



# STD1105S

**RS-232 to RS-422/RS485  
Serial Converting Board  
(Phoenix terminal block)**



## Introduction

The STD1105S is a compact serial converting board designed to be installed inside a PC chassis. It connects directly to the motherboard's RS-232 port and converts the signals to RS-422 or RS-485, allowing external devices to communicate with the PC over longer distances or multi-drop networks.

The board features 2 KV surge protection compliant with IEC61000-4-5 Level 3 and ESD protection up to  $\pm 15$  KV air /  $\pm 8$  KV contact, ensuring reliable operation in industrial environments. It is certified to meet international safety and EMC standards, including CE, FCC, VCCI, and BSMI, making it suitable for global deployment.

Ideal for industrial PCs, embedded systems, and control equipment, the STD1105S provides reliable serial communication while preserving the PC's existing RS-232 ports for other uses.

## Features

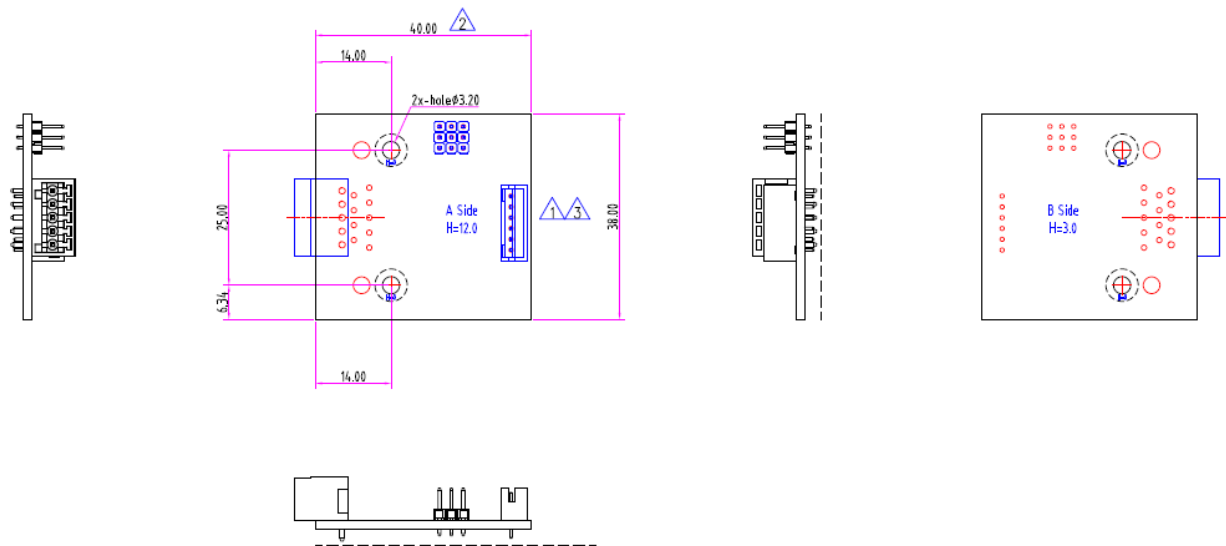
- Internal RS-232 to RS-422/485 conversion, connecting directly to the motherboard
- Supports full-duplex RS-422 and half-duplex RS-485
- High-speed data transfer up to 921.6 kbps
- RS-485 Auto Flow Control
- Compact designed for easy installation in small PC chassis, preserving existing RS-232 ports for other uses
- 2 KV surge protection compliant with IEC61000-4-5 Level 3
- ESD protection:  $\pm 15$  KV air /  $\pm 8$  KV contact discharge
- Certified to meet CE, FCC, VCCI, and BSMI standards
- Operating temperature:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ , suitable for industrial environments

## Specifications

|                              |                                                                   |
|------------------------------|-------------------------------------------------------------------|
| <b>Input</b>                 | RS-232                                                            |
| <b>Output</b>                | RS-422/485                                                        |
| <b>Baud rate</b>             | 300bps to 921.6kbps                                               |
| <b>No. of Port</b>           | 1-port                                                            |
| <b>Termination</b>           | No external resistor required                                     |
| <b>Signals</b>               | RS-422: TxD+, TxD-, RxD+, RxD-, GND<br>RS-485: Data+, Data-, GND  |
| <b>Auto Flow Control</b>     | RS-485                                                            |
| <b>Power</b>                 | RS-232 port-powered or external 12V                               |
| <b>Protections</b>           | ESD $\pm 15\text{KV}$ Air / $\pm 8\text{KV}$ Contact<br>2KV Surge |
| <b>PCB Connector</b>         | RS-232 Wafer H1x6 pitch 2.0<br>RS-422/485 Terminal Block 5 pins   |
| <b>EMC</b>                   | UKCA/ CE/ FCC / VCCI / BSMI                                       |
| <b>Green</b>                 | CE(RoHS)                                                          |
| <b>Operation Temperature</b> | -40°C to +85°C (-40°F to +185°F, industrial grade)                |
| <b>Operation Humidity</b>    | 5 to 95% RH                                                       |
| <b>Storage Temperature</b>   | -40°C to +85°C (-40°F to +185°F)                                  |
| <b>PCB Dimension</b>         | 38 x 40 mm                                                        |

# Mechanical Drawing (Unit = mm)

STD1105S



## Pin Assignment

### ■ RS-422/485 (Terminal Block 5 pins)

| TB-5 | RS-422 | RS-485 |
|------|--------|--------|
| 1    | TxD-   | Data-  |
| 2    | TxD+   | Data+  |
| 3    | RxD+   |        |
| 4    | RxD-   |        |
| 5    | GND    | GND    |

### ■ RS-232 (H1x6 pin header)

| H1x6 | RS-232 |
|------|--------|
| 1    | RXD    |
| 2    | TXD    |
| 3    | RTS    |
| 4    | DTR    |
| 5    | GND    |
| 6    | 12V in |

### Cable plug reference

Terminal: **WF-2.0-20006-PT**

Receptacle housing: **WF-2.0-20006-Y (1x6P, PH= 2.0mm)**

## Jumper Setting

| Jumper | Pin1&2  | Pin2&3          | Default |
|--------|---------|-----------------|---------|
| J4     | RS-422  | <b>RS-485</b>   | RS-485  |
| J5     | Echo    | <b>NonEcho</b>  | NonEcho |
| J6     | Term ON | <b>Term OFF</b> | OFF     |

## Package

- STD1105S - RS232 to RS422/485 Serial Converting Board x1
- Fixing bracket and screw accessories x1
- Phoenix terminal connector x1
- Quick Installation Guide x1

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