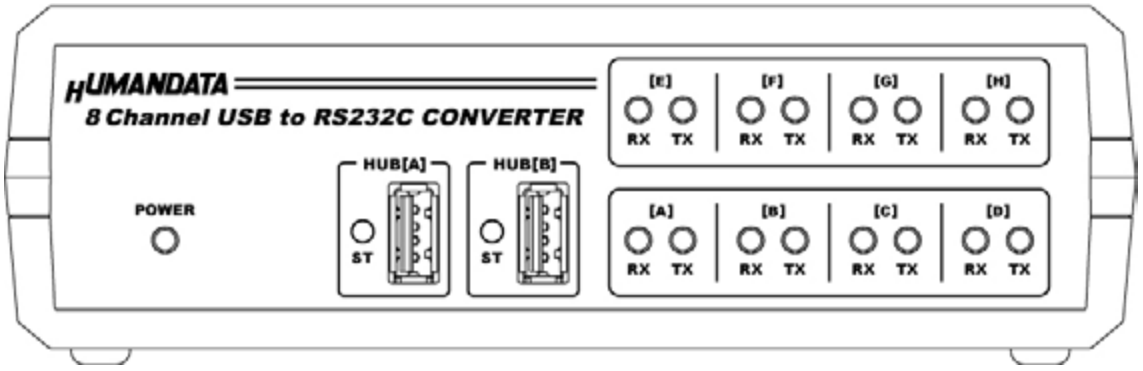
HUMANDATA

8 Channel RS232C/USB Converter (Common Isolation Type)

USB-401

User's Manual

Ver. 1.0



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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.

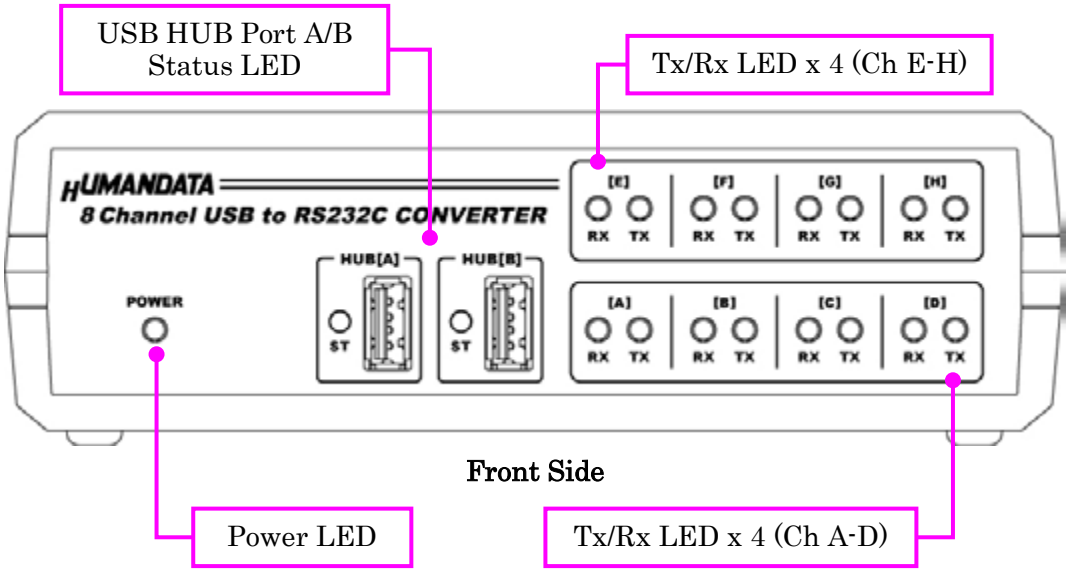
Revision History

Date	Revision	Description
Jan. 17, 2017	v1.0	Initial release

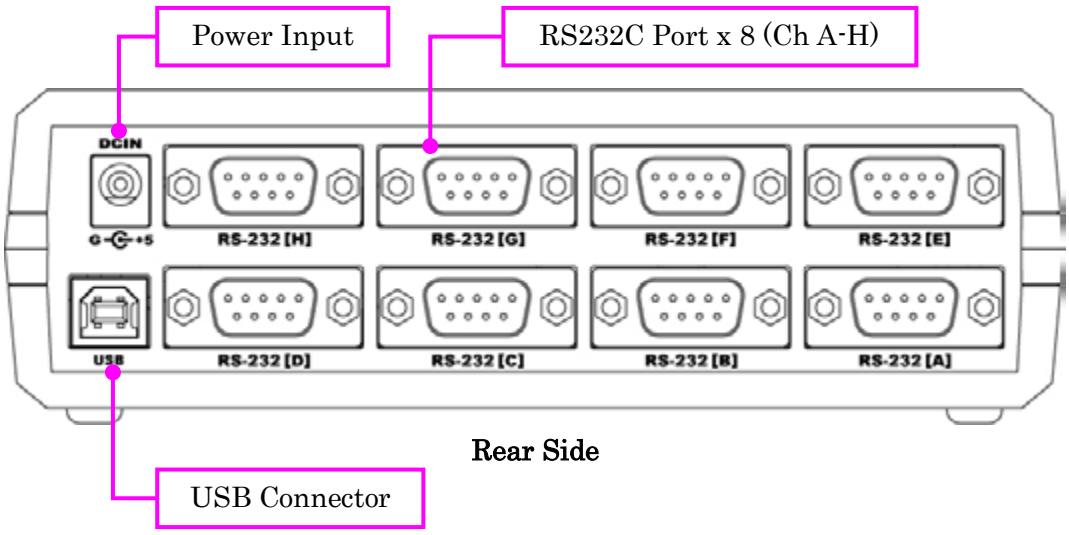
Introduction

Thank you very much for purchasing our product of USB-401.
USB-401 is an 8 channel USB to RS-232C converter that isolated between each RS-232C channel and 2 USB ports. Also, the 2 port USB connectors have a HUB function.

1. Overview



Front Side



Rear Side

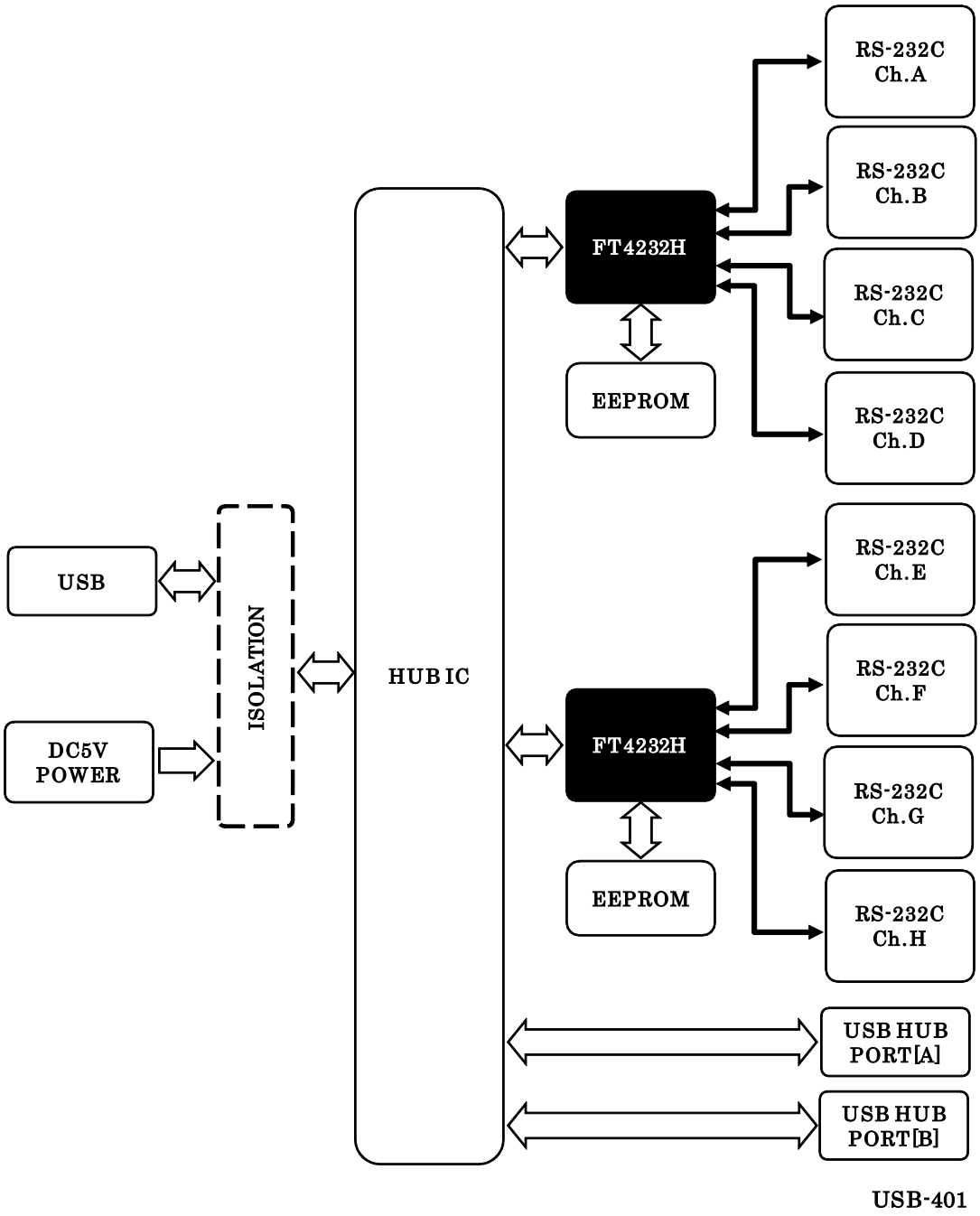
LED Function

	Name	Function
RX	Receiver LED (Red)	Turn on when RS232C port receive data
TX	Transmitter LED (Red)	Turn on when RS232C port transmit data
ST	USB Hub Port Status LED (Green/Red)	Green : Turn on when the port can be used as USB Hub port Red : Turn on when over current. To reset USB-401, please remove the device and USB cable. Also, when the power on, this LED lights red for operation check.

2. Power Supply

USB-401 is powered through a USB port (Bus-powered) or an AC adapter (Self-powered). An AC adapter has priority when both are applied.

3. Block Diagram



USB-401

Between USB port, RS-232C and USB hub port is isolated

4. Specifications

Item	Description	Remarks
Model	USB-401	
Power	DC 5V / Less than 500mA Supplied through a USB port (Bus-powered) or AC adapter (Self-powered)	Recommend the use of an AC adapter for stably supply.
HOST interface	USB 2.0 Compliant (High Speed is not supported)	USB 1.1 compatible ESD protection
HOST Connector	USB B type (Female)	
LSI	FT4232H x 2	
Isolation Method	Bus isolation	
Isolation Protection	Over 2500VDC	Designed value
Input/Output Interface	RS232C	
Number of RS232C Port	8	
RS232C Connector	D-Sub 9 pin (Male) #4-40 UNC	M2.6 screws are also included in the package
Communication Method	Asynchronous Serial Communication	
Baud Rate	300 bps to 1 Mbps	Custom baud rates are supported
Data Bits	7 or 8 bit	
Stop Bits	1 or 2 bit	
Parity	Even, Odd or No-parity	
FIFO RX Buffer Size	2K bytes/ch	
FIFO TX Buffer Size	2K bytes/ch	
Number of USB Hub Port	2	
USB Hub Port Connector	USB A type (Female) x 2	
Supports OS	Windows 10/8.1/8/7/Vista/XP	
Operating Ambient Temp.	-20 to 60 °C (-4 to 140 °F)	No condensation permitted
Operating Ambient Humi.	30 to 85 %RH	
Storage Ambient Temp.	-20 to 60 °C (-4 to 140 °F)	
Storage Ambient Humi.	30 to 85 %RH	
Noise Tolerance	Not defined	
Standard	Not defined	

Weight	Approx. 400 [g]	Only main body
Dimensions	166 x 81.2 x 50 [mm] (6.535" x 3.197" x 1.969")	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**

4.1. AC adapter (Japan's specifications)

Item	Description	Remarks
Output	5VDC 2.0A	
Plug	2.1mm inner diameter	Positive Tip
Compatible DC Jack	2.1mm inner diameter	
Operating Ambient Temperature	0 to 40 °C	No condensation permitted
Operating Ambient Humidity	30 to 85 % RH	
Storage Ambient Temperature	-20 to 80 °C	
Storage Ambient Humidity	10 to 95 % RH	
Wire Length	1.6m	
Weight	approx. 70 [g]	
Dimensions	46 x 34 x 25 [mm] 1.811" x 1.339" x 0.984"	Without projections

*** This AC adapter is attached for use mainly in Japan. If you use in the other countries, please check the specifications above and plug shape.**

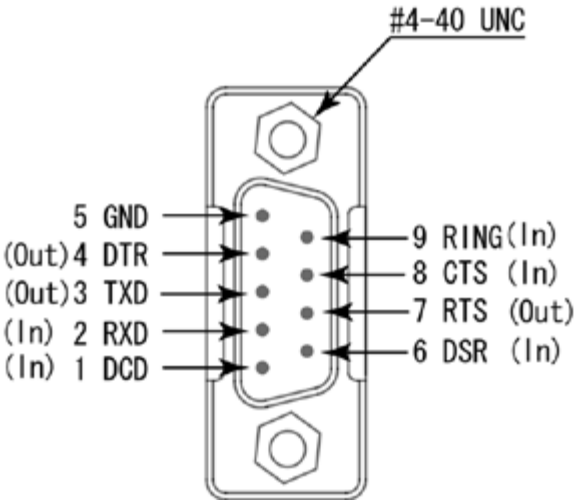
*** There may be cases that this part and specifications are changed.**

4.2. Optional Accessories

Model Name	Image	Description
ACC-028		Metal bracket type A for horizontal mounting USB series JAN : 4937920801102
ACC-031		Din rail attachment type B for USB series JAN : 4937920801256

5. RS232C Pin Assignment

Pin No	Signal	Dir.	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
CASE	FG	-	Connect to GND



D-Sub 9pin Male

6. Additional Documentation and User Support

The following documents and other supports are available at
http://www.hdl.co.jp/en/faspc/USB/usb-401

- Device Driver
- Dimensional drawing

… and more.

7. Warranty and Compensation

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

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