High Speed IEEE-488.2 I/F Micro Converter for USB2.0
GPIB-FL2-USB

* Specifications, color and design of the products are subject to change without notice.

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 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.

Windows/LabVIEW device driver is supported with this product.

* The contents in this document are subject to change without notice.
* Visit the CONTEC website to check the latest details in the document.
* The information in the data sheets is as of July, 2024

Features

- **Capable to communicate with GPIB communication which is compatible to IEEE-488.1/488.2 standards at 1.5 M byte/sec maximum**
Capable to communicate with any equipment which is compatible to IEEE-488.1/488.2 standards with transfer rate at 1.5 Mbyte/sec maximum. Capable to set this product to whether a master (controller) or a slave.

- **Compatible to USB2.0/USB1.1 and bus power-driven eliminating the need for external power**
Compatible to USB2.0/USB1.1 and capable to achieve high speed transfer at HighSpeed (480 Mbps). The product is driven by bus power from USB, which eliminates the need for external power. In addition, with the USB cable (1.8 m) included in this package, it can be connected to any equipment with GPIB interface without any GPIB cables.

- **Employs a buffer memory, 2 Kbytes for transmission and 2 Kbytes for reception**
Employs a buffer memory, 2 Kbytes dedicated to transmission and 2 Kbytes dedicated to reception, in order to reduce the load to the CPU when transmitting/receiving data.

- **Windows/LabVIEW compatible support software is offered**
The support software offered on the CONTEC website makes it possible to create applications of Windows/LabVIEW.   In addition, supplies a diagnostic program to confirm hardware operation and to perform a basic communication test with connected equipment.

- **Employs a high speed GPIB controller developed by CONTEC and provides steady-supply**
This product employs CONTEC's self-developed high speed GPIB controller (μPD7210 register-compatible), which provides users steady-supply with peace of mind.

- **Built-in SPAS event function (when slaving)**
In addition to the functions of the earlier GPIB controller (μPD7210), the product also supports the SPAS event generated when a serial poll occurs.   This gives users a high level of flexibility in constructing the system.

Specifications

Function specification

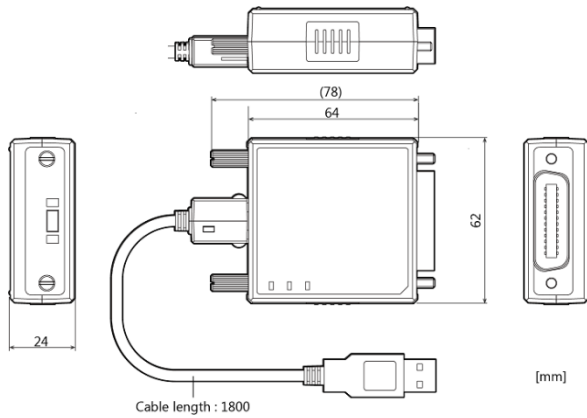| Item		Specification
GPIB	The number of channels	1 channel Conforms to IEEE-488.1, 488.2(GPIB)standards
	Transfer format	8-bit parallel, 3-wire handshake system
	Transfer rate	1.5Mbyte/sec
	Data buffer size	2Kbyte send, 2Kbyte receive
	Signal logic	Negative logic L level : 0.8V or less, H level : 2.0V or more
	Cable length between devices	4m or less *1
	Total cable length	20m or less
	Connectable number of devices	15 devices (Max.)
USB	Bus specification	USB Specification 2.0/1.1 standard
	USB transfer rate	12Mbps (Full-speed), 480Mbps (High-speed) *2
	Cable length	1.8m
	Power supply	Bus power
Common	Current consumption	5VDC 400mA (Max.)
	Physical dimensions (mm)	62(W) x 64(D) x 24(H) (No projection included)
	Weight	100g (Not including the USB cable, attachment)

*1 For details, see "Notes on GPIB cable connection".

*2 Depends on the environment of the host PC (OS, USB host controller) being used.

Installation Environment Requirements

Item		Specification
Operating ambient temperature		0 - 50℃
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	40minutes each in X, Y, and Z directions (JIS C60068-2-6-compliant, IEC60068-2-6-compliant)
Shock resistance		147m/s^2 (15G) half-sine shock for 11ms JIS C60068-2-27-compliant, IEC60068-2-27-compliant)
Standard		VCCI Class A, FCC Class A, CE Marking (EMC Directive Class A, RoHS Directive), UKCA

Physical Dimensions

Cable length : 1800

[mm]

Support Software

Name	Contents	How to get
Driver software API-GPIB(WDM) for USB	It is the driver software for Windows with new function specification and supplies command in the form of standard Win32 API function (DLL). Ideal for a user who intend to construct a new system since setting up multiple GPIB communication converters is easy, for example. In addition, sample programs such as Visual Basic and Visual C++ are included, and you can verify the operation of hardware by using Diagnostic programs.	Download from the CONTEC website
Driver software API-GPIB(98/PC) *1	It is the driver software, and which supplies command in the form of standard Win32 API function (DLL). In addition, sample programs such as Visual Basic and Visual C++ are included, and you can verify the operation of hardware by using Diagnostic programs.	Download from the CONTEC website
GPIB communication driver supporting LabVIEW API-GPLV(W32)	API-GPLV(W32) is a driver created according to the National Instruments Corporation's GPIB function style. The driver is software to control the CONTEC GPIB board using a LabVIEW-based GPIB system or existing application program.	Download from the CONTEC website

*1   When replacing our GPIB boat (F series) with this product.

Download the files accordingly from the following URL.

https://www.contec.com/download/

Optional Products

| Product Name	Model type	Description
GPIB cable	PCN-T02	2m
	PCN-T04	4m
GPIB connector adapter	CN-GP/C	*1

*1   Effective if this product interferes with the main unit of the target device when plugging this product into the device.

Visit the CONTEC website for the latest optional products.

Included Items

Product...1
USB Cable (1.8m)...1
USB Cable Attachment on the main unit's side...1
Please read the following...1

Nomenclature of Product Components

Front Side   Back Side
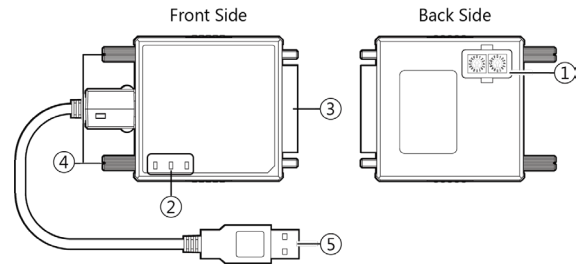
No.	Name	Description
1	Setting Switches	These are switches to distinguish modules.
2	LED Indicator	This indicates the state of the product.
3	Interface Connector	This is a 24-pin GPIB connector (Male)
4	Connecting Screws	These are screws to connect GPIB cable or a remote device.
5	USB Connector	This is a USB connector for type-A.

Interface Connector
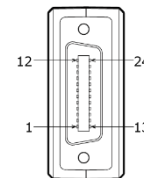
Compatible connector (cable): GPIB cable (IEEE-488 standard follow)

Pin number	Signal name	Pin number	Signal name
12	GND (Shield)	24	GND (Logic)
11	ATN (Attention)	23	GND (Grand)
10	SRQ (Service Request)	22	GND (Grand)
9	IFC (Interface Clear)	21	GND (Grand)
8	NDAC (Not Data Accepted)	20	GND (Grand)
7	NRFD (Not Ready for Data)	19	GND (Grand)
6	DAV (Data Valid)	18	GND (Grand)
5	EOI (End Of Identify)	17	REN (Remote Enable)
4	DIO4	16	DIO8
3	DIO3	15	DIO7
2	DIO2	14	DIO6
1	DIO1	13	DIO5

Differences between GPIB-FL2-USB and GP-IB(USB)FL

Applications developed with GP-IB(USB)FL can be used in GPIB-FL2-USB as the GPIB-FL2-USB is API-compatible with the GP-IB(USB)FL.

Some differences between the two are listed below, however, there are no changes in the electrical specifications.

	GP-IB(USB)FL	GPIB-FL2-USB
Data Transfer Mode	INT, FIFO	FIFO
Current Consumption	450mA	400mA
Weight	110g (Not including the USB cable, attachment)	100g (Not including the USB cable, attachment)