

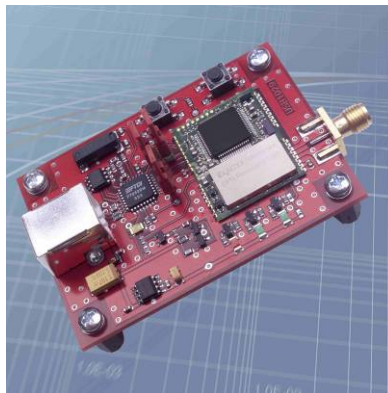


GPS Demonstration Kit USB1029A/C

**A demonstration and evaluation system
for Tyco Electronics' A1029 GPS modules
based on a USB connection**

User's Manual

**Version 2.0
Hardware Revision xx**



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Revision History

Rev.	Date	Description
1.0	11-06-03	Prerelease
1.1	12-02-03	Format change, preliminary version
1.2	12-22-03	Minor format changes
1.3	01-26-04	Introduction of schematics, top view, minor format changes
1.4	10-13-04	Release, minor format changes, added lists of tables and figures
1.5	01-21-05	Small corrections, introduction of GPS Cockpit
1.6	02-04-05	Introduced troubleshooting during USB installation
1.7	02-23-05	Introduced new contact details
2.0	04-01-07	Minor changes, introduction of A1029C, new design
	mm-dd-yy	

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Table of Contents

1 Introduction	7
1.1 Purpose.....	7
1.2 Contents.....	7
2 Handling Precautions	7
3 Quick Start	8
4 Board.....	10
4.1 Overview	10
4.2 Jumper Settings	11
5 Schematics	12
6 Top view.....	13
7 Evaluation and Demonstration Software	14
7.1 GPS Cockpit	14
7.2 HyperTerminal.....	14
7.2.1 How to open a Hyper Terminal.....	14
7.2.2 Issuing commands.....	15
8 DemoKit Firmware and NMEA Sentences.....	15
9 Related Information	16
9.1 Contact.....	16
9.2 Related Documents.....	16
10 List of Tables	17
11 List of Figures	17

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1 Introduction

1.1 Purpose

The GPS Demonstration Kit USB1029-A/C (DemoKit) allows an easy evaluation of Tyco Electronics' GPS module A1029-A, -B, -C, and -D. It offers quick access to the A1029A's or A1029-C's serial port. Standard NMEA strings can be received, commands can be issued, and additional information retrieved. As the A1029-B incorporates an A1029-A and the A1029-D an A1029-C, the identical GPS functionality is provided.

The Demonstration Kit serves two major purposes: as a demonstration packages of the module's capabilities and as a target system for testing and evaluating Tyco Electronics' GPS firmware commands and results. The Demonstration Kit is powered through the USB connector avoiding additional power cables.

1.2 Contents

The DemoKit includes the following components:

- Demonstration board (labeled USB 1029) including GPS receiver A1029-A or A1029-C, respectively,
- Active GPS antenna,
- USB cable,
- CD-ROM containing USB drivers, this documentation, GPS Cockpit software.

Please check your package for completeness and connect the components properly. See also chapter "3 Quick Start".

2 Handling Precautions

The Demonstration Kit contains components that are sensitive to electrostatic discharge (ESD). Please handle with appropriate care.

3 Quick Start

- (1) Connect the USB1029-A or USB1029-C DemoKit with your PC using the included USB cable.
- (2) When the PC asks for drivers select the folder “Tools\USB1029 drivers” of the included CD ROM. Note that two drivers need to be installed, the USB1029 FTDI driver and the USB serial driver.

Note: During the driver installation process your Windows system will probably notify you, that the driver did not pass Windows logo testing with a warning:

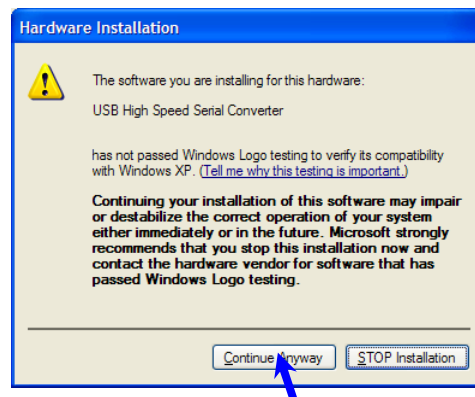


Figure 1: Windows driver installation warning

Note: After successful driver installation Windows might interpret the data coming over the serial interface as a serial ballpoint mouse! Your mouse pointer can start jumping around. To stop this, disable the according device using your device manager. Leave the USB1029A/C kit connected and remove jumper J1 (see 4.1 Overview). You will find the device under “Mice and other pointing devices”. Use a right click to open the sub-menu and disable the device.

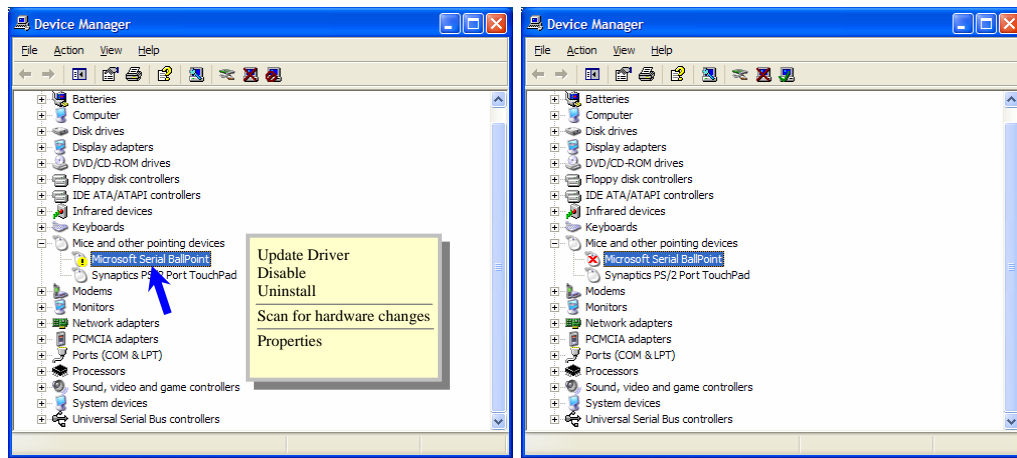


Figure 2: Disabling of Microsoft Serial BallPoint

- (3) Connect the included GPS antenna to the USB1029-A or A1029-C Demonstration Kit and make sure that the antenna has a good view to the sky!
- (4) Copy the GPS Cockpit software from the CD to your PC. Follow the instruction in the provided manual.

4 Board

4.1 Overview

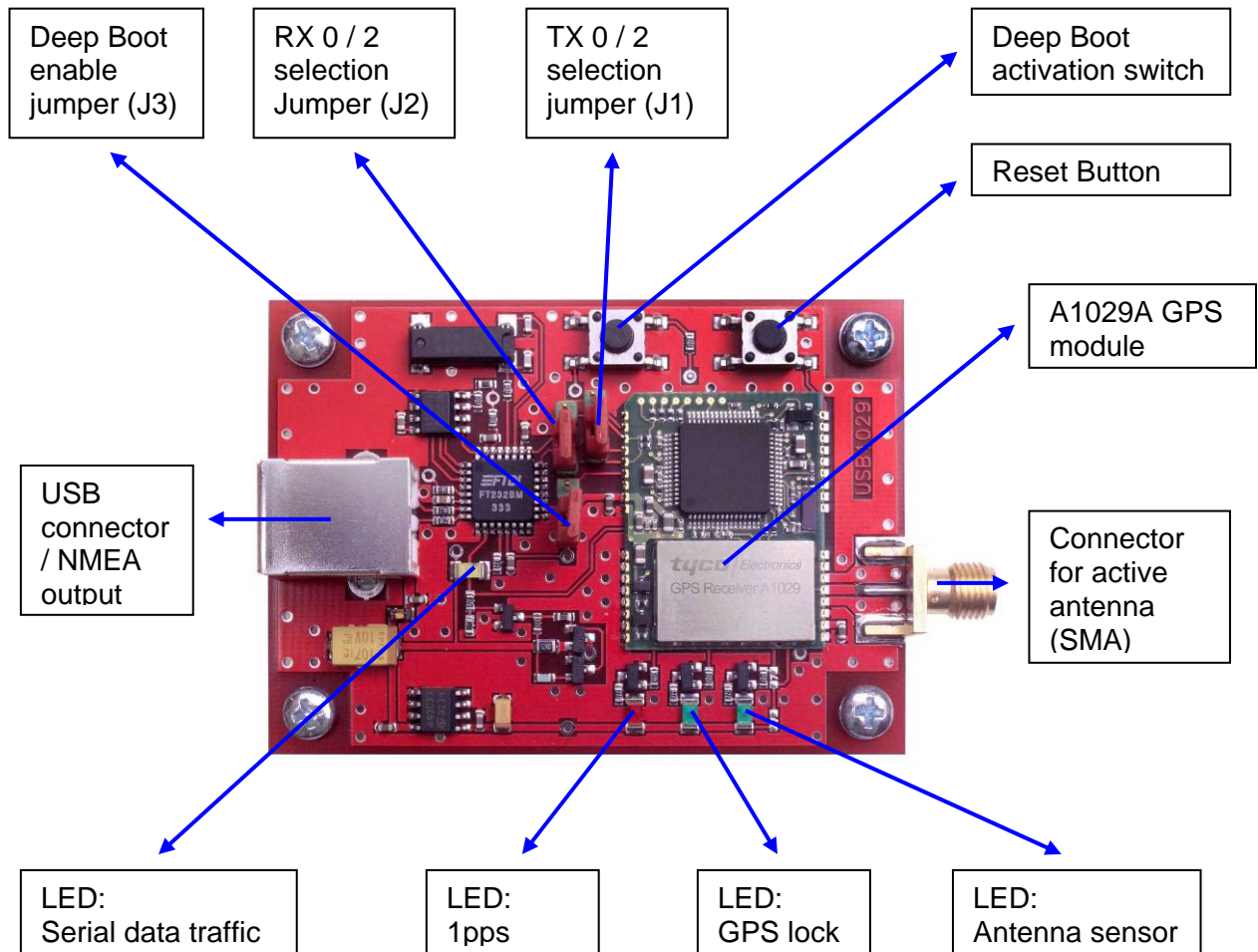


Figure 3: Board overview

4.2 Jumper Settings

Jumper	Function	Up	Down (default)
J1	Rx selection	Rx2 active	Rx0 active
J2	Tx selection	Tx2 active	Tx0 active

Table 1: Jumper settings (1)

J1 and J2 have to sit in the same position. Default setting is “Down”, connected to the serial-USB converter. NMEA strings are transmitted via Tx0. Commands are accepted via Rx2.

Jumper	Function	Open (default)	Closed
J3	Deep Boot	Disabled	Enabled

Table 2: Jumper settings (2)

J3 default setting is “Open” (Deep Boot disabled).

5 Schematics

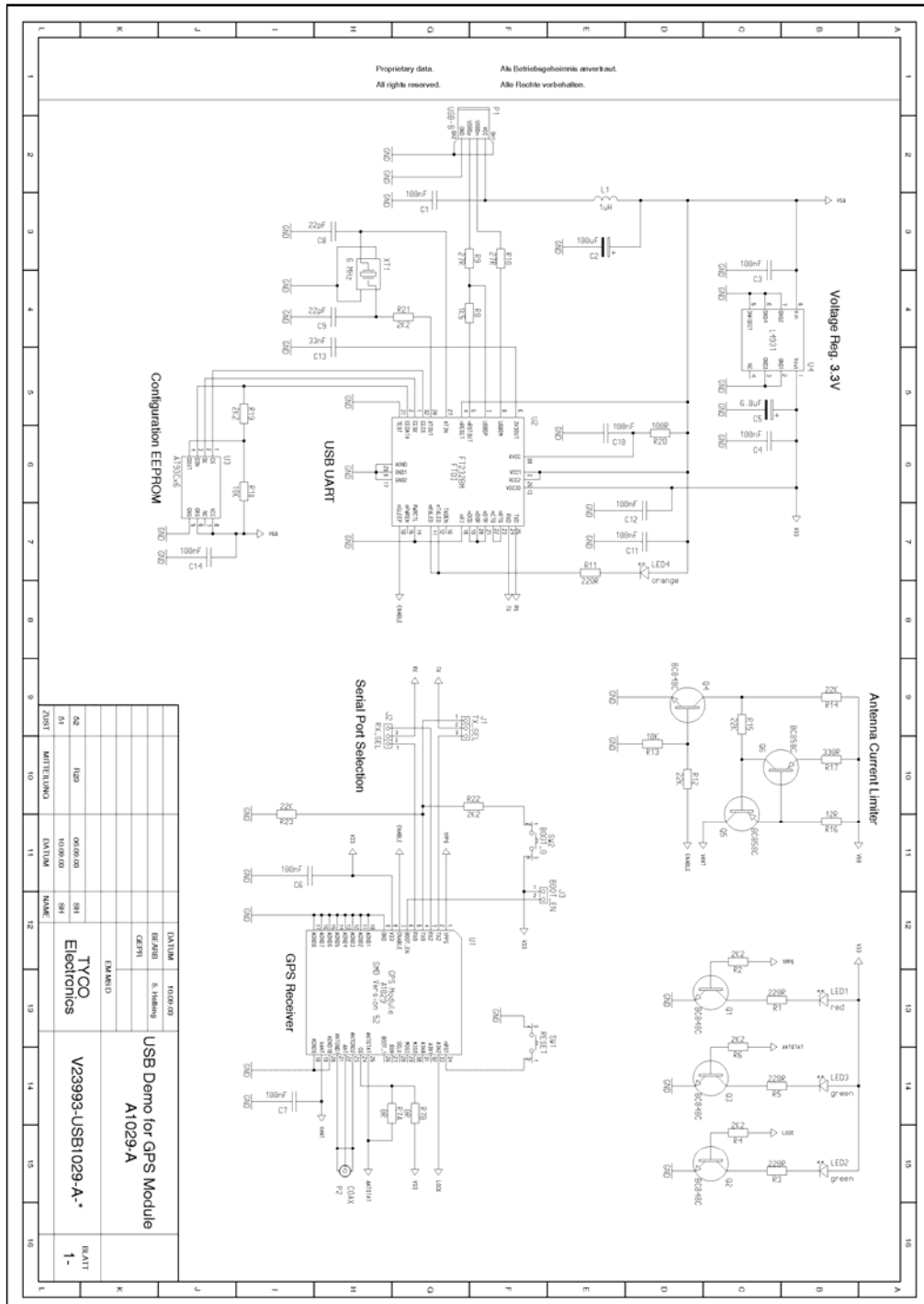


Figure 4: Schematics

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Page 13 of 17

7 Evaluation and Demonstration Software

7.1 GPS Cockpit

With the USB1029-A or –C DemoKits Tyco Electronics delivers its GPS Cockpit software. This software is also available on the Internet and may be distributed freely. For more information on GPS Cockpit please refer to the according manual.

7.2 HyperTerminal

NMEA messages can be viewed with a HYPER Terminal. Using this, you can also transmit the TYCO proprietary NMEA commands to the A1029-A GPS receiver.

7.2.1 How to open a Hyper Terminal

START/PROGRAMMS/Accessories/Communication/Hyper Terminal

- Type a name for the connection you are going to open
- Select the COM port your USB1029-A or USB1029-C DemoKit occupies (you will get this information from the device manager of you system, in the example, COM4 is used)



Figure 6: Hyper Terminal set-up

Hyper Terminal settings:

- Bits per second: 4800
- Data bits: 8
- Parity: none
- Stop bits: 1
- Flow control: none

Please connect and disconnect the communication to the COM port by using the telephone icons of the hyper terminal for assigning the new values.

7.2.2 Issuing commands

You can issue commands by simply typing the appropriate syntax on within the Hyper Terminal window. Please verify the results by inspecting the answers.

8 DemoKit Firmware and NMEA Sentences

See separate document **Tyco Electronics GPS Software** for a detailed description of the standard firmware loaded onto the module delivered with the DemoKit.

9 Related Information

9.1 Contact

This manual was created with due diligence. We hope that it will be helpful to the user to get the most out of the GPS module.

Anyway, inputs about errors or mistakable verbalizations and comments or proposals to TYCO Electronics, Power Systems in Munich, Germany, for further improvements are highly appreciated.

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9.2 Related Documents

- Manual: T.E. GPS Receiver A1029 (TYCO)
- Manual: T.E. GPS Firmware A1029 (TYCO)
- Manual: T.E. Evaluationkit EVA1029A (TYCO)
- Manual: T.E. DemoKit DKS1029 (TYCO)

- Manual: T.E. GPS Cockpit (TYCO)

10 List of Tables

Table 1: Jumper settings (1) 11

Table 2: Jumper settings (2) 11

11 List of Figures

Figure 1: Windows driver installation warning 8

Figure 2: Disabling of Microsoft Serial BallPoint 9

Figure 3: Board overview 10

Figure 4: Schematics 12

Figure 5: Top view..... 13

Figure 6: Hyper Terminal set-up 14