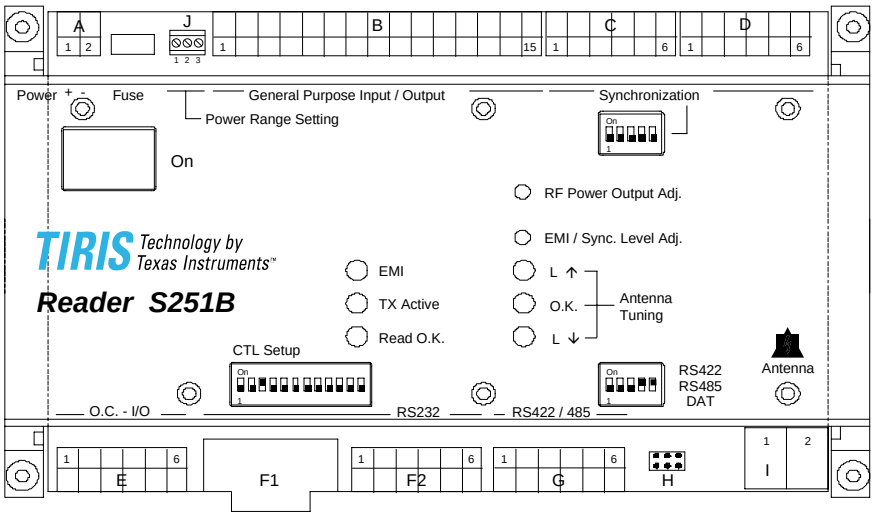
Series 2000 Reader System
Reader S251B (RI-STU-251B)

For detailed operating, connection and set-up instructions, please refer to the corresponding Reference Guide (11-06-21-054) available from our TIRIS Document Center at **http://www.tiris.com**

Connectors



A – Power Supply Connector
B – General Purpose I/O
C – Synchronization Interface
D – Carrier Phase Synchronization Interface
E – Open Collector & I/Os
F1 & F2 – RS232 Interface
G – RS422/485 Interface
H – Indicator Outputs
I – Antenna Connector
J – Power Range Setting

The default switch settings for “CTL Setup”, “Synchronization” and “RS422/RS485/DAT” are shown in the figure above.

In order to gain access to the fuse and connectors J, H and I, please remove the upper and lower plastic cover strips. (remove the four screws holding the front panel)

Power Supply

Connect a regulated dc power supply (between 10 and 24V providing a minimum of 2A) to the reader – the polarity of the connection is shown on the front panel of the reader.

Set the Power Range Setting wire bridge to match your input voltage.
(Default setting pin 2+3 connected – input power 18 – 24V, operating temperature range –20°C to +70°C)

We recommend to use a linear power supply. If this is not possible and you wish to use a switched mode power supply, DO NOT use one that operates below 200kHz.
(Switched mode power supplies that operate below 200kHz might interfere with transponder signals and thus reduce the reading range.)

Default Configuration

CTL Setup switch 8 is in the OFF position; standard TIRIS default parameters are used. These are:

- Hardware interface RS232C, ASCII Protocol
- 9600 baud, eight data bits, no parity, one stop bit, X_{on}/X_{off} enabled
- Normal Mode, Wireless synchronization
- I/O 0 to 3 defined as input, I/O 4 to 7 defined as output and logic high

Antenna

The Reader S251B can be used together with an antenna which applies to the following specifications:

Parameter	Minimum	Maximum
Antenna Resonance Voltage	-	380 V_{peak}
Antenna Inductance	26µH	27.9µH
Antenna Q-factor	40	350

Operating Conditions

Exceeding any of the recommended operating conditions (especially supply voltage, supply current, operating temperature and antenna resonance voltage) may cause permanent damage to the Reader.

The Reader itself generates heat. Therefore - if incorporated into a housing - you must ensure (by proper design or cooling) that the temperature directly surrounding the reader does not exceed the operating temperature range.

Warning

Always ensure that the reader is switched off when making or breaking connections to it. Care must be taken when handling the reader. High voltage across the antenna terminals could be harmful to your health. If the antenna insulation is damaged, the antenna should not be connected to the reader.

FCC/PTT Regulations

An RFID system comprises an RF transmission device, and is therefore subject to national and international regulations.

A System containing the Reader S251B may be operated only under an experimental license or final approval issued by the relevant approval authority. Before any such device or system can be marketed, an equipment authorization must be obtained from the relevant approval authority.

IMPORTANT NOTICE

Texas Instruments Incorporated and its subsidiaries (TI) reserve the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice. Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its hardware products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are used to the extent TI deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

TI does not warrant or represent that any license, either express or implied, is granted under any TI patent right, copyright, mask work right, or other TI intellectual property right relating to any combination, machine, or process in which TI products or services are used. Information published by TI regarding third-party products or services does not constitute a license from TI to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

Reproduction of information in TI data books or data sheets is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. Reproduction of this information with alteration is an unfair and deceptive business practice. TI is not responsible or liable for such altered documentation.

Resale of TI products or services with statements different from or beyond the parameters stated by TI for that product or service voids all express and any implied warranties for the associated TI product or service and is an unfair and deceptive business practice. TI is not responsible or liable for any such statements.

Following are URLs where you can obtain information on other Texas Instruments products and application solutions:

Products		**Applications**	
Amplifiers	amplifier.ti.com	Audio	www.ti.com/audio
Data Converters	dataconverter.ti.com	Automotive	www.ti.com/automotive
DSP	dsp.ti.com	Broadband	www.ti.com/broadband
Interface	interface.ti.com	Digital Control	www.ti.com/digitalcontrol
Logic	logic.ti.com	Military	www.ti.com/military
Power Mgmt	power.ti.com	Optical Networking	www.ti.com/opticalnetwork
Microcontrollers	microcontroller.ti.com	Security	www.ti.com/security
Low Power Wireless	www.ti.com/lpw	Telephony	www.ti.com/telephony
		Video & Imaging	www.ti.com/video
		Wireless	www.ti.com/wireless

Mailing Address: Texas Instruments
Post Office Box 655303 Dallas, Texas 75265