SS100

Compact plug-on RS-232 to RS-485/422 media converter

FEATURE HIGHLIGHTS

- Maximum Communication Speed: 500Kbps
- Industrial Grade Temperature: -40~85°C
- ESD Protection (IEC 61000-4-2: ESD level 3 protection)
- External power not required (When RTS/DTR signal line is enabled)
- Compact size
- Hardware-based Auto Toggling
- RS422/RS485 mode selectable by external switch
- Built-in 120Ω termination resistors, selected by external switch
- 3kV isolation
- LED port power indicator

PRODUCT DESCRIPTION

The SS100/SS100SiS media converters provide complete signal conversion between RS-232 and RS-422/485, without requiring an external power source. It is a fast and efficient solution to overcome distance limitations of RS232 or for connecting to industrial devices with an RS422/RS485 interface. The converters support both half-duplex 2-wire RS-485 and full-duplex 4-wire RS-422/485, and you could select mode via DIP switch without extra software required. Automatic data direction control is provided for RS-485. In this case, the RS-485 driver is enabled automatically when the circuitry senses the TxD output from the RS-232 signal. This means that no programming effort is required to control the transmission direction of the RS-485 signal.

Port Power over RS232

The RS-232 port of the SS100/SS100SiS is a DB9 female socket that can connect directly to the host PC, using the RTS/DTR lines to receive the power needed to run. Regardless of whether the signal is high, the can obtain enough power from the data line. SS100-SiS, the version with isolation, still requires an external power supply. When there are many devices connected to RS422 or RS485 signal lines, we recommend that external power supply is necessary.

LED Port Power Indicator

It is easy to let the SS100 test the device for you. Simply connect the SS100 to the device's RS-232 port and set the RS485 Echo mode. If the power port LED indicator of PWR/Tx/RX lights up, then SS100 is receiving enough power and data communication is working properly.

SPECIFICATIONS

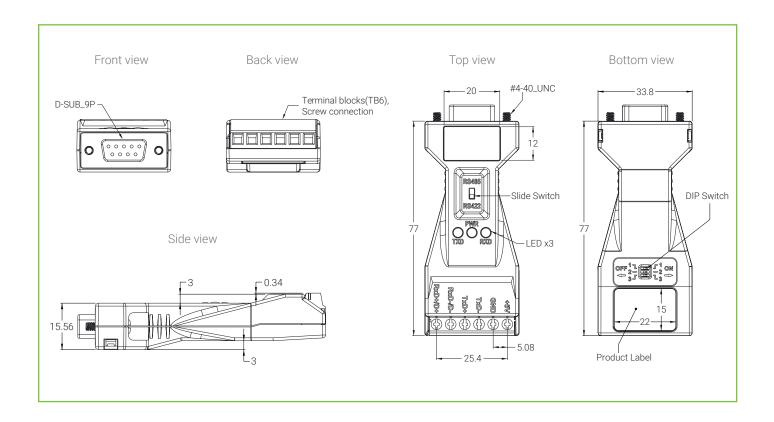| Serial interface	
Mode	RS422 : Point to point Mode, Multi-Drop Mode RS485: Echo Mode, Non-Echo Mode
Speed	1200bps ~ 500Kbps
Maximum Distance	1.2Km. @115.2Kbps, 24AWG twisted pair cable
Connector	RS232: DB9 female RS422/485: Terminal block 6P (DC-Jack would be 4P)
Data bits	5, 6, 7, 8
Stop bits	1, 2
Parity	None, even, odd, space, mark
Data control	Auto toggling
Termination Resistor	120Ω, selectable via dip switch
Interface	
LEDs	Power, Tx, Rx
Power Requirements	
Power	Power supply via RS232 port (RTS, DTR), by TB or DC Jack
Power input	5 VDC
Power consumption	Non-ISO 115mW Max, ISO 220mW Max
Physical Characteristics	
Housing	Plastic
Dimension	33.8 x 76.4 x 17.5 mm
Weight	21 g
Environmental Limits	
Operating Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Storage Temperature	-40°C ~ 85°C (-40°F ~ 185°F)
Ambient Relative Humidity	5 to 95%, non-condensing

REGULATORY APPROVALS

Approvals				
EMC	EN55032/24			
EMI	FCC Part 15B Class A			

Test	Item		Value	Level
IEC 61000-4-2	ESD	Contact Discharge Air Discharge	±6KV ±8KV	3 3
IEC 61000-4-3	RS	80-1000MHz	10(V/m)	3
IEC 61000-4-4	EFT	AC Power Port DC Power Port Signal Port	±2.0KV ±1.0KV ±1.0KV	3 3 3
IEC 61000-4-5	Surge	AC Power Port	Line-to Earth±1.0KV	1
IEC 61000-4-6	CS	0.15-80MHz	10 Vrms	3
IEC 61000-4-8	PFMF	Enclosure	10A/m	3
IEC 61000-4-11	DIP	AC Power Port	1. >95%,Reduction,0.5period 2. 30%, Reduction,25 period 3. >95%,Reduction,250 period	-
RoHS	Yes			
MTBF	25.29 years according to MIL-HDBK-217F, 25 degrees C			
Warranty	5 years			

DIMENSIONS & LAYOUT

Front view

Back view

Top view

Bottom view

D-SUB_9P

Terminal blocks(TB6),
Screw connection

20   #4-40_UNC

12

RS485
RS422
Slide Switch

PWR
TXD RXD
LED x3

77

DIP Switch

33.8

77

OFF 1 2 3 / 1 2 3 ON

15
22

Product Label

Side view

3   0.34

15.56

3

RxD+/D+
RxD-/D-
TxD+
TxD-
GND
+5V

5.08

25.4

ORDERING INFORMATION

Ordering Information

Product	Part number	RS232	RS422/485	Isolation Voltage	Power Connector
SS100	1P1SS100000001G	DB9	TB-6	N/A	TB-2
SS100-SiS-R	1P1SS100000002G	DB9	TB-6	3000 VDC at RS232	TB-2
SS100-J	1P1SS100000004G	DB9	TB-4	N/A	DC-Jack
SS100-SiS-JR	1P1SS100000006G	DB9	TB-4	3000 VDC at RS232	DC-Jack

Optional Accessories

Model Name	Part Number	Description
UV305-0510(US-DC)	50500051500003G	DC jack (3.5/1.35/7.5 mm) power adapter, 100~240VAC input, 1.0A @ 5 VDC output, US plug, LV6
UVE305-0510 (EU-DC)	50500051500013G	DC jack (3.5/1.35/7.5 mm) power adapter, 100~240VAC input, 1.0A @ 5 VDC output, EU plug, LV6
UVE305-0510(UK-DC)	50500051500023G	DC jack (3.5/1.35/7.5 mm) power adapter, 100~240VAC input, 1.0A @ 5 VDC output, UK plug, LV6

v: 0.1