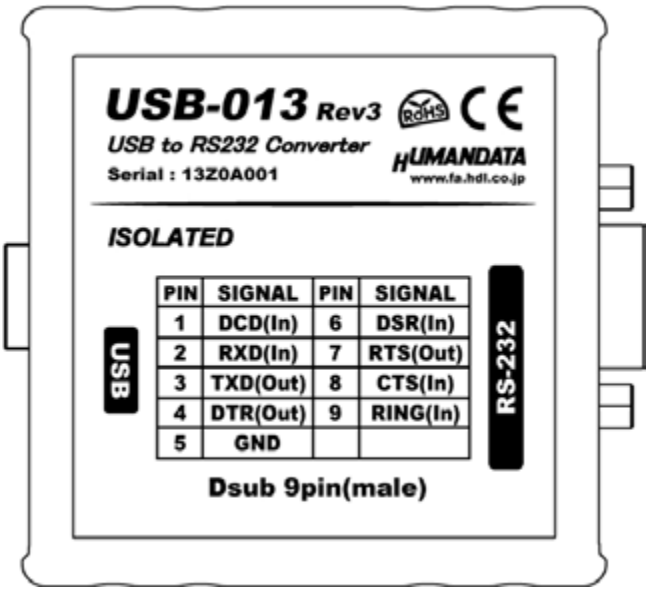
USB to RS232 Converter

USB-013 (Rev3)

User's Manual

Ver. 1.2



HuMANDATA LTD.

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● Precautions

 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.

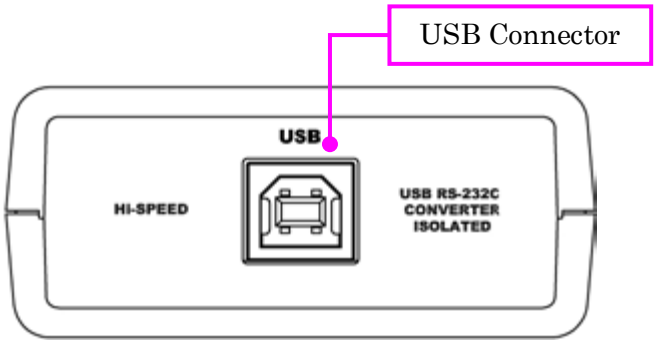
Revision History

Date	Revision	Description
Dec. 11, 2014	v1.0	Initial release
Apr. 1, 2016	v1.1	Revise: Section "Specifications"
Sep. 14, 2017	v1.2	Update: Section "Specifications"

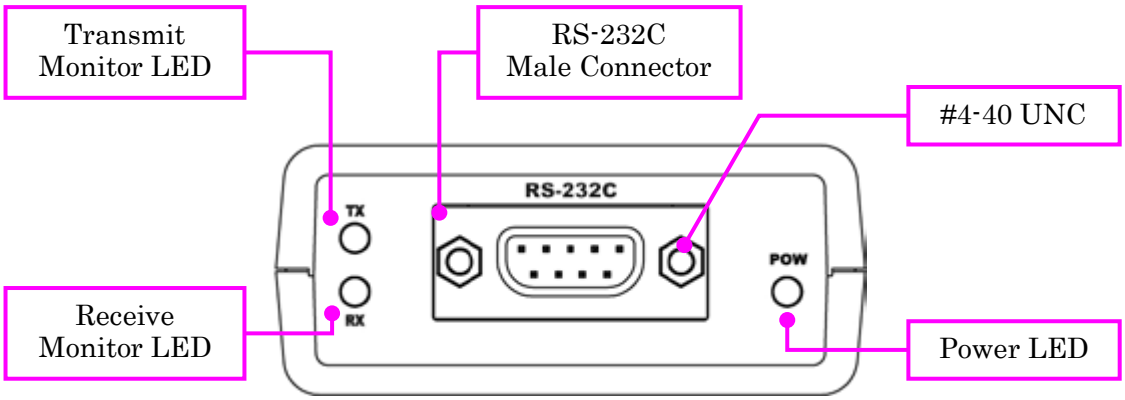
Introduction

Thank you very much for purchasing our product of USB-013.
USB-013 is a USB to RS-232C converter that isolated between RS-232C and a USB port. So it's safe for use in factory automation environment.

1. Overview



Front Side (USB)



Rear Side (RS-232)

2. Power Supply

USB-013 is powered through a USB port (Bus-powered). No external power supply is required.

3. Specifications

Item	Description	Remarks
Model	USB-013	
Power	5VDC Supplied through a USB port(Bus-powered)	No external power supply required
Current Consumption	Less than 100 mA	
I/O Interface	RS-232C	ESD protection ±15KV
HOST interface	USB 2.0 Compliant (Support High Speed)	USB 1.1 compatible ESD protection
Baud Rate	300 bps to 1 Mbps	Support custom baud rate
Data Bits	7 or 8 bit	
Stop Bits	1 or 2 bit	
Parity	Even, Odd, No-parity	
FIFO RX Buffer Size	1024 bytes	
FIFO TX Buffer Size	1024 bytes	
Isolation Method	Bus isolation	
Isolation Protection	2500VDC	Designed value
Processor	FT232H	FTDI
USB Driver	Virtual COM port driver	
Supports OS	Windows 10/8.1/8/7/Vista/XP	
LED	POW: USB bus power RX: Receive data TX: Transmit data	
USB connector	Standard Type B Female	
RS232C Connector	D-Sub 9pin (male) (mounting screw: #4-40 UNC)	Exchangeable to attached optional M2.6 screws
Operating Ambient Temperature	-20 to 60 [°C] (-4 to 140 [°F])	No condensation permitted
Operating Ambient Humidity	30 to 85%RH	
Storage Ambient Temperature	-20 to 55 [°C] (-4 to 131 [°F])	
Storage Ambient Humidity	30 to 85%RH	

Compliance to Standards	CE	
Weight	Approx. 90 [g]	Only main body
Dimensions	67 x 67 x 28 [mm] (2.638" 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**

[CE marking]

USB-013 has applied the common standard for heavy industrial environment EN61000-6-2 and EN61000-6-4.

--- Application of the standards ---

EMS: EN61000-6-2

· IEC61000-4-2 Electrostatic discharge requirements

· IEC61000-4-3 Radiated electromagnetic field requirements

· IEC61000-4-4 Electrical fast transient burst requirements

· IEC61000-4-5 Surge immunity test requirements

· IEC61000-4-6 Conducted radio frequency requirements

EMI: EN61000-6-4

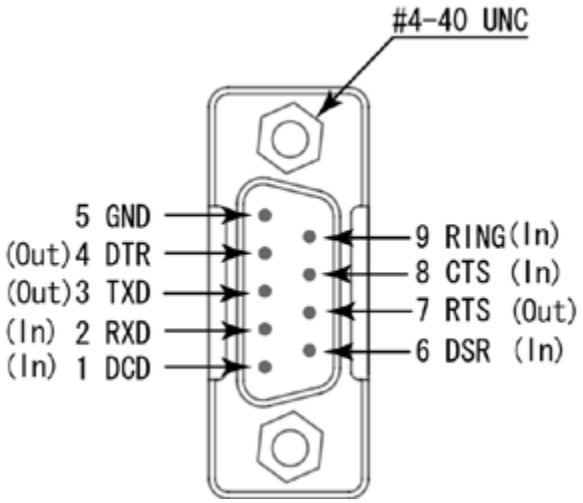
· CISPR11 Group 1 Class A Emissions

3.1. Optional Accessories

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

4. RS232C Pin Assignment

Pin No	Name	Direction	Remarks
1	DCD	In	Data carrier detect
2	RXD	In	Receive data
3	TXD	Out	Transmit data
4	DTR	Out	Data terminal ready
5	GND	-	Signal ground
6	DSR	In	Data set ready
7	RTS	Out	Request to send
8	CTS	In	Clear to send
9	RING	In	Ring indicator
ASE	FG	-	Connect to GND



D-Sub 9pin Male

* #4-40 UNC screws are attached to D-sub 9pin connector when shipping a product.
You can change those screws to included M2.6 screws.

5. Additional Documentation and User Support

The following documents and other supports are available at
http://www.hdl.co.jp/en/faspc/USB/usb-013

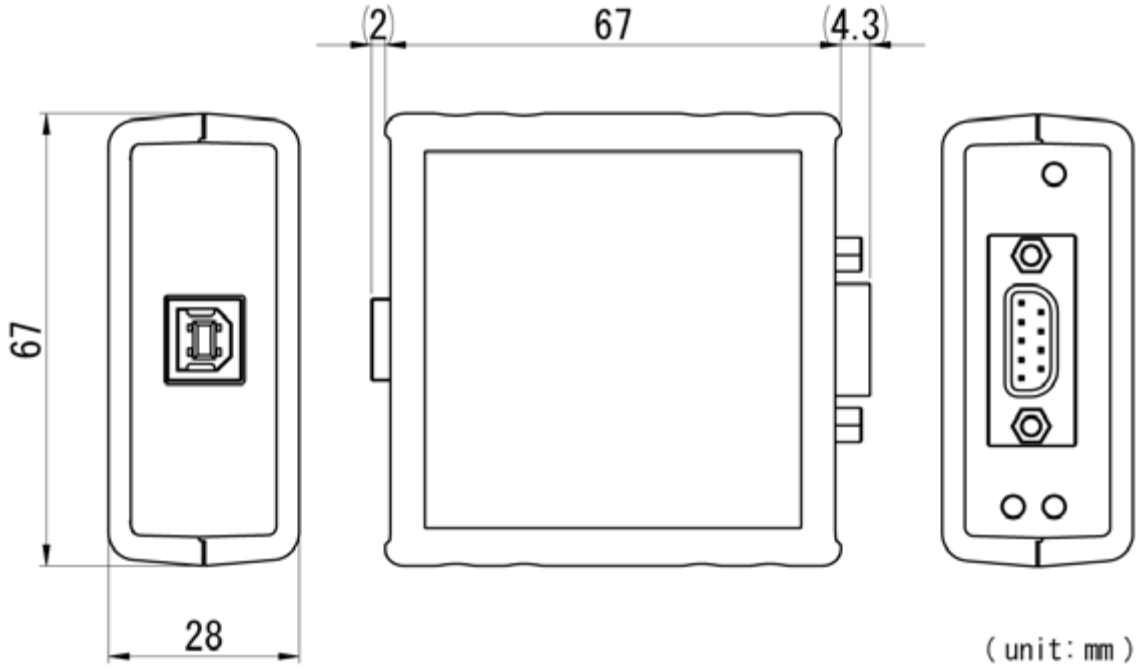
- Device Driver
- Dimensional drawing

… and more.

6. Warranty and Compensation

Please refer to the following URL for the warranty.
http://www.fa.hdl.co.jp/en/fa-warranty.html

7. Outline Drawing



* The drawing above is designed values. Please note that some errors may be observed.

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