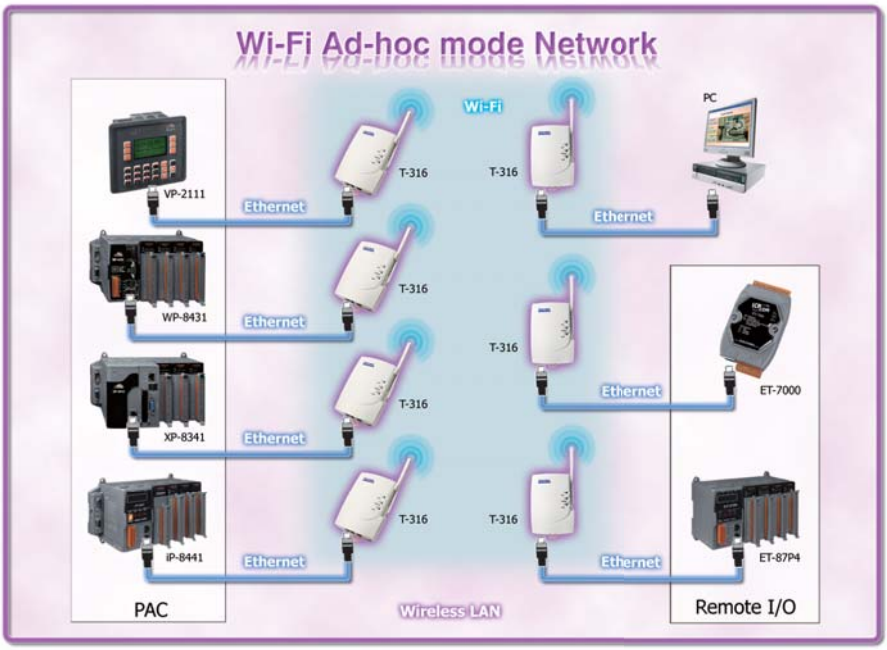
Wireless Solutions

5

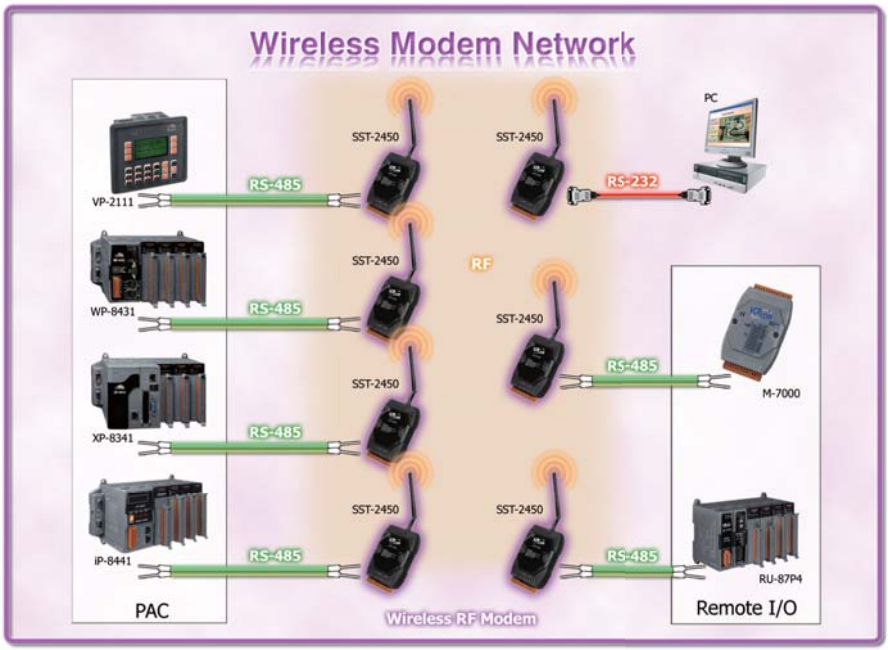
5.1. Wireless LAN & Wireless Modems

Wireless LAN



Nowadays, Wireless LAN applications are very popular. They're not only faster than traditional industrial transmissions, i.e. RS-232, RS-485, RS-422 etc, but are also able to minimize the need for troublesome wiring tasks and have a higher mobility than an Ethernet network. By taking full advantage of the integrated Web Server capability, configuration of the T-316 can easily be performed via a simple Web browser user interface.

Wireless Modems



The SST-2450 is a spread spectrum radio modem with an RS-232/RS-485 interface port and is designed for data acquisition and control applications between a host and remote sensors. It is also useful for those applications where the installation of cable wire is inconvenient. The SST-2450 can be used not only in peer-to-peer mode, but also in a multi-point structure.

The SST-2450 is based on a direct sequence spread spectrum using RF technology, operating in the ISM bands with a frequency range of 2410.496 MHz to 2471.936 MHz and a channel spacing of 4.096 MHz.

T-316

Smart WLAN Ethernet Client

Features

- 802.11b Ethernet Client
- Web-based Configuration
- Web-based Firmware Upgrades
- 64/128-bit WEP
- No Driver Installation Required
- Plug and Play Operation
- Directional 6dBi Gain Antenna
- AP Priority List
- Small and Compact
- DIN-Rail Mountable

Introduction

The T-316 is an Ethernet LAN to wireless LAN converter. It requires no software or drivers to be installed and the configuration process is very simple. The current hardware system or currently running programs do not need to be modified in order to enjoy the benefits of wireless transmission.

Operating Modes

Ad-hoc Mode

An Ad-hoc network is formed using a number of wireless stations (without an Access Point) and communicates via radio waves. For the user, the shared resources on the wireless network appear exactly as they would on a regular wired network. The wireless operation of the network is totally transparent.

Infrastructure Mode

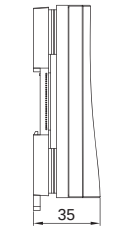
An Infrastructure network is formed using a number of stations together with one or more Access Points (APs), with the stations positioned within a set distance from the AP. This mode supports long distance transmissions.

Applications

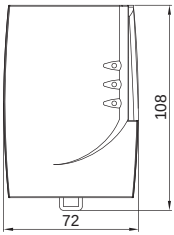
Specifications

Wireless		
Standard		IEEE 802.11b DSSS (2.4 GHz ISM radio band)
Data Rate		11 Mbps, 5.5 Mbps, 1 Mbps (Auto scaling)
Transmit Power		+15 dBm (typical)
Data Rate Sensitivity	11 Mbps	-84 dBm
	5.5 Mbps	-87 dBm
	1 Mbps	-90 dBm
Modulation	11 Mbps	CCK
	5.5 Mbps	CCK
	1 Mbps	DBPSK
Antenna		Internal patch antenna with diversity
Transmission Range		100 m
General		
System Interface		Ethernet (RJ-45)
LAN		802.3 compliant for wired LAN
LED Indicators		
Power		Yes
RF Activity		Yes
LAN Activity		Yes
Power		
Operating Voltage		+3.3 Vdc +/-5 % or +5.0 Vdc +/-5 %
Current Consumption		500 mA (max.)
Mechanical		
Dimensions (W x H x D)		72 mm x 108 mm x 35 mm
Weight		250 g
Environment		
Operating Temperature		0 °C ~ +55 °C
Humidity		10 ~ 95% RH, non-condensing

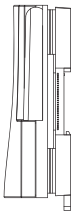
Dimensions (Unit: mm)

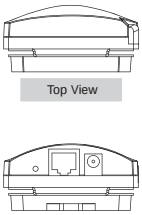


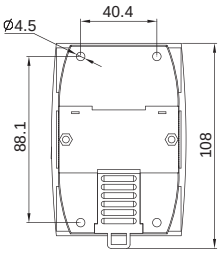
Left Side View



Front View


Right Side View


Top View
Bottom View



Back View

Ordering Information

T-316	Smart WLAN Ethernet Client

SST-2450

2450 MHz Wireless Modem

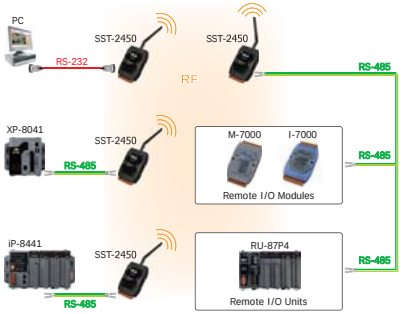
Features

- Half-duplex up to 57600 bps
- Internal Self-Tuner
- ISM Band 2.4 GHz
- Supports Full-duplex and Half-duplex communication
- Spread Spectrum Technology

Introduction

The SST-2450 is a spread spectrum radio modem with an RS-232/RS-485 interface port and is designed for data acquisition and control applications between host and remote sensors. It is also useful for those applications, the cable wire is inconvenient to be installed. The SST-2450 can be used in not only peer to peer mode but also multi-point structure.

Applications

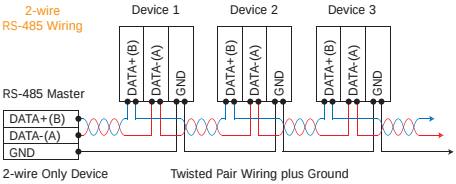


Specifications

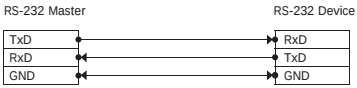
Wireless		
Operating Frequency Range		2.4 GHz (2410.496 MHz ~ 2471.936 MHz)
Channel Spacing		4.096 MHz
Output Power		0.05 W
Transmit Power		17 dBm +/-2 dBm
Modulation		MSKG
Radio Technique		Direct Sequence Spread Spectrum
Duplex Mode		TDD (for Full-duplex)
Number of Channel		16
Number of PN Code		16
PN Code Rate		1.365 Mchips/Sec.
Transmission Range		Typical 300 m
Data Bit Error Rate		< 1/1000 @ -102 dBm
Antenna		
Type		3 dBi Omni-directional, bendable
Connector		Reverse-Polarity SMA-Jack
Serial Link		
Interface	RS-232	TxD, RxD, GND
	RS-485	D+, D-; internal self-tuner ASIC; Non-isolated
Max. Data Transfer Rate in Asynchronous Mode	Full-duplex Mode	9600 bps
	Half-duplex Mode	28800 bps
Max. Data Transfer Rate in Synchronous Mode	Full-duplex Mode	19200 bps
	Half-duplex Mode	57600 bps
Data Format		N, 8, 1 or E, 8, 1
Power		
Operating Voltage		+10 V_{DC} ~ +30 V_{DC}
Current Consumption	Typical	Less than 250 mA
	Transmission	2 W
	Receive	1 W
Mechanical		
Dimensions (W x H x D)		72 mm x 117 mm x 35 mm
Environment		
Operating Temperature		-10 °C ~ +50 °C
Storage Temperature		-20 °C ~ +70 °C
Humidity		0 ~ 90% RH, non-condensing

Wiring

2-wire RS-485 Wiring



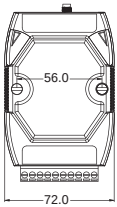
3-wire RS-232 Wiring



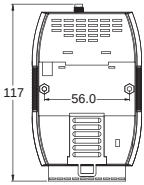
Pin Assignments

Terminal No.	Pin Assignment
01	SET
02	GND
03	--
04	RxD
05	TxD
06	GND
07	(Y)DATA+
08	(G)DATA-
09	(R)+Vs
10	(B)GND

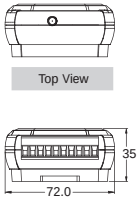
Dimensions (Unit: mm)



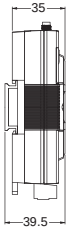
Front View



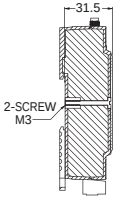
Back View



Bottom View



Din-Rail Mounting Bracket



Side View

Ordering Information

SST-2450	2450 MHz Wireless Modem

Accessories

ANT-8	1 km, 2.4 GHz External Antenna (Omni-directional). Gain: 8 dBi
ANT-15	5 km, 2.4 GHz External Antenna (Omni-directional). Gain: 15 dBi
ANT-18	9 km, 2.4 GHz External Antenna (Directional). Gain: 18 dBi
ANT-15YG	5 km, 2.4 GHz External Antenna (Directional). Gain: 15 dBi
ANT-21	12 km, 2.4 GHz External Antenna (Directional). Gain: 21 dBi
ANF-2401	1 W Amplifier

Available soon

SST-900

900 MHz Wireless Modem

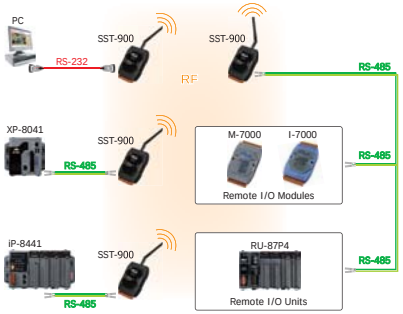
Features

- Half-duplex up to 115200 bps
- Internal Self-Tuner
- ISM Band 900 MHz

Introduction

The SST-900 is a radio frequency modem with an RS-232/RS-485 interface port and is designed for data acquisition and control applications between a host and remote sensors. It is also useful for those applications where the installation of cable wire is inconvenient. The SST-900 can be used not only in peer-to-peer mode but also in a multi-point structure.

Applications

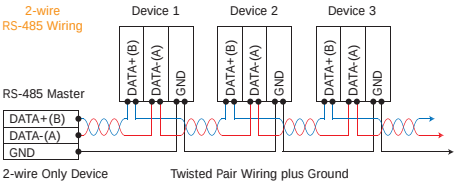


Specifications

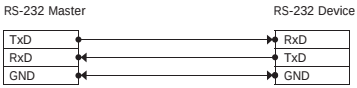
Wireless		
Operating Frequency Range		915 MHz (902 MHz ~ 928 MHz)
Channel Spacing		1.5 MHz
Transmit Power		15 dBm
Number of Channel		16
Transmission Range		Typical 300 m
Data Bit Error Rate		< 1/1000 @ -102 dBm
Antenna		
Type		3 dBi Omni-directional, bendable
Connector		Reverse-Polarity SMA-Jack
Serial Link		
Interface	RS-232	TxD, RxD, GND
	RS-485	D+, D-; internal self-tuner ASIC; Non-isolated
Max. Data Transfer Rate (Half-duplex Mode)		115200 bps
Data Format		N, 8, 1 or E, 8, 1
Power		
Operating Voltage		+10 V_{DC} ~ +30 V_{DC}
Mechanical		
Dimensions (W x H x D)		72 mm x 117 mm x 35 mm
Environment		
Operating Temperature		-10 °C ~ +50 °C
Storage Temperature		-20 °C ~ +70 °C
Humidity		0 ~ 90% RH, non-condensing

Wiring

2-wire
RS-485 Wiring



3-wire RS-232 Wiring



Pin Assignments

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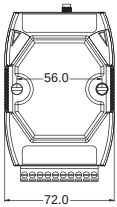
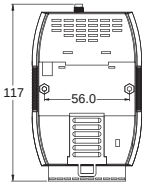
05	TxD
06	GND
07	(Y)DATA+
08	(G)DATA-
09	(R)+Vs
10	(B)GND

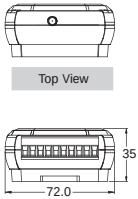
Dimensions (Unit: mm)



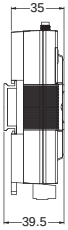
Front View



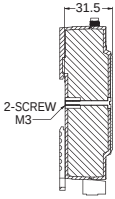
Back View



Bottom View



Din-Rail Mounting Bracket



Side View

Ordering Information

SST-900	900 MHz Wireless Modem