	Download (Self-extraction or ZIP)

Download <https://www.contec.com/download/>

The reference place of the installation method

Information	Reference place
Installation on Windows	Refer to this guide or the file API-USBP(WDM) for USB driver help. \HELP\ENG\ APIUSBP.chm

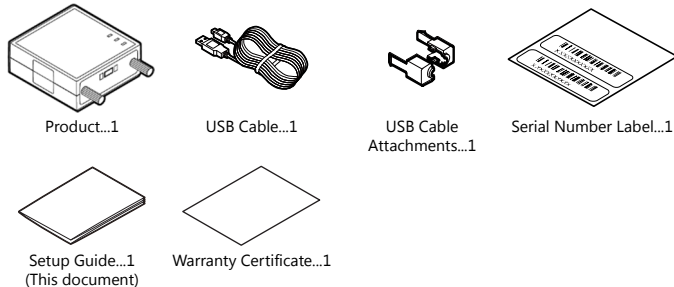
1. About the Product

This product is a micro converter that converts USB port of a PC to a GPIB communication port compatible to IEEE-488 standard.

With the USB cable (1.8 m) included in this package, it can be directly connected to GPIB interface of any equipment without using GPIB cables. Furthermore, this product is powered by the bus so that simple and compact GPIB communication system can be established. According to user's needs, Windows driver and LabVIEW driver can be downloaded from the CONTEC website.

2. Product Configuration

This product consists of the items listed below. Check, with the following list, that your package is complete.



3. Safety Precautions

Understand the following definitions and precautions to use the product safely.

DANGER

- Do not use the product in locations exposed to a flammable or corrosive gas. It may cause explosion, fire, electrical shock, or malfunction.

CAUTION

- Do not strike or bend this product. Otherwise, this product may malfunction, overheat, cause a failure or breakage.
- Make sure that your PC can supply ample power to all this product installed. Insufficiently energized products could malfunction, overheat, or cause a failure.
- It may cause a trouble in recognizing and operating the device according to the kind of USB hub.
- As this product contains precision electronic components, do not use or store it in the environments subject to shock or vibration. Otherwise the product may malfunction, overheat, cause a failure or breakage.
- Do not use or store the product in a hot or cold place where the temperature exceeds the specified range, or in a place that is subject to severe temperature changes. Otherwise the product may malfunction, overheat, cause a failure or breakage.
- Do not use or store the product in a place subject to direct sunlight or near a heating device, such as a stove. Otherwise the product may malfunction, overheat, cause a failure or breakage.
- Do not use or store the product near equipment generating a strong magnetic field or radio waves. Otherwise the product may malfunction, overheat, cause a failure or breakage.
- Do not touch this product's terminals (USB connector, Interface connector) with your hands. Otherwise, the product may malfunction, overheat, or cause a failure. If the terminals are touched by someone's hands, clean the terminals with industrial alcohol.
- Do not touch the interface connector when the power is on. Otherwise the product may malfunction, overheat, cause a failure due to static electricity.
- Do not plug or unplug the internet connector when the power is on. This may cause a failure.
- Do not operate switches when the power is on. This may cause a failure.
- When connecting multiple units, set one unit at a time. Complete the setup before starting to connect the next unit.
- The specifications of this product are subject to change without notice for enhancement and quality improvement. Even when using the product continuously, be sure to read the manual and understand the contents.
- Do not modify or disassemble the product. CONTEC will bear no responsibility for any problems, etc., resulting from modifying or disassembling the product.
- The product must always be accompanied by this Setup Guide when transferred or assigned.
- Contact your retailer for product repair or replacement.
- When disposing of the product, follow the disposal procedures stipulated under the relevant laws and municipal ordinances.
- Regardless of the foregoing statements, CONTEC is not liable for any damages whatsoever (Including damages for loss of business profits) arising out of the use or inability to use this CONTEC product or the information contained herein.

◆ Usage limitation

This product has not been developed or manufactured to be used in systems including the equipment which is directly related to human lives *1 or the equipment which involves human safety and may significantly affect the maintenance of public functions *2. Therefore, do not use the product for such purposes.

- *1 Medical devices such as life-support equipment and devices used in an operating theater.
- *2 Main control systems at nuclear power stations, safety maintenance systems at nuclear facilities, other important safety-related systems, operation control systems within group transport systems, air-traffic control systems, etc.

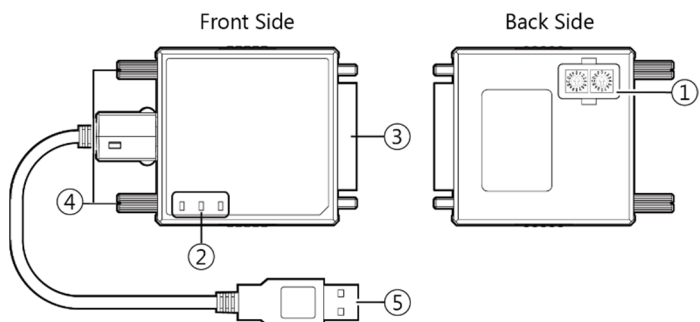
4. Option

GPIB cable (2m): PCN-T02
GPIB cable (4m): PCN-T04
GPIB Connector: CN-GP/C

*Visit the CONTEC website to check the details.

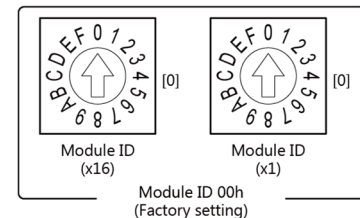
5. Product Nomenclature and Function

Nomenclature of Product Components



Number	Contents
1	Setting Switches -Open the cover to use them.
2	LED Indicator
3	Interface Connector
4	Connecting Screws
5	USB Connector [Type A]

◆ Setting Switches



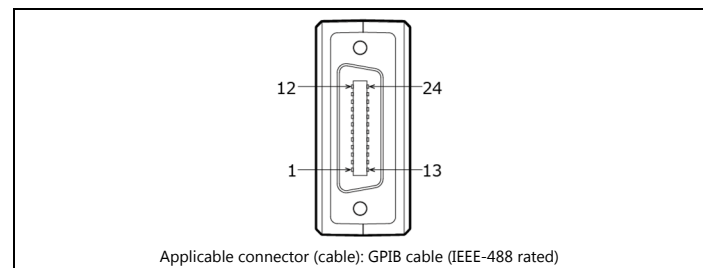
Module ID	Description
00 - 7Fh	It is a setting range for Module IDs.
FFh	This is used only when upgrading the firmware.

There are two setting switches. "x16" and "x1" represent high bits and low bits of Module ID respectively. Factory settings "00" can be used when only one device per model is connected to one computer. Each device should be assigned a unique Module ID in the range of 00 - 7Fh when several devices with the same model are being connected.

◆ LED Indicator

Name	Color	Status	Description
LA	Yellow	ON : in a listener state OFF : not in a listener state	State of address
SRQ	Yellow	ON : outputting SRQ OFF : not outputting SRQ	Output state of SRQ signal
LINK	Green	ON : communication established OFF : communication not established	Connection state with the PC

◆ Interface Connector



Applicable connector (cable): GPIB cable (IEEE-488 rated)

Pin number	Signal name	Pin number	Signal name
12	GND (Shield)	24	GND (Logic)
11	ATN	23	GND
10	SRQ	22	GND
9	IFC	21	GND
8	NDAC	20	GND
7	NRFD	19	GND
6	DAV	18	GND
5	EOI	17	REN
4	DIO4	16	DIO8
3	DIO3	15	DIO7
2	DIO2	14	DIO6
1	DIO1	13	DIO5

6. Setup

Driver software API-GPIB(WDM) for USB is required to setup this product. Download the software from the CONTEC website beforehand. (<https://www.contec.com/download/>) Follow the steps below to set up.

1. Software installation

- STEP1: Extract the downloaded file. (Self-extraction or ZIP)
- STEP2: After the extraction, execute Setup.exe in the INF folder to install.
 - * For Windows 10, execute Setup.exe in the GPIB_forWin10 folder.
 - If it is not Windows 10, execute Setup.exe in the GPIB folder.

2. Hardware installation

- STEP1: Power on the PC before connecting this product.
- STEP2: Connect the product and the supplied USB cable.
 - To prevent the cable from being unplugged, put the cable between the USB cable attachments, then connect to the product.
- STEP3: Connect the product and the USB port with a USB cable.
- STEP4: Installation process will finish automatically.
 - After that, proceed to "3. Software initialization".
 - * If the "Found New Hardware Wizard" appears, select the "Install the software automatically" and click the "Next" button.

3. Software initialization

- STEP1: Run Device Manager.
 - STEP2: The installed hardware appears under the CONTEC Devices tree.
 - Open the CONTEC Devices tree and select the device you want to setup. Click the [Properties].
 - STEP3: Enter the device name in the common settings tab page, then click the [OK]. The device name you set here is used later when programming.
 - STEP4: When you click "Diagnosis" on the common setting tab page, the diagnostic program starts up.
 - For details of the diagnostic program, refer to the Driver Help.
 - * You can use the default device name as it is displayed. When making changes, make sure that the device names do not overlap among multiple modules.
- Above completes the settings.

Refer to Driver Help (\Help\ENG\ APIUSBP.chm) regarding API function or sample programs.

7. Specifications

Function specifications

Item	Specifications	
GPIB	The number of channels	1 channel
		Conforms to IEEE-488.1, 488.2(GPIB)standards
	Transfer format	8-bit parallel, 3-wire handshake system
	Transfer rate	1.5Mbyte/sec
	Data buffer size	2Kbyte send, 2Kbyte receive
	Signal logic	Negative logic, L level : 0.8V or less, H level : 2.0V or more
	Cable length between devices	4m or less *1
USB	Total cable length	20m or less
	The number of connectable devices	15 (Max.)
	Bus specification	USB Specification 2.0/1.1 standard
	USB transfer rate	12Mbps (Full-speed), 480Mbps (High-speed) *2
	Cable length	1.8m
Common	Power supply	Bus power
	Current consumption	5VDC 400mA (Max.)
	Physical dimensions (mm)	62(W) x 64(D) x 24(H)
	Weight	100g (Not including the USB cable and attachment)

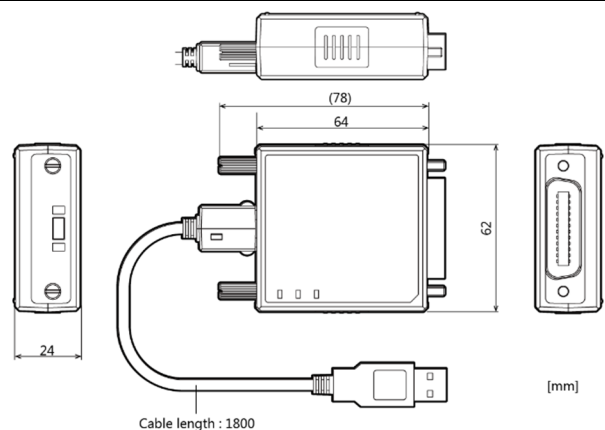
*1 Refer to "Cable Connections" in the Reference Manual.

*2 The response speed is depending on the environment of the host PC (OS, USB host controller) being used.

Installation Environment Requirements

Item	Specifications	
Operating ambient temperature	0 - +50°C	
Operating ambient humidity	10 - 90%RH (No condensation)	
Floating dust particles	Not to be excessive	
Corrosive gases	None	
Line-noise resistance	Line noise	AC Line/±2kV, Signal Line /±1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
	Static electricity resistance	Touch /±4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Air /±8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
Vibration resistance	Sweep resistance	10 - 57Hz /semi-amplitude vibration 0.15mm, 57 - 150Hz/2.0G 40minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
	Shock resistance	147m/s ² (15G)/11ms/half-sine shock (JIS C 60068-2-27 -compliant, IEC 60068-2-27 -compliant)
Standard	VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, RoHS Directive)	

8. Physical Dimensions



CONTEC CO., LTD.

3-9-31, Himesato, Nishiyodogawa-ku, Osaka 555-0025, Japan

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NA06534 (LYWP191) [12062018]

December 2018 Edition