

Precautions (Please be sure to read before use.)

Do Not 1. This product uses ordinary off-the-shelf electronic components, and is therefore inappropriate for use in applications that require special quality or reliability and are expected to protect human lives or prevent accidents, such as safety mechanisms in fields including space, aeronautics, medicine, and nuclear power. 2. Do not be used underwater or in high-humidity environments. 3. Do not be used in the presence of corrosive gases, combustible gases, or other flammable gases. 4. Do not turn on power when circuit board surface is in contact with other metal. 5. Do not apply voltage higher than rated voltage.
Attention 6. This manual may be revised in the future without notice owing to improvements. 7. All efforts have been made to produce the best manual possible, but if users notice an error or other problem, we ask that they notify us. 8. Item 7 notwithstanding, HuMANDATA cannot be held liable for the consequences arising from use of this product. 9. HuMANDATA cannot be held liable for consequences arising from using this product in a way different from the uses described herein, or from uses not shown herein. 10. This manual, circuit diagrams, sample circuits, and other content may not be copied, reproduced, or distributed without permission. 11. If the product emits smoke, catches fire, or becomes unusually hot, cut the power immediately. 12. Do not install the control cables or communication cables together with the main circuit lines or power cables. In such an environment, it may result in malfunction due to noise. 13. Be careful of static electricity.

1. Revision History		
Date	Revision	Description
March 10, 2025	3.0	Upgrade product version to Rev3.

2. Product packaging

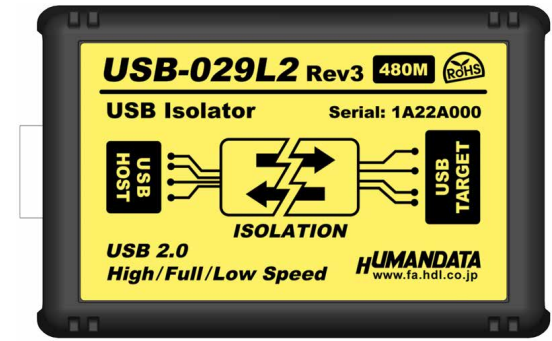
Thank you very much for purchasing the USB-029L2. In this package, you will find the following items included. If there are any shortages or issues, please contact us.

☐ USB2.0 Isolator Compact USB-029L2	1
☐ USB cable (1.8m)	1

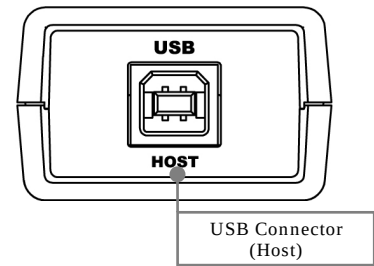
3. Introduction

USB-029L2 is a USB 2.0 High Speed (480Mbps), Full Speed (12Mbps) and Low Speed (1.5Mbps) compliant isolator which isolates between a USB host and a USB peripheral device with 3000VDC. With USB-029L2, it can be expected to eliminate ground loops that can cause measurement errors and surges from the equipment, common-mode voltage, static discharge, magnetic fields, and radio frequency interference. There is no need to install any drivers. It works with every operating system such as Windows, Linux, Mac OS X.

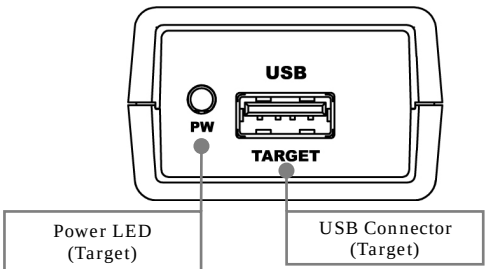
4. Overview



TOP side (Block diagram)



USB Host side



USB Target side

5. Connection

You can use an included USB cable to the host side connector to the host (such as a personal computer), and connect a USB peripheral device to the target side connector.

6. Power Supply

USB-029L2 is powered through a USB port (Bus-powered).

7. Product Specification

Item	Description	Remarks
Model	USB-029L2	
Input Power	5VDC Supplied through a USB port (Bus-powered)	
Current Consumption	Less than 100mA + current of the target device	400mA max. * Lower than the supply capacity of the host side * Host supplies more than target consume
HOST interface	USB 2.0 Compliant High Speed (480Mbps) Full Speed (12Mbps) Low Speed (1.5Mbps)	USB 1.1 compatible ESD protection
Isolation Method	Bus isolation	
Isolation Protection	DC3000V	Designed value
Support OS	OS-Independent (No drivers required)	
LED	PW: Power LED	
Operating Ambient temp.	-20 to 60 [°C] (-4 to 140 [°F])	No condensation permitted
Operating Ambient Humidity	20 to 90%RH	
Storage Ambient temp.	-20 to 60 [°C] (-4 to 140 [°F])	
Storage Ambient Humidity	20 to 90%RH	
Weight	Approx. 75 [g]	Only main body
Dimensions	43.5 x 67 x 27 [mm] (1.713" x 2.638" x 1.102")	Without projections

* There is a case to be changed to the parts of the compatibility

* Power saving function (suspend, standby, sleep and others) is not supported

8. Optional Accessories

Model	Image	Description
PEN-003		Attachment with clamping screw JAN : 4937920800709
PEN-003-DIN		Attachment for 35mm DIN rail JAN : 4937920800716
PEN-003-MG		Attachment with neodymium magnet JAN : 4937920801201

9. Additional Documentation and User Support

The following documents and other supports are available at

- Product Documents: <https://www.hdl.co.jp/en/faspc/USB/usb-029l2/>
- Support Center: <https://www.fa.hdl.co.jp/en/support.html>

10. Warranty and Compensation

Please refer to the following URL for the warranty.

<https://www.fa.hdl.co.jp/en/fa-warranty.html>

11. Contact us

Please contact us using the inquiry form on our company's website or email us at SPC2@hdl.co.jp, providing the product model number and serial number.

Please note that it may be difficult to provide technical support over the phone. We kindly ask for your cooperation in using email or other means of communication whenever possible.

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