

# Contents

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# SD Memory Card MC502

- Secure Digital Card 128 MB
- Solid State Flash Memory Storage

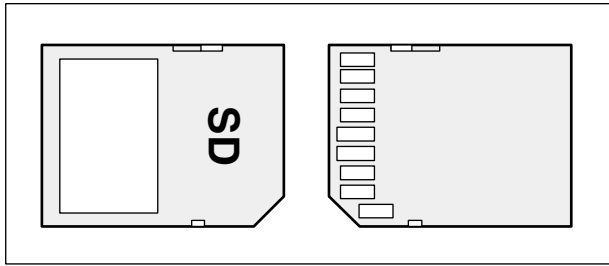


Figure: SD Memory Card MC502

## Contents

- Purpose
- Insertion of the SD Memory Card
- Technical data
- Ordering data

## Purpose

The SD Memory Card is used to back-up user data and store user programs as well as to update the internal CPU firmware. AC500 CPUs are supplied without an SD Memory Card. It therefore must be ordered separately. AC500 CPUs can be operated with and without SD Memory Cards.

The CPU uses a standard file system. This allows standard card readers to read the MC502 SD Memory Cards.

**!** **Attention:** The use of memory cards other than the MC502 SD Memory Card is prohibited. ABB is not responsible nor liable for consequences resulting from the use of unapproved memory cards.

The SD Memory Card has a Write Protect Switch. In the position "LOCK", the card can only be read.

## Insertion of the SD Memory Card

Insertion and removal of the SD Memory Card is described in detail under "AC500 system data".

## Technical data

The system data of AC500 and S500 are valid here. Only additional details are therefore documented below.

Memory capacity	128 MB
Temperature range	-25 °C...85 °C
No. of writing cycles	> 100 000
No. of reading cycles	no limitation
Data safety	> 10 years
Write Protect Switch	yes, at the edge of the card
Weight	2 g
Dimensions	24 mm x 32 mm x 2.1 mm

## Ordering data

Order No.	Scope of delivery
1SAP 180 100 R0001	MC502, SD Memory Card 128 MB

## Lithium Battery TA521

- Manganese Dioxide Lithium Button Cell, 3 V, 560 mAh

- Primary cell, non-rechargeable

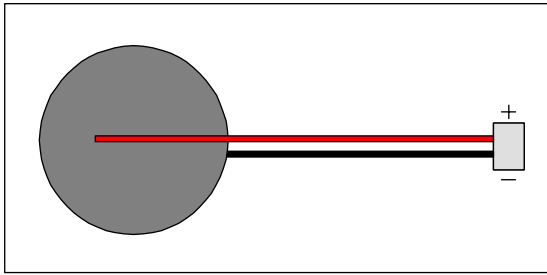


Figure: Lithium Battery TA521

## Contents

Purpose  
Handling instructions  
Electrical connection  
Battery lifetime  
Technical data  
Ordering data

## Purpose

The TA521 Lithium Battery is used to save RAM contents of AC500 CPUs and back-up the real-time clock. AC500 CPUs are supplied without a Lithium battery. It therefore must be ordered separately. Although the CPUs can work without a battery, its use is still recommended in order to avoid process data being lost.

The CPU monitors the discharge degree of the battery. An error is output, before the battery condition becomes critical (about 2 weeks before). After the error message has appeared, the battery should be replaced as soon as possible.

The TA521 Lithium Battery is the only one, which can be used with AC500 CPUs. It is a primary cell and cannot be re-charged.



**Note:** In order to prevent data losses or problems, the battery should be replaced after 3 years of utilisation or **at least** as soon as possible after receiving the "Low battery warning" indication. Do not use a battery older than 3 years for replacement, do not keep batteries too long in stock.

## Handling instructions

- Use the TA521 battery only for AC500 CPUs.
- **Do not short-circuit or re-charge the battery!** It can cause excessive heating and explosion.
- **Do not disassemble the battery!**
- **Do not heat up the battery and not put into fire!** Risk of explosion.
- Store the battery in a dry place.
- Replace the battery with supply voltage ON in order not to risk data being lost.
- Please recycle exhausted batteries meeting the environmental standards.



**Attention:** In order to avoid any data losses (if needed), the battery replacement should be done with the system under power. Without battery and power supply there is no data buffering possible.

## Electrical connection

Assembling and electrical connection of the battery is described in detail under the AC500 system data.

## Battery lifetime

The battery lifetime is the time the battery can store data while the CPU is not powered. As long as the CPU is powered, the battery will only be discharged by its own leakage current.

## Technical data

The system data of AC500 and S500 are valid here. Only additional details are therefore documented below.

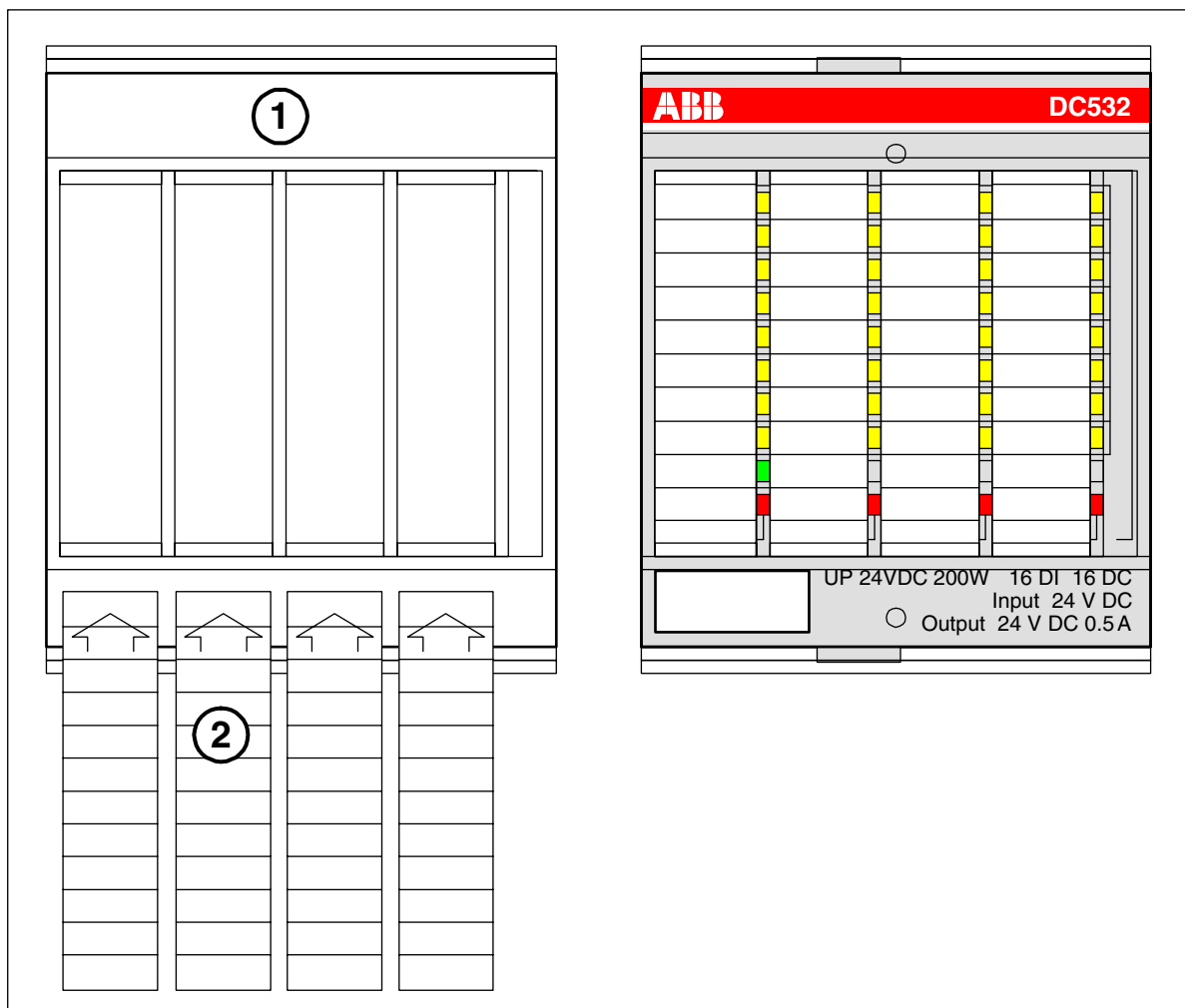
Nominal voltage	3 V
Nominal capacity	560 mAh
Temperature range	-20 °C...60 °C
Pre-warning information	The CPU monitors the battery level and sends a warning message about 2 weeks before the battery charge becomes critical.
Battery lifetime	CPU PM571, CPU PM581, CPU PM591: 3 years
Self-discharge	2 % per year at 25 °C 5 % per year at 40 °C 20 % per year at 60 °C
Protection against reverse polarity	yes, by mechanical coding of the plug
Insulation	The battery is completely insulated.
Connection	red = plus pole = above at plug, black = minus pole, for assembling see AC500 system data
Weight	7 g
Dimensions	Diameter of the button cell: 24.5 mm, Thickness of the button cell: 5 mm

## Ordering data

Order No.	Scope of delivery
1SAP 180 300 R0001	TA521, Lithium Battery

# Pluggable Marker Holder TA523

- for labelling the channels of S500 I/O modules



- (1) Pluggable Marking Holder TA523
- (2) Marking stripes to be inserted into the holder
- (3) Pluggable Marking Holder, snapped on an I/O module

## Contents

Purpose  
Handling instructions  
Technical data  
Ordering data

## Purpose

The Pluggable Marking Holder is used to hold 4 marking stripes, on which the meaning of the I/O channels of I/O modules can be written down. The holder is transparent so that after snapping it onto the module the LEDs shine through.

## Handling instructions

The marking stripes can be printed out from a Word file.

Template: ...\\Documentation\2-Hardware-AC500\TA523.doc

## Technical data

The system data of AC500 and S500 are valid here. Only additional details are therefore documented below.

Use	for labelling channels of I/O modules
Mounting	snap-on to the module
Weight	20 g
Dimensions	82 mm x 67 mm x 13 mm

## Ordering data

Order No.	Scope of delivery
1SAP 180 500 R0001	TA523, Pluggable Marker Holder (10 pieces)

## Dummy Coupler Module TA524

- to cover an unused coupler slot of a Terminal Base

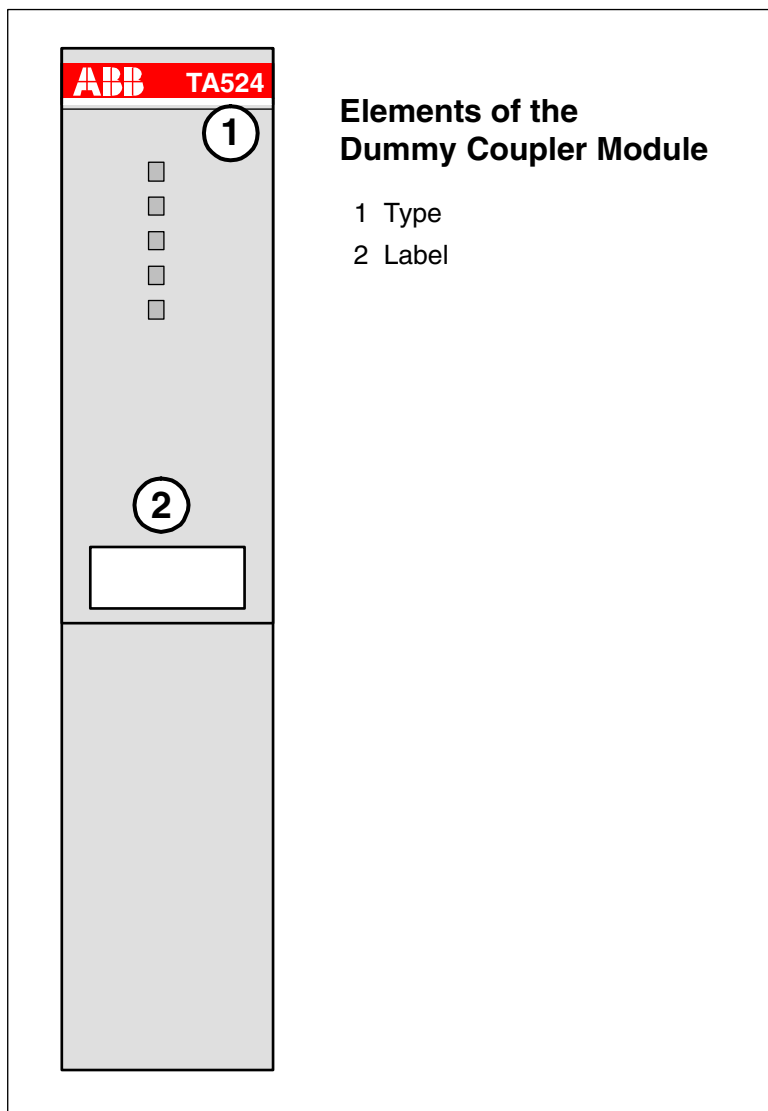


Figure: Dummy Coupler Module TA524

### Contents

- Purpose
- Handling instructions
- Technical data
- Ordering data

### Purpose

If a coupler slot is not used on a Terminal Base (TB511-TB541), it is useful to protect it from dust and touch using a Dummy Coupler Module TA524.

### Handling instructions

The Dummy Coupler Module is mounted in the same way as with couplers. The mounting of couplers is described in the AC500 System Data chapter.

## Technical data

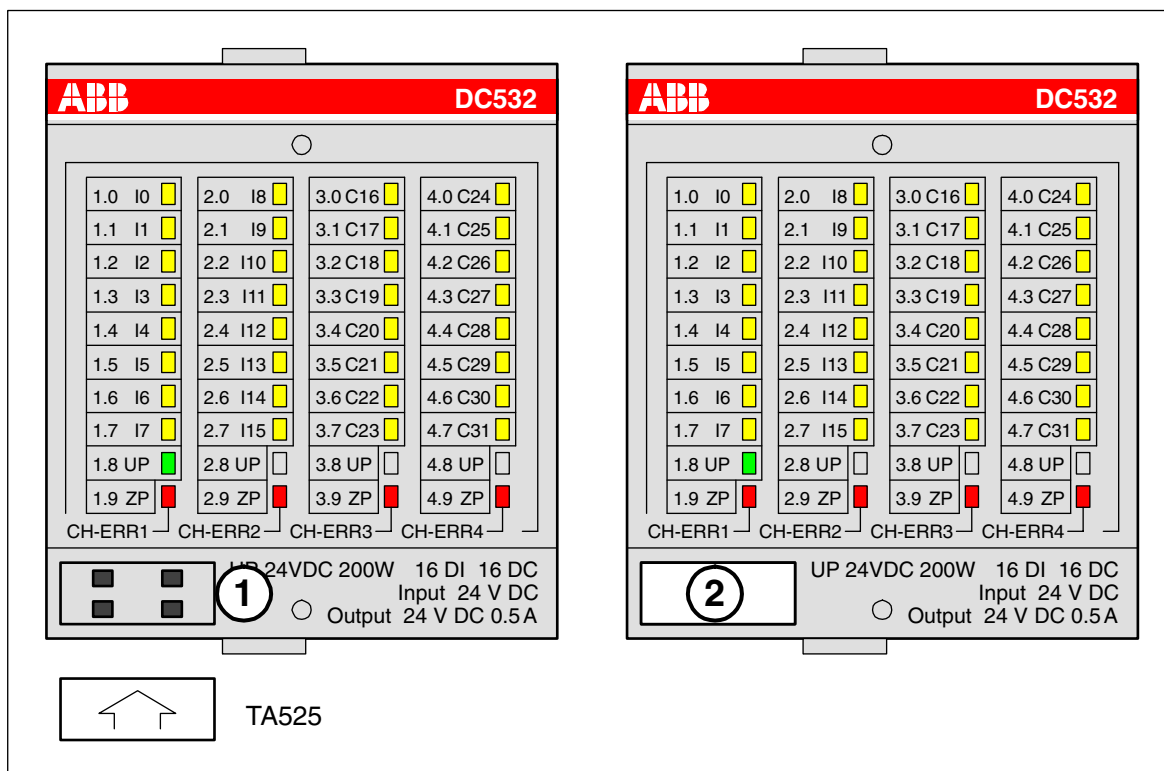
The system data of AC500 and S500 are valid here. Only additional details are therefore documented below.

Use	to protect an unused coupler slot from dust and touch
Mounting	in the same way as with a coupler
Weight	50 g
Dimensions	135 mm x 28 mm x 62 mm

## Ordering data

Order No.	Scope of delivery
1SAP 180 600 R0001	TA524, Dummy Coupler Module

## Set of 10 white Plastic Markers TA525 - to label AC500 and S500 modules



(1) Module without Plastic Marker TA525

(2) Module with Plastic Marker TA525

### Contents

Purpose  
Handling instructions  
Technical data  
Ordering data

### Purpose

The Plastic Markers are suitable for labelling AC500 and S500 modules (CPUs, couplers and I/O modules). The small plastic parts can be written with a standard waterproof pen.

### Handling instructions

The Plastic Markers are inserted under a slight pressure. For disassembly, a small screwdriver is inserted at the lower edge of the module.

## Technical data

The system data of AC500 and S500 are valid here. Only additional details are therefore documented below.

Use	for labelling AC500 and S500 modules
Mounting	insertion under a slight pressure
Disassembly	with a small screwdriver
Scope of delivery	10 pieces
Weight	1 g per piece
Dimensions	8 mm x 20 mm x 5 mm

## Ordering data

Order No.	Scope of delivery
1SAP 180 700 R0001	TA525, Set of 10 white Plastic Markers

## Wall Mounting Accessory TA526

- for insertion at the rear side of Terminal Bases and Terminal Units

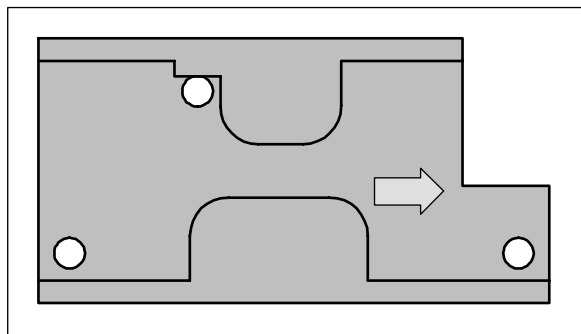


Figure: Wall mounting accessory TA526

### Contents

Purpose  
Handling instruction  
Technical data  
Ordering data

### Purpose

If the Terminal Bases TB5xx or Terminal Units TU5xx should be mounted with screws, Wall Mounting Accessories TA526 must be inserted at the rear side first. This plastic parts prevent bending of Terminal Bases and Terminal Units while screwing up.

### Handling instructions

The handling of the Wall Mounting Accessories is described in detail under "AC500 system data" and "S500 system data".

### Technical data

The system data of AC500 and S500 are valid here. Only additional details are therefore documented below.

Use	with wall mounting of Terminal Bases and Terminal Units
Assembly	see system data of AC500 and S500
Weight	5 g
Dimensions	67 mm x 35 mm x 5,5 mm

### Ordering data

Order No.	Scope of delivery
1SAP 180 800 R0001	TA526, Wall Mounting Accessory

# Programming Cable TK501

- PC side: SUB-D, 9-pole, female
- AC500 side: SUB-D, 9-pole, male
- Length: 5 m

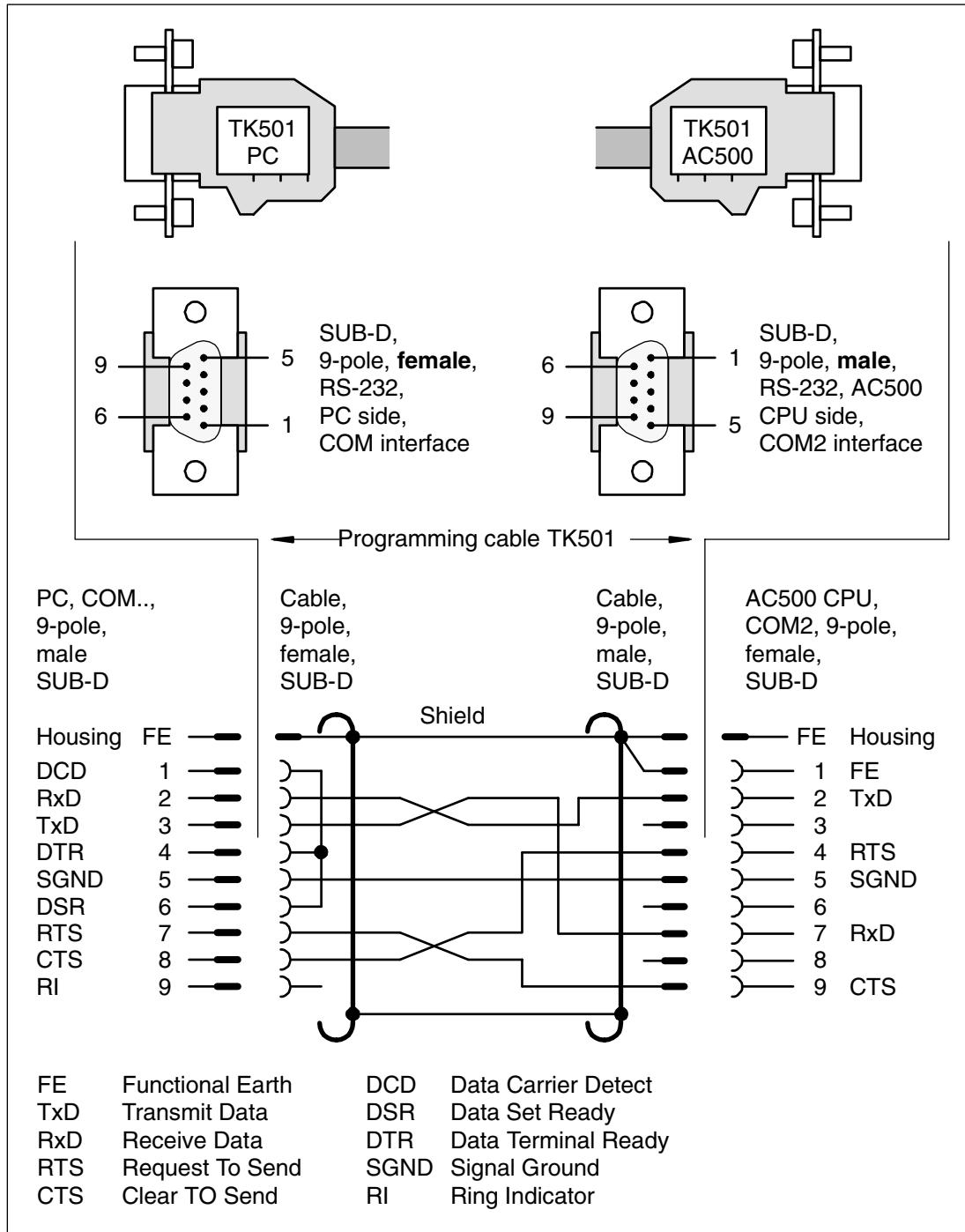


Figure: Programming cable TK501

## Contents

- Purpose
- Electrical connection
- Technical data
- Ordering data

## Purpose

The TK501 cable connects a 9-pole serial COM interface of a PC with the serial COM2 interface of an AC500 CPU. It is used for programming purposes.

## Electrical connection

The two plugs are put on the two COM interfaces and screwed up there.

## Technical data

The system data of AC500 and S500 are valid here. Only additional details are therefore documented below.

Connector at the PC (COM interface)	SUB-D, 9-pole, female
Connector at the AC500 CPU (COM2)	SUB-D, 9-pole, male
Cable length	5 m
Cable type	LIYCY 5 x 0,14 mm <sup>2</sup> , shielded
Weight	220 g

## Ordering data

Order No.	Scope of delivery
1SAP 180 200 R0001	TK501, Programming cable SUB-D / SUB-D, length: 5 m

# Programming Cable TK502

- PC side: SUB-D, 9-pole, female
- AC500 side: terminal block, 9-pole, female
- Length: 5 m

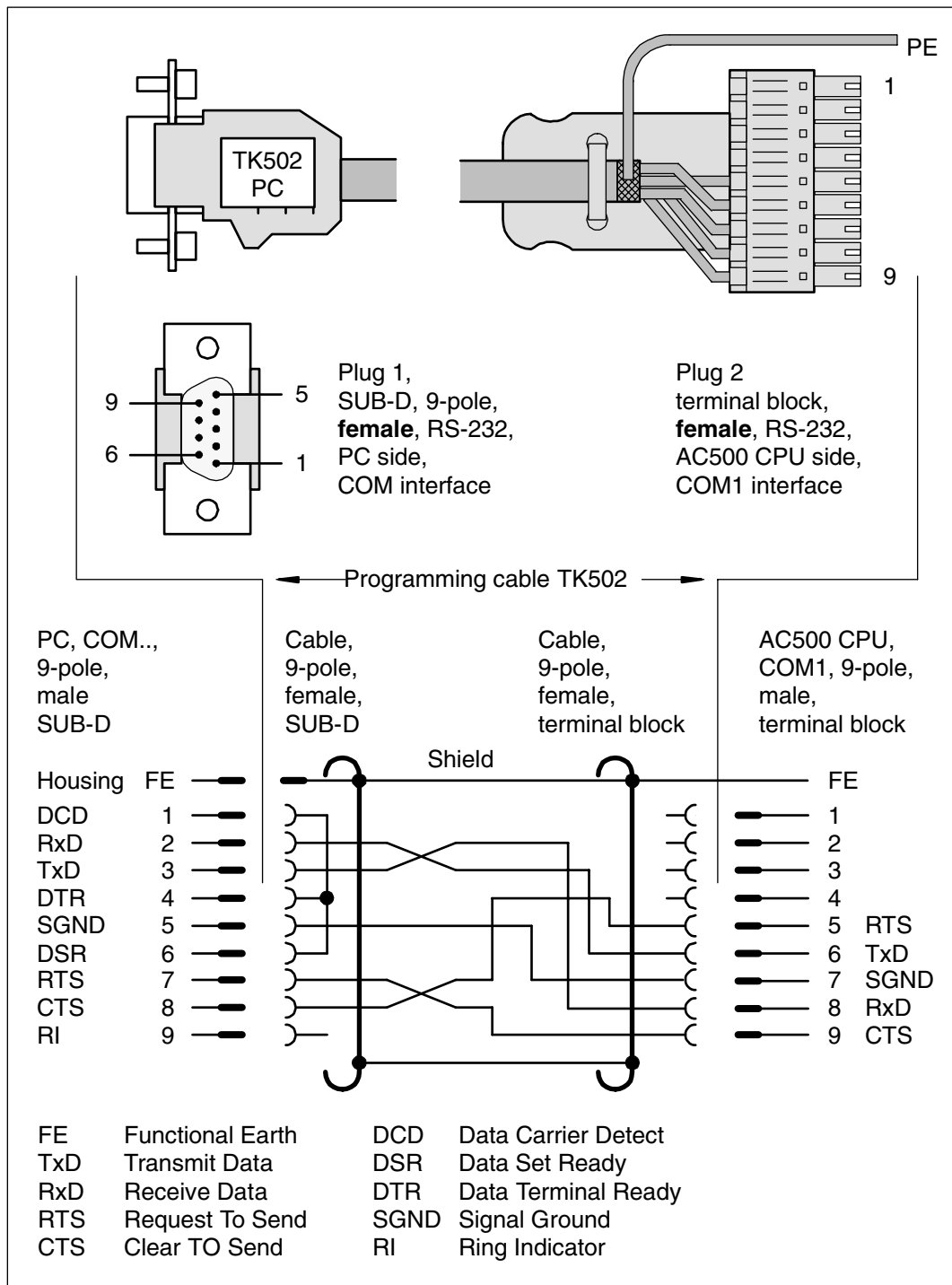


Figure: Programming cable TK502

## Contents

- Purpose
- Electrical connection
- Technical data
- Ordering data

## Purpose

The TK502 cable connects a 9-pole serial COM interface of a PC with the serial COM1 interface of an AC500 CPU. It is used for programming purposes.

## Electrical connection

The two plugs are put on the two COM interfaces and the plug at the PC side is screwed up then.

## Technical data

The system data of AC500 and S500 are valid here. Only additional details are therefore documented below.

Connector at the PC (COM interface)	SUB-D, 9-pole, female
Connector at the AC500 CPU (COM1)	terminal block, 9-pole, female
Cable length	5 m
Cable type	LIYCY 5 x 0,14 mm <sup>2</sup> , shielded
Weight	220 g

## Ordering data

Order No.	Scope of delivery
1SAP 180 200 R0101	TK502, Programming cable terminal block / SUB-D, length: 5 m

## 24 V DC Power supplies which can be used with the system - as system power supply or process supply



Figure: Power supply units CP24..

### Contents

Features  
Characteristics  
Special characteristics  
Ordering data

### Features

- **Switching power supplies, primary switch mode**
- **High efficiency**
- **Wide-range input voltage**
- **Mounting on DIN rail**
- **Compact design**
- **Tested according to EN 60950**
- **Complies with EMC directives EN 61000-6-2 and EN 61000-6-4**

### Characteristics

- Versions with output voltages from 5 V DC to 48 V DC and output currents from 300 mA to 20 A are available.
- Fixed or adjustable output voltage (depending on type).
- Most of the types provide a wide input voltage range from 90 V AC to 260 V AC and a frequency range from 47 Hz to 440 Hz. No adjustment is necessary.

- Integrated input fuse.
- Almost all types can also be supplied with DC voltage from 105 V DC to 260 V DC.
- High efficiency of up to 90 %.
- Extended lifetime due to low power dissipation and low heating.
- No-load proof, overload proof, continuous short-circuit proof, automatic restart.
- Fast and easy mounting on DIN rail.
- Compact slim design.

### Special characteristics

- Power factor correction (PFC) according to EN 61000-3-2 for CP-24/5.0 and CP-24/5.0 adj.
- Parallel connection possible for CP-24/10 adj. and CP-24/20 adj.
- Redundancy module available.

### Ordering data

#### Ordering data CP Range, switching power supplies

Order No.	Type	Input	Output
1SVR 423 418 R0000	CP-24/1.0	90-260 V AC or 105-260 V DC	24 V DC, 1 A
1SVR 423 417 R0000	CP-24/2.0	90-140 V AC	24 V DC, 2 A
1SVR 423 417 R1000	CP-24/2.0	140-260 V AC	24 V DC, 2 A
1SVR 423 417 R1100	CP-24/2.0 adj.	140-260 V AC or 160-260 V DC	24 V DC, 2 A adj.
1SVR 423 416 R0000	CP-24/5.0	90-260 V AC or 127-260 V DC	24 V DC, 5 A
1SVR 423 416 R0100	CP-24/5.0 adj.	90-260 V AC or 127-260 V DC	24 V DC, 5 A adj.
1SVR 423 416 R1000	CP-24/4.2	90-260 V AC or 127-260 V DC	24 V DC, 4,2 A

#### Ordering data CP-S Range, switching power supplies

Order No.	Type	Input	Output
1SVR 427 014 R0000	CP-S 24/5.0	110-240 V AC	24 V DC, 5 A
1SVR 427 015 R0100	CP-S 24/10.0	110-120 V AC or 220-240 V AC (with selector switch)	24 V DC, 10 A
1SVR 427 016 R0100	CP-S 24/20.0	110-120 V AC or 220-240 V AC (with selector switch)	24 V DC, 20 A

#### Ordering data CP-C Range, switching power supplies

Order No.	Type	Input	Output
1SVR 427 024 R0000	CP-C 24/5.0	110-240 V AC	22-28 V DC, 5 A
1SVR 427 025 R0000	CP-C 24/10.0	110-240 V AC	22-28 V DC, 10 A
1SVR 427 026 R0000	CP-C 24/20.0	110-240 V AC	22-28 V DC, 20 A