

**FEATURES**

- True-Ground Interface to an RS232 COM Port for Reading and Writing 1-Wire® Devices
- Works with Bipolar as well as Unipolar Logic Signals
- Compatible to COM port of (±)5V to (±)12V (DB-9 Version Only) or (±)6V to (±)12V (DB-25 Version)
- Supports Reading and Writing at Regular and Overdrive Speeds
- Provides Strong Pullup to 5V for Temperature-, Crypto-, and EEPROM 1-Wire devices
- Programs 1-Wire EPROM Devices (DB-25 Version with External 12V Power Supply Only)
- Communicates at Data Rates of 9.6 (default), 19.2, 57.6, and 115.2kbps
- Standard DB-9 or DB-25 Female Connector and 6-lead RJ-11 Connector for Easy Attachment of Standard 1-Wire Cables and Probes
- Includes DS2502 Identification Chip (DS9097U-009 only)

**PIN ASSIGNMENT**

**DB-25:** TXD (2), RXD (3), DTR (20), RTS (4), PC-Ground (7); all other pins not connected

**DB-9:** TXD (3), RXD (2), DTR (4), RTS (7), PC-Ground (5); all other pins not connected

**NOTES:**

\* The external supply for the DS9097U-E25 must provide well-regulated 12V @ 10mA minimum, center = GND, outer ring = V+ (Newark Electronics Stock No. 84F2081, Allied Electronics Stock No. 928-9895, Stancor Model STA-300R, or equivalent)

\* The color of the DS9097U plastic case may vary.

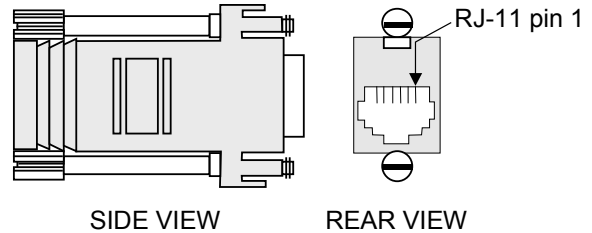
**ORDERING INFORMATION**

- DS9097U-009 DB-9, with DS2502 ID Chip
- DS9097U-S09 DB-9, no ID chip
- DS9097U-E25 DB-25, with EPROM Write

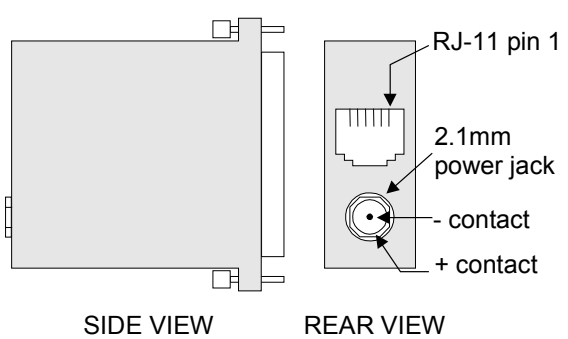
1-Wire is a registered trademark of Dallas Semiconductor.

**PACKAGE OUTLINE**

**DB-09 version**

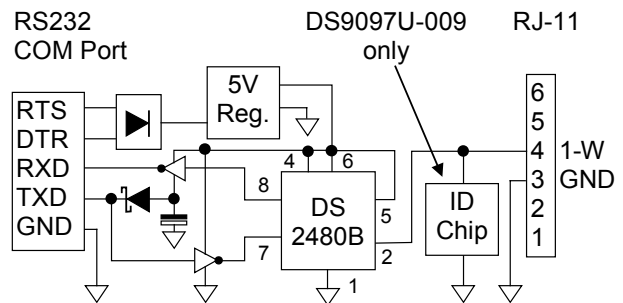


**DB-25 version**

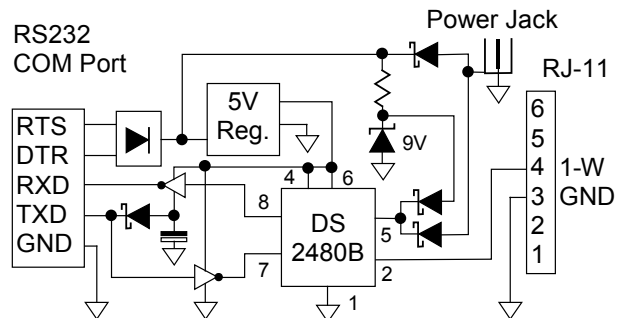


**SCHEMATIC (for illustration)**

**DB-9 version**



**DB-25 version**



## DESCRIPTION

The DS9097U is a sophisticated RS232 to 1-Wire adapter, which performs RS232 level conversion and actively generates the 1-Wire communication signals. Together with an adequate TMEX software driver, it enables an IBM-compatible PC to directly communicate with any 1-Wire device connected to the adapter's RJ-11 port. The DB-9 version reads and writes any non-EPROM 1-Wire device. To write to EPROM devices, the DB-25 version with external power supply is required.

All DS9097U adapters are based on the DS2480B Serial 1-Wire Line Driver chip and therefore are **not a plug-in replacement for the DS9097 or DS9097E**. The RXD/TXD Polarity Select input of the DS2480B is tied to  $V_{DD}$  (non-inverting). Free software drivers can be downloaded from <http://www.ibutton.com/software/tmex/index.html>.

The DS9097U communicates with 1-Wire devices at regular speed as well as Overdrive speed. The serial port must support a data transmission rate of 9600bps. Under software control, the adapter can be set up for RS232 data rates of 19200, 57600, and 115200bps. The two higher rates are recommended for communication at Overdrive speed with Overdrive capable devices. Since the DS9097U operates in a byte mode, every data byte received from the RS232 port generates eight time slots on the 1-Wire line. At 19200bps data rate the DS9097U-E25 is already faster than the DS9097 (E) at 115200bps.

Note that there are some COM ports that use signal levels of less than ( $\pm$ ) 5V. The DB-9 versions of this adapter will not work with such ports. The DS9097U-E25 adapter, however, will function in most cases if external power is supplied. Without EPROM programming, the external power may be anywhere in the range of 6V to 9V. For EPROM programming the voltage must be at 12V in any case. Before using an externally powered DS9097U-E25 with a COM port of less than ( $\pm$ ) 5V check whether the COM port will not be damaged by 5V on its RXD input.