

AC500-eCo: your PLC from ABB

Unique scalable concept, optimal costs… Change for more!

Power and productivity
for a better world™

Actual size photograph
of the AC500-eCo



Change for more

Modern PLC solutions need to deliver the power where it is needed, when it is needed, while ensuring the project stays on schedule and within budget. It truly is time to change – for more.

More memory
The AC500-eCo offers you more memory than any comparable system on the market today. **128 kB program memory** makes program optimization obsolete.

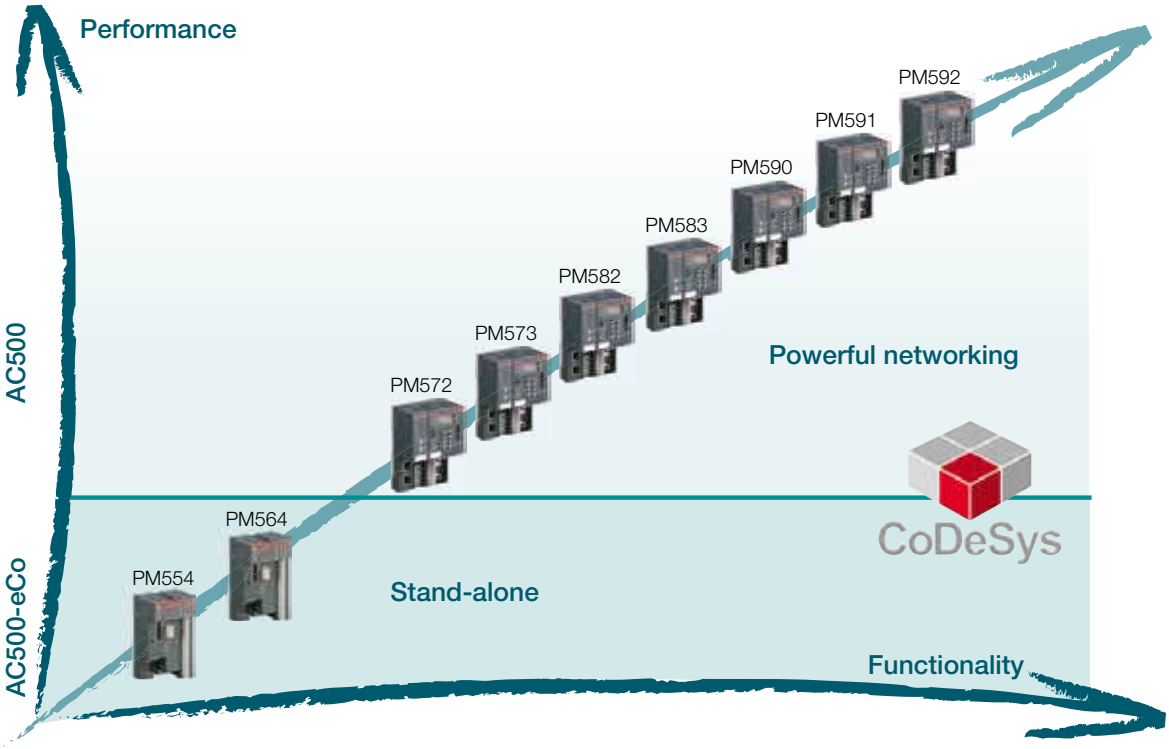
More speed
Program processing time **0.08 µs/instruction** provides the performance your application needs.

More communication
Communication is the key to success for most modern PLC solutions. As you would expect from the renowned AC500 family, the AC500-eCo comes with **onboard Ethernet**.

More programming comfort
The AC500-eCo saves you time and money by featuring the tried and tested **CoDeSys programming** environment across the entire AC500 range.

More flexibility
All analog inputs on CPU PM564 can be configured as digital inputs to allow **individual customer solutions.**

More support
Help is never more than a phone call away thanks to our exceptional network of support centers. Our hotline is available to you **24/7** for technical support and advice.



AC500 family, your PLCs from ABB - AC500 CPU range




BAKE





It’s time to change – for more

The AC500-eCo from ABB is a range of uniquely scalable PLCs offering you unrivalled cost effectiveness for modern industrial automation applications where small-scale PLC solutions often represent the ideal solution.

Based on the successful AC500 range, these extremely compact entry-level PLCs offer the most flexible and economical configuration available, low cost and straightforward servicing and all of the requirements of a modern control system for small applications – without compromising on the power and support you have come to expect from ABB.

Easy to use

The AC500-eCo integrates perfectly into the AC500 family. The common programming system across the entire AC500 range will save you time, as the CoDeSys programming environment is custom made for easy integrated network configuration. In addition, the user program can be downloaded via an SD card without the need for programming tools.

Economical

We integrated multiple functions into single I/Os to allow for individual customer solutions.

Scalable flexibility

The AC500-eCo is fully compatible with the entire AC500 PLC family. This provides you with the option to build customized solutions based on the complete S500 and S500-eCo I/O range.

Versatile

The AC500-eCo offers multiple types of input and output signals together with AC500 libraries and function blocks for the most diverse specific customer requirements.

Your advantages at a glance:

– Extremely easy to use
– Economical, cost-effective concept
– Unrivalled scalability and flexibility
– Optimal versatility





More scalability



Scalability
ABB's system designers have packed an impressive array of features into this pioneering entry-level range to deliver even better scalability and flexibility than ever before. This enables you to not only save money on buying unnecessary equipment that you are not going to need, but also the flexibility to scale up as and when needs dictate.

Performance
The AC500-eCo offers you a powerful PLC system that is truly outstanding in its class, featuring a generous 128 kB program memory coupled with a fast CPU offering program processing times of 0.08 µs/instruction.

State-of-the-art design
This future-oriented design with its slim footprint, rapid and secure cabling options and integrated diagnostic / monitoring indicators will integrate perfectly into your application. In addition, a secure connection to the system bus is ensured by means of sturdy, laterally integrated plugs.

Easy installation
Installation could hardly be more straightforward thanks to some of the features offered by the AC500-eCo – designed especially to make your life easier. For example, pre-wiring is possible via the use of deductible terminals. In addition, the modules can be fitted to the DIN rail with easy-to-use snap-on mechanism.

Certification
As you would expect from an ABB product, the AC500-eCo is approved for customer use by accredited certification organizations around the world. This means you have the peace of mind of knowing that the entire range can be deployed safely, reliably and globally. Ask your local sales representative for more information.

Your advantages at a glance:

– More scalability
– Better performance
– Future-oriented design
– Easy to install
– Approval for customer use

More communication

Multiple communication options
From the drawing-board up, ABB's engineers designed the AC500-eCo family with communication in mind. It's no surprise, therefore, that our package comes with a comprehensive range of communication options as standard, including Modbus master/slave, CS31 and a CPU with onboard Ethernet – a rich set of features normally only found in high-end product ranges.

Easy configuration
The innovative AC500-eCo comes with an easily integrated network configuration based on CoDeSys – ultimately saving you precious time and money.

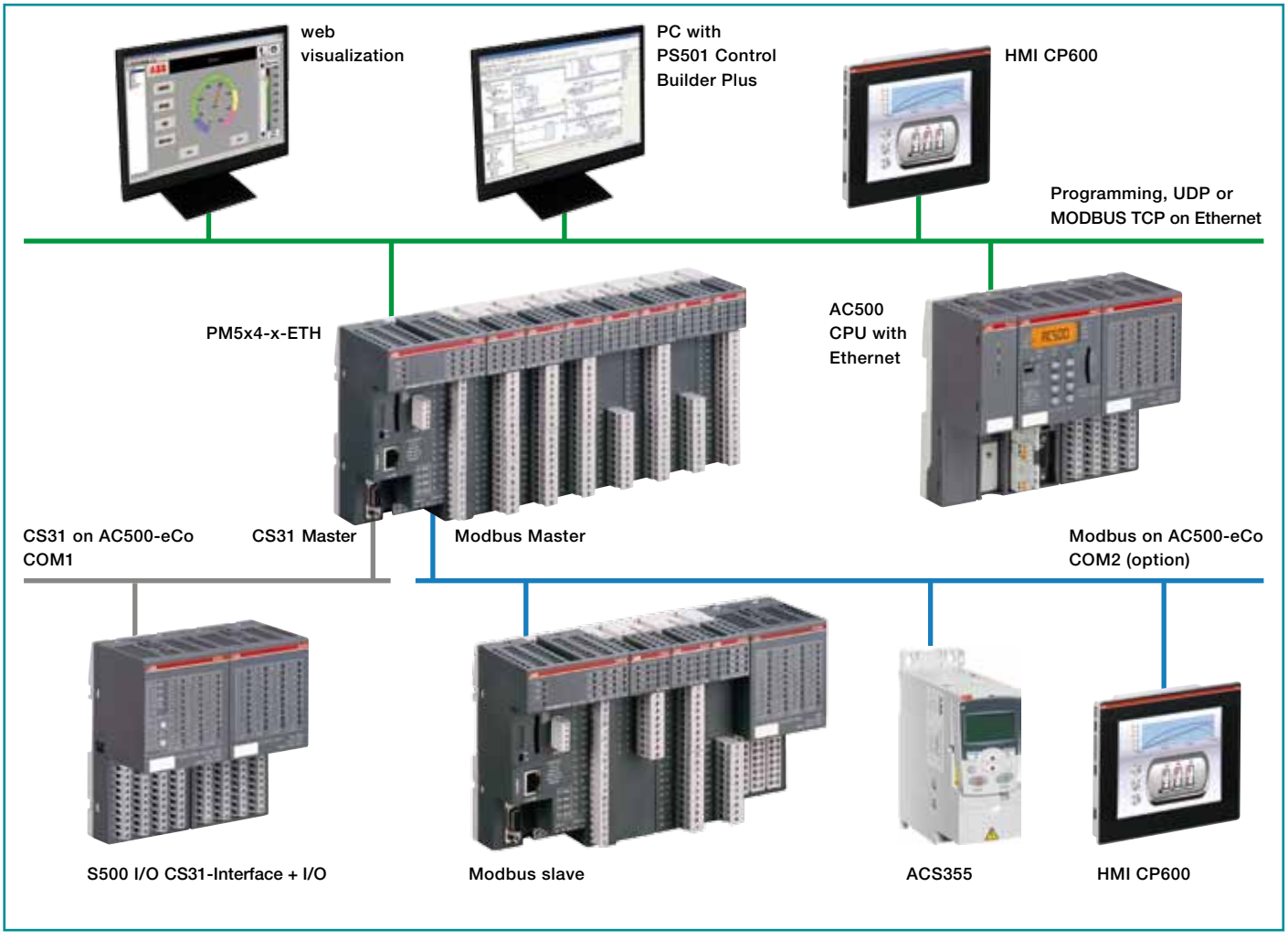
Simple networking
An integrated serial interface parameterized as a Modbus master/slave or CS31 master provides an easy means of exchanging data. And there's more: A second serial interface and an SD card holder can optionally be attached, allowing for the possibility of having a total of two serial ports available for programming and communication purposes.

Integrated web server
Create your own visualization for HMI or PC with web browser. Suitable for your demands, the visualization can be programmed within CoDeSys.

Your advantages at a glance:

- Comprehensive communication options
- Rich feature set and easy configuration
- Straightforward configuration
- Option for secondary serial interface and SD card
- Web server and FTP server for Ethernet CPUs

Examples of communication



More freedom

Easy to learn

Offering all of the advantages you would expect from the AC500 family of devices, the AC500-eCo delivers an impressive set of powerful programming features. In addition, thanks to the fact that ABB uses a common CoDeSys-based programming system for the entire AC500 family, it is a snap to learn and configure.

Easy to program

You will be up and running in no time with our IEC 61131-3 compliant programming software. Based on the popular AC500 family, all of your existing AC500 libraries are compatible and immediately available for use.

Easy to commission

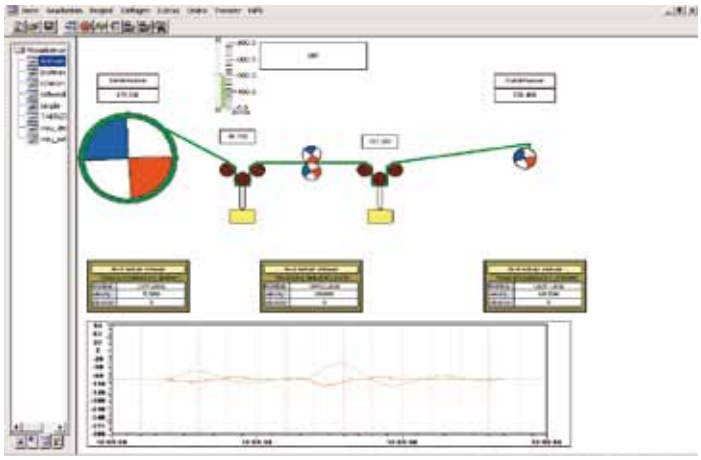
ABB's advanced simulation mode allows programs to be debugged without the need for PLC hardware, thereby reducing on-site testing requirements. Our user-configurable I/O system gives you the flexibility of being able to make decisions and modifications right up to the last minute. Likewise a graphical diagnosis environment speeds up commissioning to keep you on schedule.

Your advantages at a glance:

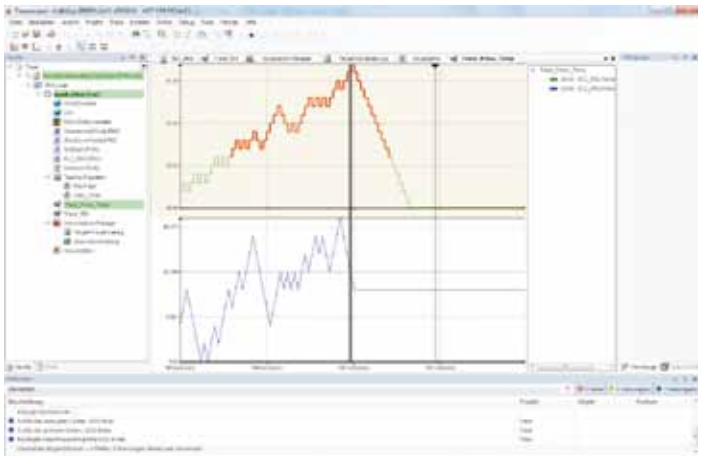
- Easy to learn
- Easy to program
- Easy to commission

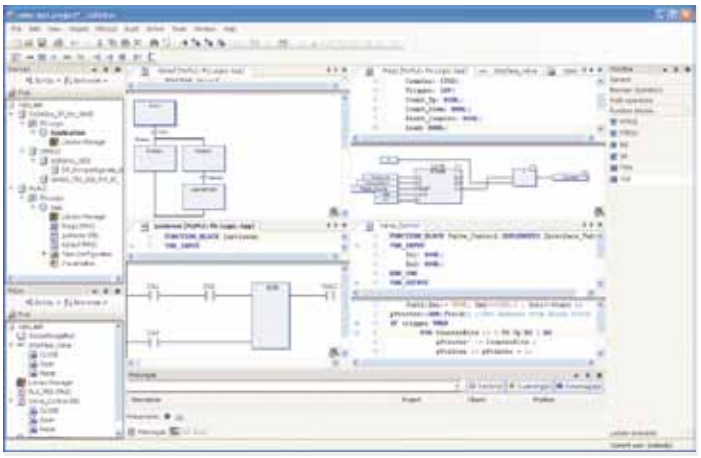
CoDeSys

Visualization, programming, diagnosis, test









More integration



Flexible

ABB's AC500-eCo has been designed to integrate seamlessly into the broader AC500 family, offering you the decisive benefit of having a fully scalable and modular system.

Economical

The scalability offered by the entry-level AC500-eCo gives you the assurance of knowing that the system is able to grow with your needs – another reason for choosing one of the most flexible and economical PLC systems available on the market today.

Customer oriented

The AC500-eCo is made for you. It offers individually customized solutions to be created by using S500 and S500-eCo I/O modules in combination with AC500-eCo CPUs for small / stand-alone applications, or – should the need arise – AC500 CPUs for middle and high-end applications.

Your advantages at a glance:

– Flexibility
– Economical
– Customer oriented

More options

Versatile

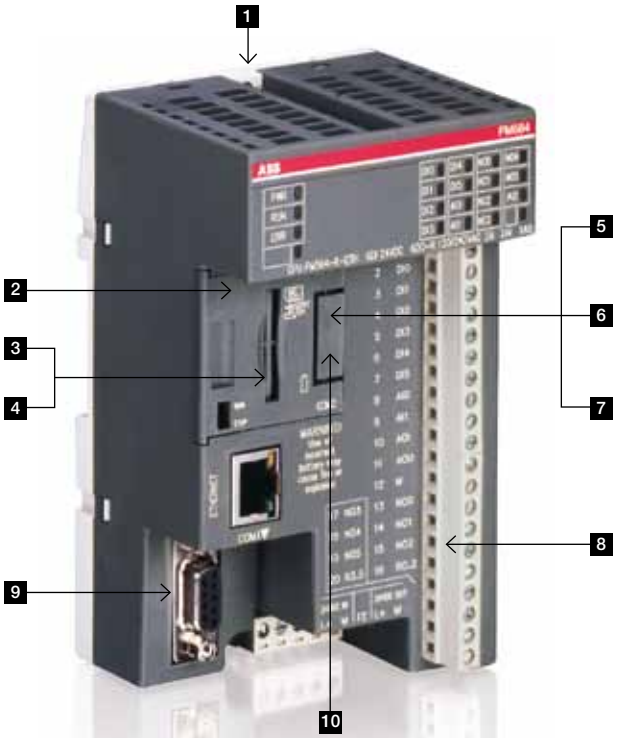
The AC500-eCo offers everything you've come to expect from a modern PLC platform – accessories not excluded: A broad set of accessories rounds off the many benefits of our compact line. Covering everything from a comprehensive software and visualization package, to programming cables and terminal blocks, ABB's AC500-eCo offers a host of accessories that gives you the power to implement your application economically and in time.

Customer-friendly application support

Our local sales organizations are always available and will be happy to advise you prior to your order. In addition, our friendly, competent team of support consultants can be contacted any time via our 24/7 hotline.

Your advantages at a glance:

– Versatility
– Customer-friendly application support
– Only pay for what you actually use





1 Wall Mounting



2 Cover



3 SD-Card Adapter



4 SD-Card



5 Adapter with COM2 + realtime clock



6 Adapter with realtime clock



7 Adapter with COM2



8 Simulator TA571-SIM



9 COM1 USB programming cable



10 COM2 USB programming cable

Technical data

AC500-eCo CPUs

Type	Program memory	Onboard I/Os DI/DO/AI/AO	Digital Onboard I/O		Analog Onboard I/O		Ethernet interface	Power supply	Order code
			Input signal	Output signal	Input signal	Output signal			
PM554-T	128 kB	8 / 6 / – / –	24 V DC	Transistor, 24 V DC, 0.5 A	–	–	–	24 V DC	1TNE 968 900 R0100
PM554-R	128 kB	8 / 6 / – / –	24 V DC	Relay, 24 V DC, 100-240 V AC, 2 A	–	–	–	24 V DC	1TNE 968 900 R0200
PM554-R-AC	128 kB	8 / 6 / – / –	24 V DC	Relay, 24 V DC, 100-240 V AC, 2 A	–	–	–	100-240 V AC	1TNE 968 900 R0220
PM564-T *	128 kB	6 / 6 / 2 / 1	24 V DC	Transistor, 24 V DC, 0.5 A	0…10 V: 10 bits	0…10 V, 0…20 mA, 4…20 mA	–	24 V DC	1TNE 968 900 R1100
PM564-R *	128 kB	6 / 6 / 2 / 1	24 V DC	Relay, 24 V DC, 100-240 V AC, 2 A	0…10 V: 10 bits	0…10 V, 0…20 mA, 4…20 mA	–	24 V DC	1TNE 968 900 R1200
PM564-R-AC *	128 kB	6 / 6 / 2 / 1	24 V DC	Relay, 24 V DC, 100-240 V AC, 2 A	0…10 V: 10 bits	0…10 V, 0…20 mA, 4…20 mA	–	100-240 V AC	1TNE 968 900 R1220
PM554-T-ETH	128 kB	8 / 6 / – / –	24 V DC	Transistor, 24 V DC, 0.5 A	–	–	yes	24 V DC	1TNE 968 900 R0110
PM564-T-ETH *	128 kB	6 / 6 / 2 / 1	24 V DC	Transistor, 24 V DC, 0.5 A	0…10 V: 10 bits	0…10 V, 0…20 mA, 4…20 mA	yes	24 V DC	1TNE 968 900 R1110
PM564-R-ETH *	128 kB	6 / 6 / 2 / 1	24 V DC	Relay, 24 V DC, 100-240 V AC, 2 A	0…10 V: 10 bits	0…10 V, 0…20 mA, 4…20 mA	yes	24 V DC	1TNE 968 900 R1210
PM564-R-ETH-AC *	128 kB	6 / 6 / 2 / 1	24 V DC	Relay, 24 V DC, 100-240 V AC, 2 A	0…10 V: 10 bits	0…10 V, 0…20 mA, 4…20 mA	yes	100-240 V AC	1TNE 968 900 R1211

* All analog inputs on AC500-eCo CPU PM564 can be configured as digital inputs.

S500-eCo I/O modules

Type	DI/DO/DC	Input signal	Output signal	Terminal block 9 poles	Terminal block 11 poles	Order code
DI561	8DI / – / –	24 V DC	–	1	–	1TNE 968 902 R2101
DI562	16DI / – / –	24 V DC	–	1	1	1TNE 968 902 R2102
DI571	8DI / – / –	100-240 V AC	–	1	1	1TNE 968 902 R2103
DO561	– / 8D0 / –	–	Transistor, 24 V DC, 0.5 A	–	1	1TNE 968 902 R2201
DO571	– / 8DO / –	–	Relay, 24 V DC, 100-240 V AC, 2 A	–	1	1TNE 968 902 R2202
DO572	– / 8DO / –	–	Triac, 100-240 V AC, 0.3 A	1	1	1TNE 968 902 R2203
DX561	8DI / 8DO/ –	24 V DC	Transistor, 24 V DC, 0.5 A	1	1	1TNE 968 902 R2301
DX571	8DI / 8DO/ –	24 V DC	Relay, 24 V DC, 100-240 V AC, 2 A	1	1	1TNE 968 902 R2302
DC561	– / – / 16DC	24 V DC	Transistor, 24 V DC, 0.1A, HE 10-20 connector for prewiring system interfast	HE10-20	–	1TNE 968 902 R2001
AI561	4AI / –	-2.5...+2.5 V, -5...+5 V, 0...5 V, 0...10 V, 0...20 mA, 4...20 mA	–	1	1	1TNE 968 902 R1101
AO561	– / 2AO	–	-10...+10 V, 0...20 mA, 4...20 mA	–	1	1TNE 968 902 R1201
AX561	4AI / 2AO	-2.5...+2.5 V, -5...+5 V, 0...5 V, 0...10 V, 0...20 mA, 4...20 mA	-10...+10 V, 0...20 mA, 4...20 mA	1	1	1TNE 968 902 R1301
AI562	2AI / –	Pt100, Pt1000, Ni100, Ni1000, Resistance: 150Ω, 300Ω	–	–	1	1TNE 968 902 R1102
AI563	4AI / –	Thermocouples: S, T, R, E, N, K, J, Voltage range : ±80 mV	–	1	1	1TNE 968 902 R1103

Terminal blocks (9 or 11 poles) are necessary for S500-eCo I/Os. They are delivered separately. Note: Only ABB S500-eCo terminal blocks are suitable for S500-eCo I/Os (see table S500-eCo terminal blocks).

S500-eCo terminal blocks

Type	Description	Order code
L44460901501	9 poles terminal block for S500-eCo I/O modules, screw front / cable side	1SSS 444 609 R1100
L44461101501	11 poles terminal block for S500-eCo I/O modules, screw front / cable side	1SSS 444 611 R1100
L44440901501	9 poles terminal block for S500-eCo I/O modules, screw front / cable front	1SSS 444 409 R1100
L44441101501	11 poles terminal block for S500-eCo I/O modules, screw front / cable front	1SSS 444 411 R1100
L44470901501	9 poles terminal block for S500-eCo I/O modules, spring front / cable front	1SSS 444 709 R1100
L44471101501	11 poles terminal block for S500-eCo I/O modules, spring front / cable front	1SSS 444 711 R1100

Software and cables

Type	Description	Order code
PS501	Programming package PS501 Control Builder Plus	1SAP 190 100 R0200
PS541-HMI	License for runtime visualization package. For installation and visualization of images created with the programming package PS501. Delivery includes license code and documentation.	1SAP 190 500 R0001
PS553-DRIVES	Drives library delivered on SD Card to connect AC500-eCo with ACS355 drives.	1SAP 181 900 R0001
TK503	Programming cable USB => RS485 SUB-D, 3 meters, COM1	1TNE 968 901 R1100
TK504	Programming cable USB => RS485 terminal block, 3 meters, COM2	1TNE 968 901 R2100
TK506**	RS485 isolator, D-Sub 9 poles/Terminal 5 poles for COM1 of the AC500-eCo CPU	1SAP 186 100 R0001

** In preparation

Options

Type	Description	Order code
MC502	SD Memory card 512 MB	1SAP 180 100 R0001
MC503	SD Memory card adapter	1TNE 968 901 R0100
TA561-RTC*	Real-time clock	1TNE 968 901 R3200
TA562-RS	Serial communication interface COM2, RS485, terminal block	1TNE 968 901 R4300
TA562-RS-RTC*	Serial communication interface COM2 with real-time clock, RS485, terminal block	1SAP 181 500 R0001
TA566	Wall mounting accessory for AC500-eCo CPU and S500-eCo I/O modules	1TNE 968 901 R3107
TA570	Terminal blocks for CPU and option cover	1TNE 968 901 R3203
TA571-SIM	TA571-SIM, digital input simulator	1TNE 968 903 R0203

* Standard battery CR 2032 has to be purchased separately.

Starter kits AC500-eCo CPU ***

Type	Description	Order code
TA574-A-R-AC	Starter kit with CPU PM564-R-AC, programming cable, digital input simulator, PS501 starter kit version and “Getting Started” handbook	1SAP 186 200 R0001
TA574-A-R	Starter kit with CPU PM564-R, programming cable, digital input simulator, PS501 starter kit version and “Getting Started” handbook	1SAP 186 200 R0002
TA574-A-T	Starter kit with CPU PM564-T, programming cable, digital input simulator, PS501 starter kit version and “Getting started” handbook	1SAP 186 200 R0003
TA574-D-T-ETH	Starter kit with CPU PM554-T-ETH, programming cable, digital input simulator, PS501 starter kit version and “Getting started” handbook	1SAP 186 200 R0004

*** In preparation

PLC trainer

Type	Description
PLC Trainer AC500	Training packages with didactic models, software, teachware for schools and universities. Expansion possibilities Plug-on Module Motor, Plug-On Module Traffic Light and Solar Tracking model. These training packages are built in cooperation with IKH Didactic Systems. For more information and ordering details please visit www.ikhds.com/abb

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