TEXAS INSTRUMENTS

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

Getting Started Guide

TIRIS Technology by *Texas Instruments*™

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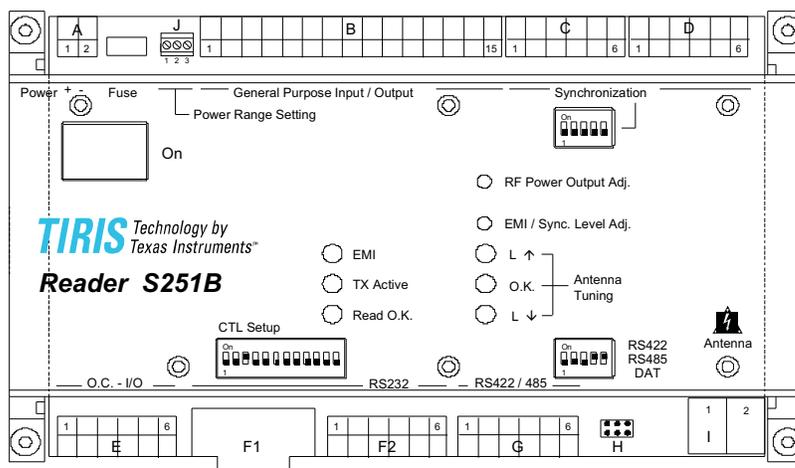**TIRIS** *Technology by Texas Instruments*™

TEXAS INSTRUMENTS

Getting Started

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 24 V 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 – 24 V, operating temperature range –20°C to +70°C)

We recommend using 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 200 kHz. (Switched mode power supplies that operate below 200 kHz might interfere with transponder signals by reducing 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	26 µH	27.9 µH
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.

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

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