

# RS232 To RS422/485 Converter

## User Manual

**RS422/RS485 Selectable**  
**Power Supply/No Power Supply Selectable**  
**Surge Protector Inside**

Serial Communication Experts  
**SystemBase Co., Ltd.**

### 1. Introduction

We thank you for selecting the SystemBase product. This product has been delivered after thorough quality control and strict testing. You will receive a free 1 year after sales service from the date of your purchase. Should you have any difficulties or questions during use, please contact our technical support department, and you will receive our consulting services. (Telephone 82-2-583-9748)

### 2. Function

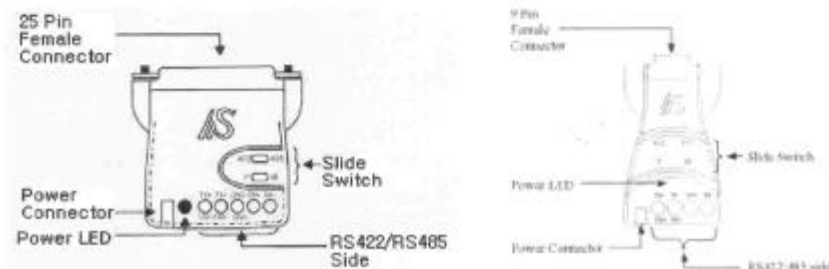
This product is a serial communication interface converter that converts RS232 to RS422 or RS485 and flows at a maximum of 1.2Km. Furthermore, not only can this product be connected to a maximum of 32 units of equipment with the Point to Point type but it can also be connected with the Multi Drop type as well.

### 3. Power Supply

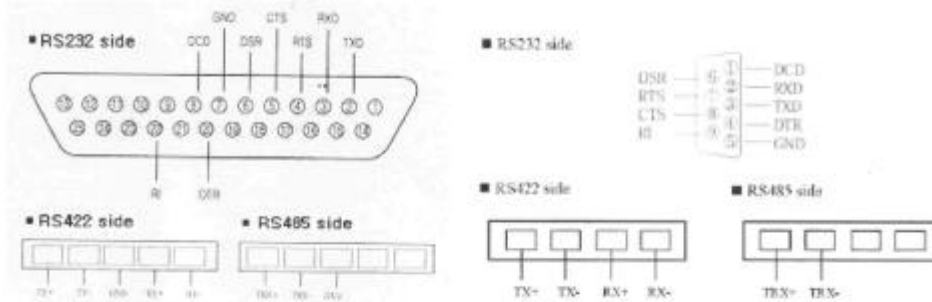
If there is no external power supply, it utilizes the DTR (Data Terminal Ready) signal generated from the RS232 port of the equipment as +12V supply. If the DTR signal is not always kept on when connected to the application program or the jumper, use the power adapter to supply power from outside. To check whether the power is on, see whether the power supply LED is turned on which is situated on the converter.

### 4. Product Shape and Connector Specification

[Product Shape]



[Connector Specification]



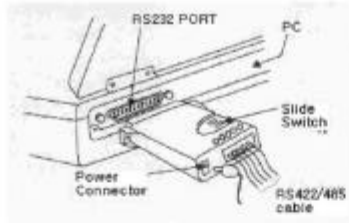
5. Product Specification

Communication Type	Asynchronous serial communication
Transmission Speed	Up to 115.2K BPS
Maximum Distance	1.2 Km
Connector	Terminal block to communication cable (RS422/485 side) DB9/25 Female to RS232 device (RS232 side)
Power Supply	Without power supply: DTR signal from RS232 connector With power supply: DC power adapter (DC7V-12V)
Internal Connection	DTR-DSR-DCD RTS-CTS
Circuit Protection	Surge protector inside
Slide switch	RS422-Point to point, Multi-drop RS485-Echo, Non Echo

6. Installation

- The upper 422/485 slide switch selects the signal type.
  - If set to 422, it operates from RS232 to RS422 converter
  - If set to 485, it operates from RS232 to RS485 converter
- The lower P/M slide switch selects the connecting method.
  - If set to P, it operates as the Point to Point mode at RS422  
it operates as the Echo mode at RS485
  - If set to M, it operates as the Multi-Drop mode at RS422  
it operates as the Non Echo mode at RS485

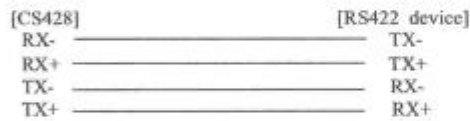
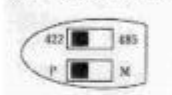
If the slide switch is set according to its intended use, insert RS422 circuit (5 lines), or RS485 (3 lines) into the hole of RS422/485 circuit board of converter and tighten with a screw driver. Then connect the DB25 connector side to PC or RS232 port of the equipment. It may not be necessary to connect the grounding conductor depending on the installation.



### 7. RS422 Point to Point Connecting Method

This connecting method is used when using 1:1 full-duplex communication. Input and output is possible with this method at any time. There is no need to control the RTS signal in the application program for output like in other connecting methods

Slide Switch setting



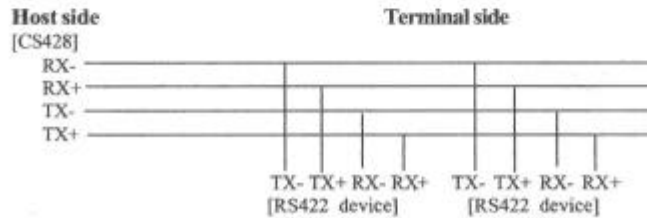
### 8. RS422 Multi-Drop Connecting Method

This connecting method is used when using 1:N full-duplex communication (maximum 10 units). The RTS signal line is on only when it is transmitted from the application program of the terminal side, otherwise it is off. There is no need to control the RTS signal line, as it is possible to transmit and receive from a host side at any time.

Slide Switch setting  
[Host side]



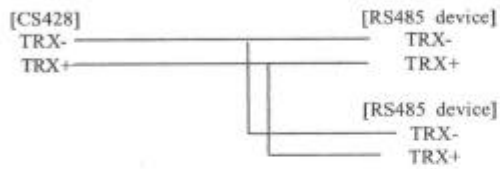
Slide Switch setting  
[Terminal side]



### 9. RS485 Non Echo Connecting Method

This connecting method is used when using N:N half-duplex communication (maximum 32 units). The RTS signal line is on only when it is transmitted from the application program of the terminal side, otherwise it is off. Basically as the Multi-Drop type, they are all considered as terminals without distinction of host side or terminal side.

Slide Switch setting



## FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.