Installation Instruction

AC500

Scalable PLC for Individual Automation

USB-Driver Installation

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Programming Cable TK503/TK504

Content

Introduction and basics	2
Intended use	.2
Description	.2
PC system requirements	.2
Content of the installation package	.2
Installation	3
Installation steps	.3
Pre-installation routine	.3
Installation of new hardware	.5
Communication	6
Virtual communication port configuration	.6
CODESYS communication	.8
Uninstallation/Update1	1

1

Introduction and basics

Intended use

The TK503/TK504 programming cable is used to transfer data between the PLC and a PC or laptop. It is used for programming purpose.

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, CODESYS software, driver and utility programs must be installed and a TK503 programming cable or TK504 programming cable must be connected.

PC system requirements

- Platform: Microsoft Windows Vista, Windows 7, Windows 10
- CD-ROM drive
- USB port available for connecting the TK503/TK504 programming cable



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Content of the installation package

Name	Туре		
) . x64	File folder		
<u>↓</u> x86	File folder		
🚳 setup.ini	Configuration settings		
slabvcp.cat	Security Catalog		
🛐 slabvcp.inf	Setup Information		
TK503_TK504_Driver_Installation.pdf	Adobe Acrobat Document		
K503_TK504_Installer.exe	Application		

Installation

Installation steps

Before you can use the TK503/TK504 programming cables, the appropriate USB driver must be installed on your PC or laptop.

The driver for the TK503/TK504 programming cables are installed in two steps:

- Pre-installation of the drivers on your PC using the program TK503_TK504_Installer.exe.
- Installation of the new hardware in Windows after the TK503 programming cable or TK504 programming cable is plugged in for the first time.



Before you connect the TK503/TK504 programming cable with the PC, install the USB drivers first.

Pre-installation routine

1. Start the pre-installation of the driver by calling *TK503_TK504_Installer.exe*.

TK503_TK504_Driver_Installation.pdf	Adobe Acrobat Document		
a slabyco.inf	Setup Information		
slabvcp.cat	Security Catalog		
🚳 setup.ini	Configuration settings		
📕 x86	File folder		
👢 x64	File folder		
Name	Туре		



2. Define the installation directory.

K503_TK504 programming cable Driver Installer	×
ABB TK503_TK504 programming cable	
Installation Location:	Driver Version 6.5
C:\Program Files (x86)\Silabs\MCU\CP210x\	
Change Install Location Install	Cancel

This directory can be changed by clicking the **Change Install Location** button. The installation directory is where the driver package is copied and from where you can start the installation.

Pre-installation check

- Check that a current version of the driver is not already installed.
- Check that an older version of the driver is not already installed.
- 3. Start the pre-installation via the **Install** button.



Windows Vista users only:

Start the *TK503&TK504Installer.exe* with the **Run as** administrator option, even if you have administrator rights. Acknowledge the following dialog with the **Allow** button.

Name		Date modified	Туре	Size
_{мб4} хб4		4/9/2009 8:35 AM	File Folder	
鷆 x86		4/9/2009 8:35 AM	File Folder	
🗿 setup.ini		4/2/2009 7:16 PM	Configuration Sett	1 KB
🔊 slabvcp.inf		4/8/2009 10:18 AM	Setup Information	5 KB
RTK503&TK504Insta	ller	4/2/2009 5:08 PM	Application	176 KB
		Open		
		Enable/Disable Digital	Signature Icons	
	۲	Run as administrator		
	Ç.	Filzip		•
	٣	Scan for threats		
	ą	WinZip		•

Windows 7 users only:

Windows will display an error message after clicking **Install** button. This is because the installation folder is encrypted with the Encrypting File System (EFS) enabled in your PC.



On this condition, you have to decrypt the installation folder before installing.



Then, start the *TK503_TK504_Installer.exe* with the **Run as administrator** option just as mentioned above.

Installation of new hardware

If the pre-installation of the drivers on your PC with *TK503_TK504_Installer.exe* is completed successfully, after the TK503/TK504 programming cable is plugged in for the first time, Windows detects that a new USB device is connected and the device driver software is installed and ready to use immediately.

J Driver Software Installation	X
TK503_TK504 programming cable (COM5) installed	
TK503_TK504 programming cable (COM5)	
	Close

Communication

Virtual communication port configuration

If the TK503/TK504 programming cable is plugged in a USB interface, Windows creates a virtual communication port (COM Port).

All communication ports can be viewed under Device Manager - ports

- 1. Open the computer management by clicking **Manage** in the context menu of **My Computer** on your Desktop.
 - > You can also check here whether the virtual COM port is available.



You can set the maximum baud rate and change the virtual COM port number in the **Properities** under **Port Settings**



When configuring the communication connection in CODESYS, the baud rate can also be set separately for each COM connection.

2. Set the baud rate.

TK503_TK504 programming cable (COM5) Properties
General Port Settings Driver Details Power Management
Bits per second: 9600 💌
Data bits: 8
Parity: None
Stop bits: 1
Flow control: None
Advanced Restore Defaults
OK Cancel

3. Set the COM Port Number under **Advanced** (up to COM32).

Advanced Settings for	COM5						X
Use FIFO t Select low Select high	ouffers (requi er settings to ner settings fo	res 16550 cor correct conne or faster perfo	npatible UART) ection problems. rmance.				OK Cancel
Receive Buffer:	Low (1)	1			 High (14)	(14)	Defaults
Transmit Buffer:	Low (1)	T		r.	 High (16)	(16)	
COM Port Number:	COM5	•					

CODESYS communication

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.

The following procedure must be observed without fail in order to ensure that commission is carried out correctly.

- 1. Install TK503/TK504 programming cable driver.
- 2. Connect the TK503 programming cable or TK504 programming cable to PC.
- 3. Windows detects the new hardware complete the installation.
- 4. Start CODESYS and open the project or create a new one.
- 5. Create a new communication channel under Communication Parameters.

CoDeSys - Application_1.AC500PRO - [PLC_PRG (PRG-ST)]				
🎭 File Edit Project Insert Extras 🛛	nline Window Help			
	Login	Alt+F8		
	Logout	Ctrl+F8		
	Download			
	Run	F5		
	Stop	Shift_E8		
Variable_Configuration (VAR_CONFIG)	Breat	SHILTIO		
Him ibrary Ethernet_ALSUU_V10.lib 5.4.16 10:50:	Reset			
	Reset (cold)	i		
🖽 🛅 library SysInt_AC500_V10.lib 5.4.16 10:50:18	Reset (original)			
🖳 🛄 library SysLibInitLibrary.lib 5.4.16 10:50:18: gl	Toggle Breakpoint	F9		
Har ibrary SysLibMem.lib 5.4.16 10:50:18: global	Breakpoint Dialog			
E Bibrary SysLib Time.lib 5.4.16 10:50:18: global	Step over	F10		
ter ibrary Util.lib 5.4.16 10:49:58: global variables	Step over	110		
ter Tools	Step in			
Alarm configuration	Single Cycle	Ctrl+F5		
Library Manager	Write Values	Ctrl+F7		
PLC - Browser	Force Values	F7		
PLC Configuration	Release Force	Shift+F7		
Sampling Trace	Write/Force-Dialog	Ctrl+Shift+F7		
Target Settings	this, force blandy	Constantes in		
Watch- and Recipe Manager	Show Call Stack			
Workspace	Display Flow Control			
	Simulation Mode			
	Communication Parameters			
	Send marked text to RemoteControl Master (e.g. as parameter)			
	Create boot project			
	Write file to PLC			
	Read file from PLC			
	Show file information			

6. Select the new virtual COM port.

Name IP221_		ОК
Device		Cancel
Name	Info	
ABB Arcnet AC	ABB SST Arcnet AC driver	
ABB RS232 AC	ABB RS232 AC driver	
ABB Tcp/lp Level 2 AC	ABB SST Tcp/lp Level 2 routing driver	
Tcp/lp	3S Tcp/lp driver	
Serial (RS232)	3S Serial RS232 driver	
Serial (Modem)	3S Modem driver	
Tcp/lp (Level 2 Route)	3S Tcp/lp Level 2 Router Driver	
٠ III		



The port number here must be the same as the port number list in the Device manager – Port – TK503/TK504 programming cable (COMx), or the communication cannot be built up.



The number of COM Port depends on the availability on your computer. The baudrate can be selected between 19200 and 115200 bps.

7. Login and create the communication between CODESYS and PLC

CoDeSys - Application_1.AC500PRO* -	[Task configuration]	
File Edit Project Insert Extras	Online Window Help	
- III	Login	Alt+F8
	Logout	Ctrl+F8
	Download	
	Run	F5
Global_Variables	Stop	Shift+F8
	Reset	
🖶 🦳 🛅 library lecsfc.lib 2.6.14 10:37:46: global variat	Reset (cold)	
世… Ibrary UnBoardIU_AU50U_V13.lib 5.4.16 10:5 田… 一 library System AC500 V10.lib 5.4.16 10:50:18	Reset (original)	
Emerginal State St	Toggle Breakpoint	FQ
⊞ @ library SysLibMem.lib 5.4.16 10:50:18: global •	Breakpoint Dialog	10
	Sten over	F10
🖽 🖷 🛅 library Util.lib 5.4.16 10:49:58: global variables	Step over	FR
	Single Cycle	Ctrl+F5
Library Manager		
Log	Write Values	Ctrl+F/
PLC - Browser	Force Values	F/
Sampling Trace	Kelease Force	SNITT+F/
Target Settings	Write/Force-Dialog	Ctrl+Shift+F/
Watch- and Becipe Manager	Show Call Stack	
Workspace	Display Flow Control	
	✓ Simulation Mode	
	Communication Parameters	
	Send marked text to RemoteControl Master (e.g. as parameter)	
	Create boot project	
	Write file to PLC	
	Read file from PLC	
	Show file information	
	101	

Uninstallation/Update

Uninstall or update the windows installation of driver

1. Start the computer management and select the Device Manger. Search for entry **TK503/TK504** programming cable. Make a right mouse click at this entry and you can choose Uninstall or Update Driver from the context menu.



When you choose Uninstall, you need to decide whether to delete the driver software for this device or not.

Confirm Device Uninstall
TK503_TK504 programming cable (COM5)
Warning: You are about to uninstall this device from your system.
Delete the driver software for this device.
OK Cancel



If **Delete the driver software for this device** is chosen, the driver cannot be reinstalled automatically. You need to reinstall the driver from start.

ABB

ABB Automation Products GmbH

ABB Automation Products GmbHEppelheimer Straße 8269123 Heidelberg, GermanyTelephone (06221) 701-1444Telefax (06221) 701-1182E-Mail plc.support@de.abb.comInternet http://www.abb.de/plc