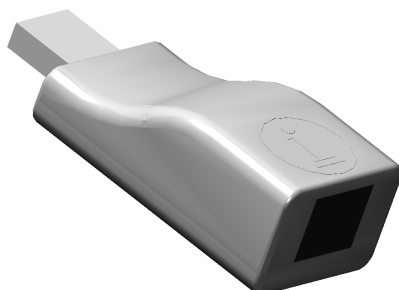


## COM TO 1-WIRE® USB ADAPTER

PN 10000500011

PN 10000500021 – WITH ID CHIP



STATUS: INTRODUCTION  
REV. A OCT. 2004

**DESCRIPTION** This adapter performs a bridge between an USB port and the 1-Wire® protocol. It allows users, iButton ASD's and OEM's to replace the legacy COM port adapters with USB, without any changes to the current software.

**APPLICATIONS**

- Replacing current RS-232 COM adapters
- Expanding the number of available 1-Wire® ports
- Software licensing or asset identification through the built-in DS2401 ID chip (depends on version)

**FUNCTIONAL DESCRIPTION** The bridging is performed at driver level; all that is needed is to install the supplied drivers. The driver provides all the necessary operations to communicate with any 1-Wire® device through a 1-Wire® driver, just like any ordinary RS-232 COM port.

This adapter emulates a DS9097U serial adapter, providing true-ground interface to an USB port, reading and writing at regular and overdrive speeds, strong pull-up to 5V for Temperature, Crypto, and EEPROM 1-Wire devices and user configurable slew rate controlled 1-Wire pull-down and active pull-up.

**APPLICATION INFORMATION** The adapter is plug-and-play. When connected for the first time to any USB port the setup screen will pop-up. To use the adapter with current applications, all it takes is adjust the settings to use the virtual COM port that is added to the system during setup.

Compatible with the Dallas Semiconductor 1-Wire® SDK for Windows and TMEX Runtime Environment. Using the supplied virtual COM port drivers an application programmer would communicate with the device in exactly the same way as they would with a regular PC COM port - using the Windows VCOMM API calls or a COM port library.

The adapter can communicate with any device that uses the 1-Wire® protocol. It is also able to write to any EEPROM iButton device, 1-Wire® Temperature sensor and Crypto iButtons.

**SPECIFICATIONS**

- USB type A male plug featuring USB v1.1
- RJ-11 socket with "standard" 1-Wire® pin-out
- True-Ground Interface to an USB port
- Strong Pull-up to 5V for Temperature, Crypto, and EEPROM 1-Wire devices
- User configurable slew rate controlled 1-Wire pull-down and active pull-up
- Compatible with 1-Wire® SDK for Windows and TMEX Runtime Environment from Dallas Semiconductor™
- ID chip DS2401 included (depends on version)
- ABS case, colour: black
- Operating environment: 0°C to 50°C; RH 70% non condensing
- Drivers available for Microsoft Windows™ (2000 and XP)
- Tested for compliance with CE and FCC standards

**OEM** An OEM version of the adapter is available. Contact sales@eclo.pt to get detailed information.

**DRIVERS** The latest available drivers can be downloaded from [www.eclo.pt/usb-adapter](http://www.eclo.pt/usb-adapter).

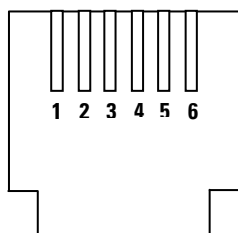
**FIGURE 1**  
Functional layers

<b>Software</b> (Application level)
<b>COM driver</b> (Virtual COM port)
<b>USB adapter</b> (1-Wire® port)

PN	Information
100 005 00011	—
100 005 00021	With ID chip

**TABLE 1**  
Ordering information

**FIGURE 2**  
RJ-11 socket pin-out  
(looking into socket)



pin	signal
1	NC
2	NC
3	1-Wire data
4	1-Wire GND
5	NC
6	NC

**TABLE 2**  
Pin assignments  
(this pin assignment is common to Dallas manufactured adapters and other iButton accessories)

**TABLE 3**  
Maximum ratings  
(T<sub>a</sub> = 25°C) unless otherwise noted)

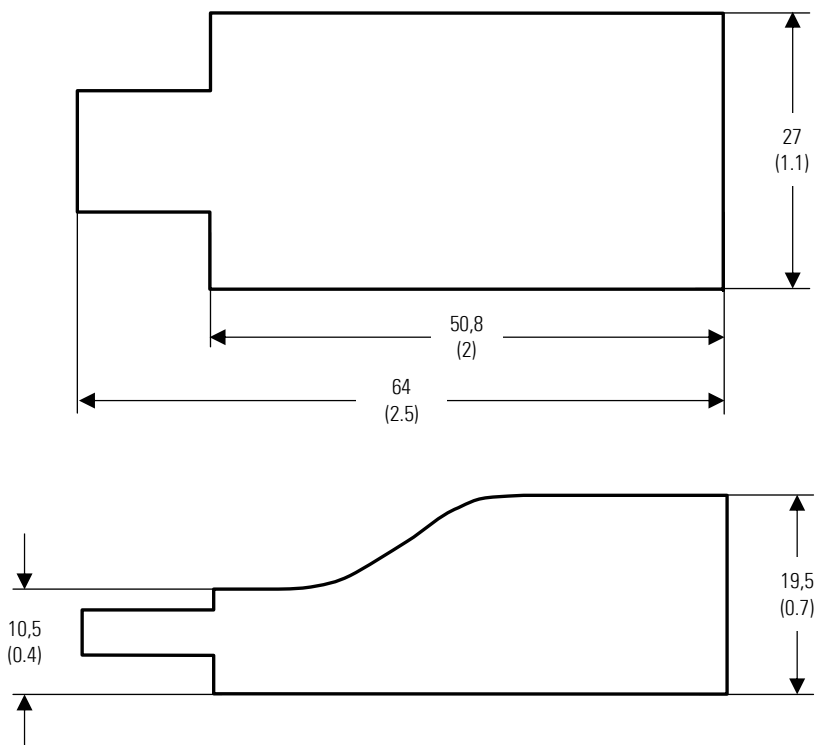
Symbol	Description	Value	Unit
V <sub>+ (USB)</sub>	V+ USB bus pin	-0.5 to +6.00	V
I <sub>1-w</sub>	Current drawn in 1-Wire data pin	—	—
T <sub>A</sub>	Ambient Temperature (Power Applied); RH 70% non condensing	0 to +50	°C

**TABLE 4**  
Electrical characteristics  
@ T<sub>v</sub> = 0[°C] to 70[°C];  
V<sub>-</sub> = 5[V]

Parameter	Conditions	Min	Typ	Max	Unit
V <sub>+USB</sub>	Supply voltage on USB power pin	4.5	+5	6	V
V <sub>I-WH</sub>	1-Wire data input high	3.4	—	—	V
V <sub>I-WL</sub>	1-Wire data input low	—	—	1.8	V
I <sub>USB</sub>	Supply current (active state)	—	35	—	mA
I <sub>USB</sub>	Supply current (suspend mode)	—	180	220	uA
I <sub>WEAKPU</sub>	1-Wire weak pull-up Current	1.5	3	5	mA
I <sub>ACTPU</sub>	1-Wire active pull-up current	8	15	—	mA

Please note: these are parameters are guaranteed at design time. Full testing is not performed at production.

## MECHANICAL DATA



- Notes:
- Drawing not to scale
  - All linear dimensions are in millimetres (inches)
  - The dimensions are subject to change without notice

Weight: 18g (5/8oz)

Weight with package: 22g (3/4oz)

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