Installation Instruction for TK503/504 Programming Cable for Windows 7

USB Driver Installation guide

1. Introduction

The TK503/TK504 Programming Cable is used to transfer data between the PLC and a PC or laptop. It is a serial connection to use for PLC programming purpose.

2. Description

The TK503/TK504 Programming Cable can be used to operate and configure the PLC via a PC or laptop. In order to do this, the Automation Builder software, driver and utility programs must be installed and a TK503/TK504 Programming Cable must be connected between PLC and PC.



3. Installation Requirement

The following installation requirement must be fulfilled:

- Operation system: Microsoft Windows 7
- Administrator rights
- USB port available for connecting the USB-ROM Stick with Automation Builder V1.1 or later and the programming Cable TK503 or TK504



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4. Installation Package

The driver installer is built as a single executable that reference a file called **setup.ini**. This .ini file contains all of the settings used for driver installation and uninstallation. The **TK503_TK504_In-staller.exe** and **setup.ini** combo should exist in a directory alongside the .sys driver files, .inf in-stallation files.

The structure of TK503_TK504_Installer Driver Package for Windows XP/7 looks like this:

- TK503_TK504_Installer.exe
- setup.ini (customized setup values)
- x64 (driver and library files 64 bit)
- x86 (driver and library files 32 bit)
- slabvcp.inf (INF file for driver)
- slabvcp.cat

Folders in WinZip File ×	0	Name	Туре	Modified
[TK503_TK504 programming cable]		IK503_TK504_Installer.exe	Application	11/3/2011 4:38 PM
TK503_TK504_programming_c		a slabvcp.inf	Setup Inform	11/3/2011 4:37 PM
🍌 x64		Slabvcp.cat	Security Cata	12/5/2011 12:29 PM
🎍 x86		🗱 setup.ini	Configuratio	11/3/2011 4:37 PM
		🕕 x86	Folder	11/3/2011 4:38 PM
		🅕 хб4	Folder	11/3/2011 4:37 PM

5. Installation/Update for TK503/504 driver:

Before you can use the Programming Cables TK503/TK504, the appropriate USB Driver must be installed on your PC or laptop. The driver for the Programming Cables can be found from this link:

http://www.abb.us/abblibrary/DownloadCenter/?CategoryID=9AAC177443&View=Result&Docu mentKind=Software&QueryText=PS501-UPDA+OR+DM-UPDA&SortBy=ScorePre-Installation of the driver on your PC using the program **"TK503/TK504_Installer.exe"**.

5.1 Installation of the new hardware in Windows after the TK503/504 Programming Cable is plugged in for the first time.



6. Driver Installation

After the TK503/TK504 Programming Cable is plugged in for the first time, Windows will detect and install it automatically and create a virtual communication port (COM Port).

All communication ports can be viewed under **Device Manager** -> **Ports**. Open the **Device Manager** by right clicking "**Computer**" on your Desktop and choose **Properties** -> **Hardware** -> **Device Manager** in the context menu.



Installation Directory Selection (Win 7)

If the Windows 7 is 32-bit/64-bit version, the driver installation steps are the same as in Windows XP system. Typical steps can be seen:

6.1 Right click "TK503_TK504_Installer.exe" and run as administrator.



6.2 The following windows will appear.

K503_TK504 programming cable Driver Scanning	nstaller 🔯	AB TK		
¢,	Driver Version 6.5		Installation completed successfully n 6.	5
Please wait while system is scanned Change Install Location	Install Cancel	Chang	ОК	

6.3 Insert the TK503_TK504 programming cable in your PC or laptop, the following window can be seen by right clicking "Computer" and choose Properities -> Device Manager -> Ports (COM & PT).

월 Device Manager File Action View Help	
· · · · · · · · · · · · · · · · · · ·	
(= -> -=	
⊿ 🚟 CN-L-0201024	
> 😹 Batteries	
> 🖳 Computer	
Disk drives	
Display adapters	
DVD/CD-ROM drives	
b Im Human Interface Devices	
D IDE ATA/ATAPI controllers	
Imaging devices	
🖕 📲 Jungo	
Keyboards	
Mice and other pointing devices	
Monitors	
Network adapters	
Cisco Systems VPN Adapter	
Intel(R) 82579LM Gigabit Network Connection	
Intel(R) Centrino(R) Advanced-N 6205	
Microsoft Virtual WiFi Miniport Adapter	
 Ports (COM & LPT) 	
The second secon	
TK503_TK504 programming cable (COM12)	
p Processors 48	
Description Security Devices	
Image: SM Driver	
Sound, video and game controllers	
System devices	
Universal Serial Bus controllers	
🔈 - 🟺 USB Virtualization	

6.4 Then right click "TK503_TK504 programming cable (COM12)" and you can see the device status is working properly.



ieneral	Port Settings D	Iriver Details	
	TK503_TK504 p	programming cable (COM12)	
	Device type:	Ports (COM & LPT)	
	Manufacturer:	ABB	
	Location:	Port_#0001.Hub_#0003	
	e status device is working	property.	*
		property.	*
		property.	*
		property.	*

6.5 Connect the TK503_TK504 programming cable to PLC, set communication between CoDeSys and PLC and login to CPU.

7. Using the Communication Port

7.1 How to change the COM Port Number in the Windows Device Manager

When the COM port of the driver can not be found in CoDeSys, then the COM port number must be changed. You can change the virtual COM port number in the "**Properities**" under "**Port Settings**" (the programming cable must be connected to a USB port of your computer).



• Click on the line "TK503/TK504 programming cable (COM...)" with the right mouse button and select "Properties" then select the tab "Port Settings" and set the COM Port Number under "Advanced".



TK503/TK504 programming cable (COMB) Properties	? 🗙		
General Port Settings Driver Details Power Management			
Bits per second: 9600			
Data bits: 8		Advanced Settings for COM3	? ×
Parity: None	_		
Stop bits: 1	•	✓ Use FIFO buffers (requires 16550 compatible UART)	ОК
Flow control: None	•	Select lower settings to correct connection problems.	Cancel
		Select higher settings for faster performance.	Defaults
Advanced Restore D	efaults	Receive Buffer: Low (1) High (14) (14)	
		Transmit Buffer: Low (1)	
	Cancel ,	COM Port Number: COM3	

7.2 How to setup the TK503/504 driver in the 61131-3 Application (CoDeSys):

In CoDeSys the communication settings can be done via **Online -> Communication Parameters -> Port**, after that the TK503_TK504 programming cable can work properly to build up communication between CoDeSys and PLC.

- Install TK503_TK504 programming cable driver.
- Connect the TK503 programming cable or TK504 programming cable to PC.
- Windows detects the new hardware complete the installation.
- Start CoDeSys and open the project or create a new one.
- Create a new communication channel under "Communication Parameters".



• Set the new COM port.

Annels Local AC500 Default TCP-IP			Communication Para		
Communication Parameters: New Channel Name COM3			COM3	P-IP Serial (RS232) Name Value Comment Port COM3	Canc
Device	Cancel	New Remove		Poir Cumis Baudrate 19200 Parity No Stop bits 1 Motorola byteorder Yes	New
ABB Arcnet AC ABB SST Arcnet AC ABB RS232 AC ABB RS232 AC driv ABB Tcp/lp Level 2 AC ADD SST Tcp/lp Le	e	Gateway		Flow Control Off	Gatewa
Tcp/Ip 3S Tcp/Ip driver Serial [R5232] 3S Serial R5232 driv Serial [R5232] 3S Serial R5232 driv Tcp/Ip (Level 2) 3S Tcp/Ip level 2 driver	/	Update			Upda





The Port number here must be the same as the Port number list in the **Device manager** -> **Port** -> **TK503/TK504 Programming Cable (COMx)**, otherwise the communication cannot be established. Parameter "**Motorola byteorder**" must be set to **Yes**".

Login and Create the communication between CoDeSys and PLC.

Before excuting the login command please make sure the COM interface setting in *Automation Builder* software tool should be "COMx – Online Access".

Project Input Extrac	e Login He	2 C	Alt+F0		
	Logout	8	091470		
POU+ PLC_PRG (P	Download Rum Stop Reset Reset (cold) Keset (copped)		rs Sanatu		
	Tagda Drewport Hereikport Dailog Stop over Stop in Single Cycle		re Fui re col+rs		
	Write Values Force Yalues Release Force Write/Force Onlog		05/467 17 39/04/7 05/49/04/77		
	Show Call Stack Display Play Carbod				
	Simulation Mode Communication Parameters Send marked text to RemoteControl Master (e.g. as parameter)				
	Greate boot protect Write file to PLC Read file from HLC Show file efform HLC				

What do you do if COM Port is not available?

• Right click "Computer" and choose Properties -> Device Manager, if you find the cable under "Other devices" as shown below:



It demonstrates that no driver was found for the TK503 programming cable. This could be the case if you have already connected the TK503 programming cable to your PC without pre-installation of driver on PC's operation system. In this case, proceeds as below:

- Right click the unrecognized device with the question mark symbol and select "Uninstall".
- Then carry out the pre-installation once more as described above before connecting the TK503 programming cable to your PC.

