



Product catalog

AC500-eCo and CP600-eCo PLCs, Control Panels, Engineering Suite

Power and productivity
for a better world™





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Automation Builder

Key features

Engineering Productivity for Machine Builders and System Integrators
 Download at www.abb.com/automationbuilder



Product license options

	Automation Builder Basic	Automation Builder Standard	Automation Builder Premium
Free	■		
AC500-eCo	■	■	■
AC500 with local I/O & network (1)	■	■	■
AC500 with fieldbus (2)		■	■
AC500-S Safety		□	□
Drive Manager		■	■
Drive application programming (3)	□	□	□
Motion programming	■ ⁽⁴⁾	■	■
Panel Builder 600	□	■	■
Panel Builder 600 Basic	■	■	■
Integrated engineering (5)		■	■
Productivity features (6)			■
Additional features (7)		□	□

(1) TCP protocols, Modbus, IEC60870-5-104, CS31

(2) PROFIBUS, PROFINET, EtherCAT, CAN

(3) Drive composer pro license needs to be purchased

(4) No Fieldbus connectivity in Automation Builder Basic

(5) PLC, Safety, Panel, Drive, Motion, Robotics

(6) C/C++, ECAD data exchange, CSV interface extensions, project compare

(7) Project Version Control

Automation Builder

Key features

Discover engineering productivity when engineering your discrete automation solutions.

Automation Builder is ABB's integrated programming, maintenance and simulation environment for PLCs, safety, robots, motion, drives and control panels.

Automation Builder combines the proven ABB tools RobotStudio, Drive Manager, Mint WorkBench, Panel Builder and succeeds Control Builder Plus.

The Automation Builder minimizes your efforts for project code and data administration.

Improve your productivity with seamless engineering, common data storage, a single project archive, time-saving library blocks for device integration, and one common software installer.

Reduce engineering efforts and maintenance costs using easy-to-use libraries for wind, water, solar, drives, motion, robotics and safety applications.

Benefit from the simplicity of IEC 61131-3, PLCopen, C/ C++, RAPID and MINT programming languages.

Speed up your project with the powerful ECAD and MS EXCEL® interfaces of Automation Builder.

Simplified diagnostics and maintenance reduce downtime.

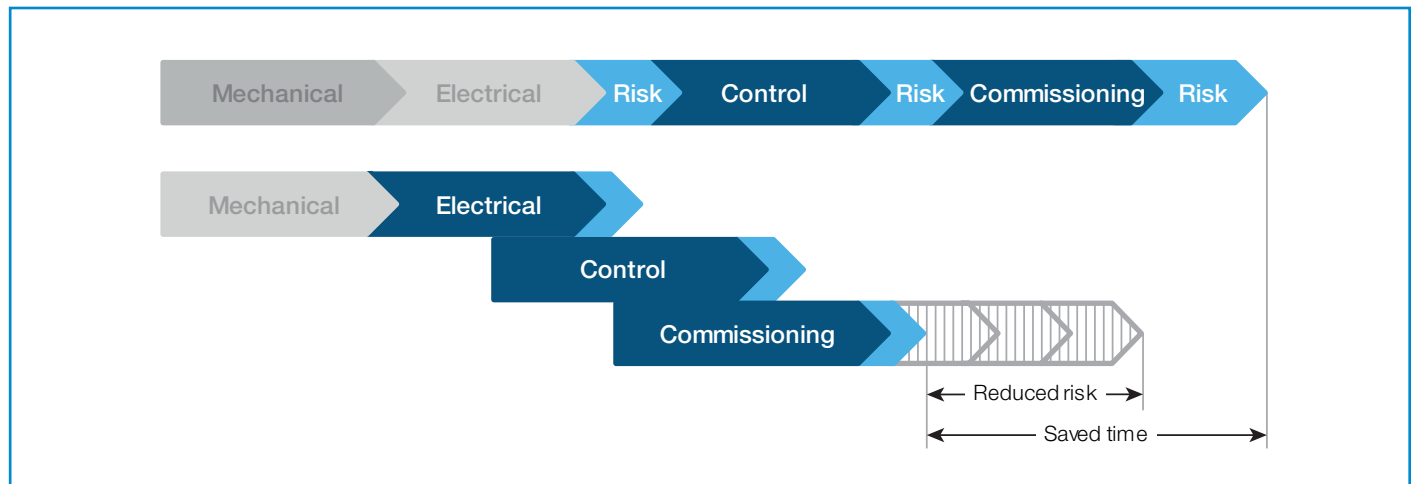
Automation Builder is the perfect software suite for the configuration and programming of various ABB controller families in one single project.

Safe and restore your applications with a consistent joint backup.

Download Automation Builder from www.abb.com/automationbuilder.

Familiarize with Automation Builder Premium using a 30 days test license.

After having tried and tested with your individual applications, you can use the free Automation Builder Basic or purchase the Automation Builder Standard or Premium.

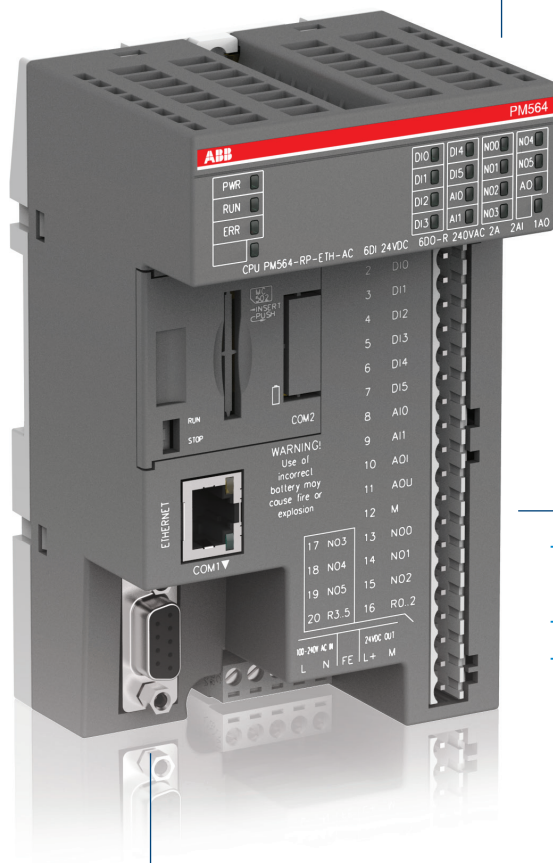


Streamline and simplify your engineering process: Reduce risk and save time.

AC500-eCo

Key features

- Up to 10 I/O modules connected to the CPU
- Digital I/O module with configurable I/O available



High performance variant with large memory available

- Three different types of terminal blocks available
- Integrated onboard I/O
- AC versions with integrated power supply

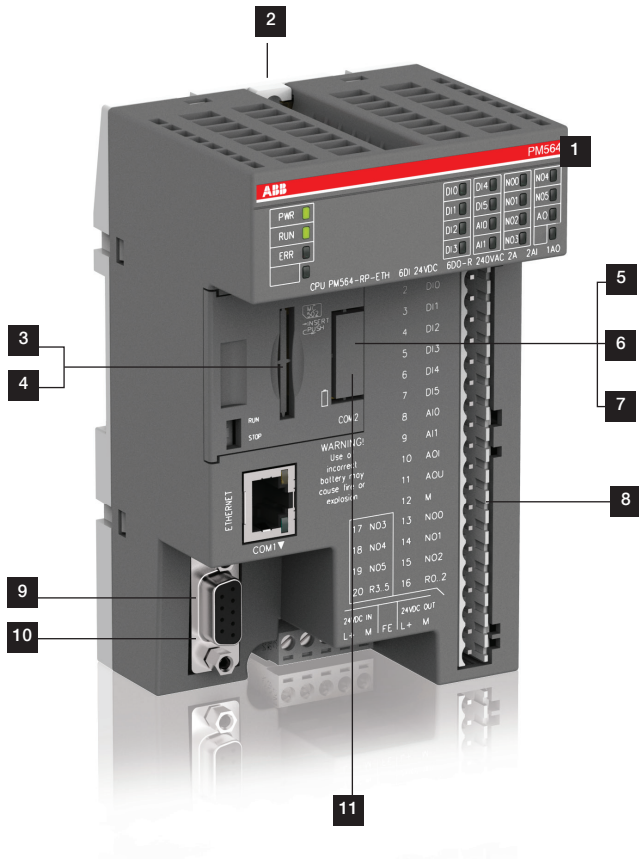
Comprehensive communication options:

- Ethernet for communication and web server for user defined visualization
- Up to two serial ports available for I/O and communication

AC500-eCo

Key features

AC500-eCo CPUs are expandable with up to 10 I/O modules. AC500-eCo CPUs with different performance levels are available.



1 AC500-eCo CPUs are locally expandable with up to 10 I/O modules



2 Wall mounting

3 SD-card adapter

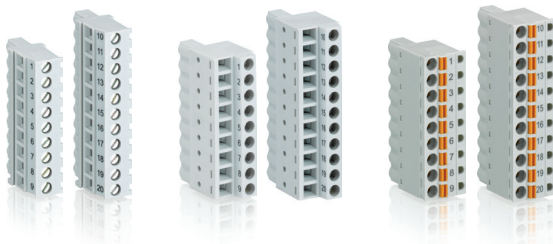
4 SD-card



5 Adapter with realtime clock

6 Adapter with COM2 & realtime clock

7 Adapter with COM2



8 Terminal blocks



9 RS485 isolator for COM1



10 COM1 USB

11 COM2 USB programming cable

AC500-eCo

Ordering data



PM554

AC500-eCo CPUs

- 1 RS485 serial interface (2nd is optional)
- Centrally expandable with up to 10 I/O modules
- Optional SD card adapter for data storage and program backup
- Variants with integrated Ethernet (Ethernet includes web server)
- Minimum cycle time per instruction: Bit 0.08 μ s, Word 0.1 μ s, Float-point 1.2 μ s.

Program memory	Onboard I/Os	Relay / Transistor outputs	Integrated communication	Power supply	Terminal block required		Type	Order code	Weight (1 pce)
					9 poles	11 poles			
kB	DI/DO/AI/AO								kg

PM554: digital I/Os

128	8 / 6 / - / -	Transistor	-	24 V DC	1	1	PM554-TP	1SAP120600R0001	0.300
128	8 / 6 / - / -	Relay	-	24 V DC	1	1	PM554-RP	1SAP120700R0001	0.400
128	8 / 6 / - / -	Relay	-	100-240 V AC	1	1	PM554-RP-AC	1SAP120800R0001	0.400
128	8 / 6 / - / -	Transistor	Ethernet	24 V DC	1	1	PM554-TP-ETH	1SAP120600R0071	0.400

PM556: digital I/Os, 512 kB program memory

512	8 / 6 / - / -	Transistor	Ethernet	24 V DC	1	1	PM556-TP-ETH	1SAP121200R0071	0.400
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PM564: digital and analog I/Os (1)

128	6 / 6 / 2 / 1	Transistor	-	24 V DC	1	1	PM564-TP	1SAP120900R0001	0.300
128	6 / 6 / 2 / 1	Relay	-	24 V DC	1	1	PM564-RP	1SAP121000R0001	0.400
128	6 / 6 / 2 / 1	Relay	-	100-240 V AC	1	1	PM564-RP-AC	1SAP121100R0001	0.400
128	6 / 6 / 2 / 1	Transistor	Ethernet	24 V DC	1	1	PM564-TP-ETH	1SAP120900R0071	0.300
128	6 / 6 / 2 / 1	Relay	Ethernet	24 V DC	1	1	PM564-RP-ETH	1SAP121000R0071	0.400
128	6 / 6 / 2 / 1	Relay	Ethernet	100-240 V AC	1	1	PM564-RP-ETH-AC	1SAP121100R0071	0.400

PM566: digital and analog I/Os, 512 kB program memory (1)

512	6 / 6 / 2 / 1	Transistor	Ethernet	24 V DC	1	1	PM566-TP-ETH	1SAP121500R0071	0.400
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⚠ Terminal blocks (9 and 11 poles) are necessary for each AC500-eCo. The terminal blocks must be ordered separately (see page 10).
 (1) All analog inputs on PM564 and PM566 can be configured as digital inputs.



PM556



PM564



PM566

AC500-eCo

Ordering data



DI561

S500-eCo I/O modules

– For central expansion of the AC500-eCo CPUs

Digital I/O

– DC: Channels can be configured individually as inputs or outputs.

Number of	Input signal	Output type	Output signal	Terminal block required		Type	Order code	Weight (1 pce) kg
				9 poles	11 poles			
8 / - / -	24 V DC	-	-	1	-	DI561	1TNE968902R2101	0.12
16 / - / -	24 V DC	-	-	1	1	DI562	1TNE968902R2102	0.12
8 / - / -	100-240 V AC	-	-	1	1	DI571	1TNE968902R2103	0.15
16 / - / -	100-240 V AC	-	-	1	1	DI572	1SAP230500R0000	0.19
- / 8 / -	-	Transistor	24 V DC, 0.5 A	-	1	DO561	1TNE968902R2201	0.12
- / 16 / -	-	Transistor	24 V DC, 0.5 A	1	1	DO562	1SAP230900R0000	0.16
- / 8 / -	-	Relay	24 V DC, 120 / 240 V AC, 2 A	-	1	DO571	1TNE968902R2202	0.15
- / 8 / -	-	Triac	100-240 V AC, 0.3 A	1	1	DO572	1TNE968902R2203	0.12
- / 16 / -	-	Relay	24 V DC, 120 / 240 V AC, 2 A	1	1	DO573	1SAP231300R0000	0.19
8 / 8 / -	24 V DC	Transistor	24 V DC, 0.5 A	1	1	DX561	1TNE968902R2301	0.12
8 / 8 / -	24 V DC	Relay	24 V DC, 120 / 240 V AC, 2 A	1	1	DX571	1TNE968902R2302	0.15
- / - / 16	24 V DC	Transistor	24 V DC, 0.5 A	1	1	DC562	1SAP231900R0000	0.15

⚠ Terminal blocks (9 or 11 poles) are necessary for each S500-eCo I/O. The terminal blocks must be ordered separately (see page 10).



AI562

Analog I/O

– Each channel can be configured individually

– Resolution:

- AI561, AO561, AX561: 12 bits/11 bits + sign
- AI562, AI563: 15 bits + sign.

Number of	Input signal	Output signal	Terminal block required		Type	Order code	Weight (1 pce) kg
			9 poles	11 poles			
4 / 0	±2.5 V, ±5 V, 0...5 V, 0...10 V, 0...20 mA, 4...20 mA	-	1	1	AI561	1TNE968902R1101	0.12
2 / 0	PT100, PT1000, Ni100, Ni1000, Resistance: 150 Ω, 300 Ω	-	-	1	AI562	1TNE968902R1102	0.12
4 / 0	S, T, R, E, N, K, J, Voltage range: ±80 mV	-	1	1	AI563	1TNE968902R1103	0.12
0 / 2	-	-10...+10 V, 0...20 mA, 4...20 mA	-	1	AO561	1TNE968902R1201	0.12
4 / 2	±2.5 V, ±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	AX561	1TNE968902R1301	0.13

⚠ Terminal blocks (9 or 11 poles) are necessary for each S500-eCo I/O. The terminal blocks must be ordered separately (see page 10).



AX561

AC500-eCo

Ordering data



FM562

Positioning module

- For central expansion of the AC500-eCo CPUs
- The FM562 module provides Pulse Train Outputs for 2 axes. Profile generator integrated.

Number of axis	Input signal	Output signal	Terminal block required		Type	Order code	Weight (1 pce) kg
			9 poles	11 poles			
2	4 digital inputs 24 V (2 per axis)	4 pulse outputs RS422 (2 per axis)	1	1	FM562	1SAP233100R0001	0.15

⚠ Terminal blocks (9 or 11 poles) are necessary for each S500-eCo I/O. The terminal blocks must be ordered separately (see page 10). Library PS552-MC-E is required for programming this module.

Libraries

For	Description	Type	Order code	Weight (1 pce) kg
all AC500 CPUs	Motion Control library, Extended (1)	PS552-MC-E	1SAP192100R0102	0.300

(1) Delivery includes single user license, software can be downloaded.



TK506

Accessories

Description	Type	Order code	Weight (1 pce) kg
SD Memory Card 2 GB needs the MC503 option	MC502	1SAP180100R0001	0.020
SD Memory Card adapter	MC503	1TNE968901R0100	0.010
Programming cable USB => RS485 Sub-D, 3 m	TK503	1TNE968901R1100	0.400
Programming cable USB => RS485 Terminal block, 3 m	TK504	1TNE968901R2100	0.400
RS485 isolator, Sub-D 9 poles / Terminal 5 poles for COM1	TK506	1SAP186100R0001	0.080
Real time clock option board	TA561-RTC (1)	1SAP181400R0001	0.007
RS485 serial adapter COM2, pluggable screw terminal block included	TA562-RS	1TNE968901R4300	0.007
Combined Real Time Clock option with RS485 serial adapter COM2, pluggable screw terminal block, included	TA562-RS-RTC (1)	1SAP181500R0001	0.012
Wall Mounting Accessory for AC500-eCo CPU and S500-eCo I/O modules (100 pieces per case)	TA566	1TNE968901R3107	0.450
Set of accessories: 6 x plastic cover for option slot, 6 x 5 pole terminal block, 6 x 5 pole screw terminal block for COM2 serial interface.	TA570	1TNE968901R3203	0.090
Digital input simulator for onboard I/O of CPU, 6 x switch, 24 V DC	TA571-SIM	1TNE968903R0203	0.040

⚠ (1) Standard battery CR 2032 has to be purchased separately.



TA561-RTC



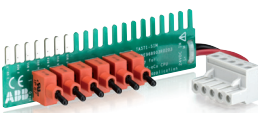
TA562-RS



TA562-RS-RTC



TA570



TA571-SIM

Terminal blocks for S500-eCo I/O modules and AC500-eCo CPUs

Number of poles	Connection type	Cable entry	Type	Order code	Weight (1 pce) kg
9	Screw	Side	TA563-9	1TNE968901R3101	0.017
11	Screw	Side	TA563-11	1TNE968901R3102	0.020
9	Screw	Front	TA564-9	1TNE968901R3103	0.026
11	Screw	Front	TA564-11	1TNE968901R3104	0.035
9	Spring	Front	TA565-9	1TNE968901R3105	0.016
11	Spring	Front	TA565-11	1TNE968901R3106	0.020

⚠ Only ABB terminal blocks must be used with AC500-eCo.



TA563-9



TA564-11



TA565-9

AC500-eCo

Technical data

AC500-eCo CPUs

Type	PM554-TP	PM554-RP	PM554-RP-AC		PM554-TP-ETH	PM556-TP-ETH
Supply voltage	24 V DC		100-240 V AC		24 V DC	
Current consumption on	24 V DC		100 V AC	240 V AC	24 V DC	
Min. typ. (module alone)	0.06 A	0.08 A	0.02 A	0.012 A	0.07 A	0.07 A
Max. typ. (I/Os)	0.18 A	0.22 A	0.2 A	0.11 A	0.19 A	0.19 A
Program memory	128 kB					512 kB
Integrated data memory	14 kB thereof 2 kB saved					130 kB thereof 2 kB saved
Web server's data for user RAM disk	-				512 kB	1024 kB
Data buffering (of saved data)	flash memory					
Real-time clock (option with battery back-up) (1)	●					
Program execution						
Cyclical	●					
Time controlled	●					
Multi tasking	no, 1 task + 1 interrupt task max.					
Interruption	●					
User program protection by password	●					
Cycle time for 1 instruction (minimum)						
Binary	0.08 µs					
Word	0.1 µs					
Floating	1.2 µs					
Onboard digital inputs						
Channels	8 (including 2 counter inputs)					
Signal voltage	24 V DC					
Onboard digital outputs						
Channels	6 (including 2 PWM outputs)					
Relay / Transistor	Transistor	Relay	Relay	Relay	Transistor	Transistor
Rated voltage	24 V DC	240 V AC	240 V AC	240 V AC	24 V DC	24 V DC
Nominal current per channel	0.5 A	2 A resistive	2 A resistive	2 A resistive	0.5 A	0.5 A
Onboard analog outputs						
Channels	-					
signal ranges	-					
Onboard analog inputs						
Channels	-					
signal ranges	-					
Max. number of centralized inputs/outputs						
Max. number of extension modules on I/O bus	up to max. 10					
Digital	inputs	320 + 8				
	outputs	320 + 6				
Analog	inputs	160				
	outputs	160				
Internal interfaces						
COM1						
RS485	●					
Sub-D connection	●					
Programming, Modbus, ASCII	●					
COM2 (option) (2)						
RS485	●					
Terminal block	●					
Programming, Modbus, ASCII	●					
Ethernet						
RJ45	-				●	
Ethernet functions: Programming, Modbus, TCP/IP, UDP/IP, integrated Web server, DHCP, FTP server, SNMP client	-				●	
SMTP	-					●
RUN/STOP switch	●					
LED display for power, status and error	●					
Approvals	cULus, Class 1 Div 2, CE, EAC, RCM, KCC(3), ABS, BV, DNV, GL, LR, RINA, RMRS, ROHS					

(1) Real-time clock requires optional TA561-RTC or TA562-RS-RTC and CR2032 battery (sold separately)

(2) COM2 requires TA562-RS-RTC or TA562-RS.

(3) Submitted

AC500-eCo

Technical data

AC500-eCo CPUs

Type	PM564-TP	PM564-RP	PM564-RP-AC	PM564-TP-ETH	PM566-TP-ETH	PM564-RP-ETH	PM564-RP-ETH-AC			
Supply voltage	24 V DC		100-240 V AC	24 V DC		100-240 V AC				
Current consumption on	24 V DC		100 V AC	240 V AC	24 V DC		100 V AC	240 V AC		
Min. typ. (module alone)	0.095 A	0.11 A	0.02 A	0.011 A	0.10 A	0.10 A	0.12 A	0.023 A	0.014 A	
Max. typ. (I/Os)	0.21 A	0.24 A	0.21 A	0.125 A	0.22 A	0.22 A	0.25 A	0.22 A	0.13 A	
Program memory	128 kB				512 kB	128 kB				
Integrated data memory	14 kB thereof 2 kB saved				130 kB thereof 2 kB saved	14 kB thereof 2 kB saved				
Web server's data for user RAM disk					512 kB	1024 kB	512 kB			
Data buffering (of saved data)	flash memory									
Real-time clock (option with battery back-up) (1)	●									
Program execution										
Cyclical	●									
Time controlled	●									
Multi tasking	no, 1 task + 1 interrupt task max.									
Interruption	●									
User program protection by password	●									
Cycle time for 1 instruction (minimum)										
Binary	0.08 µs									
Word	0.1 µs									
Floating	1.2 µs									
Onboard digital inputs										
Channels	6 (including 2 counter inputs)									
Signal voltage	24 V DC									
Onboard digital outputs										
Channels	6 (including 2 PWM outputs)									
Relay / Transistor	Transistor	Relay	Relay	Transistor	Transistor	Relay	Relay			
Rated voltage	24 V DC	240 V AC	240 V AC	24 V DC	24 V DC	240 V AC	240 V AC			
Nominal current per channel	0.5 A	2 A resistive	2 A resistive	0.5 A	0.5 A	2 A resistive	2 A resistive			
Onboard analog inputs										
Channels	2									
signal ranges	0...10 V / can be configured as digital input 24 V DC									
Onboard analog outputs										
Channels	1									
signal ranges	0...10 V / 0...20 mA / 4...20 mA									
Max. number of centralized inputs/outputs										
Max. number of extension modules on I/O bus	up to max. 10									
Digital	inputs	320 + 8								
	outputs	320 + 6								
Analog	inputs	160 + 2								
	outputs	160 + 1								
Internal interfaces										
COM1										
RS485	●									
Sub-D connection	●									
Programming, Modbus, ASCII	●									
COM2 (option) (2)										
RS485	●									
Terminal block	●									
Programming, Modbus, ASCII	●									
Ethernet										
RJ45	-			●						
Ethernet functions: Programming, Modbus TCP/IP, UDP/IP, integrated Web server, DHCP, FTP server, SNMP client	-			●						
SMTP						●				
RUN/STOP switch	●									
LED display for power, status and error	●									
Approvals	cULus, Class 1 Div 2, CE, EAC, RCM, KCC(3), ABS, BV, DNV, GL, LR, RINA, RMRS, ROHS									

(1) Real-time clock requires optional TA561-RTC or TA562-RS-RTC and CR2032 battery (sold separately)

(2) COM2 requires TA562-RS-RTC or TA562-RS.

(3) Submitted

AC500-eCo

Technical data

Digital S500-eCo I/O modules

Type	DI561	DI562	DI571	DI572	DO561	DO562
Supply voltage	-	-	-	-	24 V DC	24 V DC
Current consumption on UP Max. typ. (without load current)	-	-	-	-	0.005 A	0.005 A
Number of channels per module						
Digital						
inputs	8	16	8 (AC)	16 (AC)	-	-
outputs	-	-	-	-	8	16
Configurable as Input or Output DC	-	-	-	-	-	-
Relay / Transistor	-	-	-	-	Transistor	Transistor
Additional configuration of channels as:						
Fast Counter	no				not applicable	
Digital inputs						
Input signal voltage	24 V DC		100-240 V AC		-	-
Input time delay	typically 4...8 ms		typically 15 ms / 30 ms		-	-
Input current per channel						
At Input voltage	24 V DC	typically 5 mA	-	-	-	-
	5 V DC	typically 1 mA	-	-	-	-
	15 V DC	> 2.5 mA	-	-	-	-
	30 V DC	< 8 mA	-	-	-	-
	40 V AC	-	< 3 mA	-	-	-
	164 V AC	-	> 6 mA	-	-	-
Output current						
Nominal current per channel	-	-	-	-	0.5 A at UP = 24 V	
Maximum (total current of all channels)	-	-	-	-	4 A	8 A
Residual current at signal state 0	-	-	-	-	< 0.5 mA	
Demagnetization when switching off inductive loads	-	-	-	-	must be provided externally	
Switching frequency						
For resistive load	-	-	-	-	limited by CPU cycle time	
For inductive load	-	-	-	-	max. 0.5 Hz	
For lamp load	-	-	-	-	max. 11 Hz at max. 5 W	
Short circuit / overload proofness	-	-	-	-	no	
Overload indication (I > 0.7 A)	-	-	-	-	no	
Output current limiting	-	-	-	-	no	
Proofness against reverse feeding of 24 V signals	-	-	-	-	no	
Contact rating						
For resistive load, max.	-	-	-	-	-	-
For inductive load, max.	-	-	-	-	-	-
For lamp load	-	-	-	-	-	-
Lifetime (switching cycles)						
Mechanical lifetime	-	-	-	-	-	-
Lifetime under load	-	-	-	-	-	-
Maximum cable length for connected process signals						
Cable	shielded	500 m	-	-	-	-
	unshielded	300 m	-	-	150 m	-
Potential isolation						
Per module	●	●	●	●	●	●
Between the channels	input	-	per group of 8	●	per group of 8	-
	output	-	-	-	-	-
Voltage supply for the module's logic	internal via I/O bus					

AC500-eCo

Technical data

Digital S500-eCo I/O modules

Type	DO571	DO572	DO573
Supply voltage	24 V DC		
Current consumption on UP Max. typ. (without load current)	0.050 A	-	0.050 A
Number of channels per module			
Digital inputs	-	-	-
outputs	8	8	16
Configurable as Input or Output DC	-	-	-
Relay / Transistor	Relay	triac (AC)	Relay
Process voltage			
DC	24 V	-	-
Digital inputs			
Input signal voltage	-	-	-
Input time delay	-	-	-
Input current per channel			
At Input voltage	24 V DC	-	-
	5 V DC	-	-
	15 V DC	-	-
	30 V DC	-	-
Output current			
Nominal current per channel	2 A (24 V DC / 120 V AC / 240 V AC, resistive load)	0.3 A at 100...240 V AC	2 A (24 V DC / 120 V AC / 240 V AC, resistive load)
Maximum (total current of all channels)	2 x 8 A	2.4 A / 8 x 0.3 A	max 10 A per group (20 A per module)
Residual current at signal state 0	-	1.1 mA rms at 132 V AC and 1.8 mA rms at 264 V AC	-
Demagnetization when switching off inductive loads	must be performed externally		
Switching frequency			
For resistive load	1 Hz max.	10 Hz max.	1 Hz max.
For inductive load	-	-	-
For lamp load	1 Hz max.	10 Hz max.	1 Hz max.
Short circuit / overload proofness	no		
Overload indication (I > 0.7 A)	no		
Output current limiting	no		
Proofness against reverse feeding of 24 V signals	yes	-	yes
Contact rating			
For resistive load, max.	2 A	0.3 A	2 A
For inductive load, max.	-	-	-
For lamp load	200 W at 230 V AC 30 W at 24 V DC	-	200 W at 230 V AC 30 W at 24 V DC
Lifetime (switching cycles)			
Mechanical lifetime	100 000	-	100 000
Lifetime under load	100 000 at rated load	-	100 000 at rated load
Maximum cable length for connected process signals			
Cable	shielded	500 m	
	unshielded	150 m	
Potential isolation			
Per module	between outputs and logic	●	between outputs and logic
Between the channels	input	-	-
	output	●	per group of 8
Voltage supply for the module's logic	internal via I/O bus		

AC500-eCo

Technical data

Digital S500-eCo I/O modules

Type	DX561	DX571	DC562
Supply voltage	24 V DC		
Current consumption on UP Max. typ. (without load current)	0.005 A	0.050 A	0.010 A
Number of channels per module			
Digital inputs	8	8	–
outputs	8	8	–
Configurable as Input or Output DC	–	–	16
Relays / Transistor	Transistor	Relay	Transistor
Process voltage			
DC	24 V	24 V	24 V
Digital inputs			
Input signal voltage	24 V DC	24 V DC	24 V DC
Input time delay	typically 4...8 ms		typically 8 ms
Input current per channel			
At Input voltage	24 V DC	typically 5 mA	typically 5 mA
	5 V DC	< 1 mA	< 1 mA
	15 V DC	> 2.5 mA	> 2.5 mA
	30 V DC	< 6.5 mA	< 6.5 mA
			typically 1 mA
			> 2.5 mA
			< 8 mA
Output current			
Nominal current per channel	0.5 A at UP = 24 V DC	2 A (24 V DC / 120 V AC / 240 V AC, resistive load)	0.5 A at UP = 24 V DC
Maximum (total current of all channels)	4 A	2 x 8 A	8 A
Residual current at signal state 0	< 0.5 mA	–	< 0.5 mA
Demagnetization when switching off inductive loads	must be performed externally		
Switching frequency			
For resistive load	Limited by CPU cycle time	1 Hz max.	
For inductive load	0.5 Hz max.	–	0.5 Hz max.
For lamp load	11 Hz max. at max. 5 W	1 Hz max.	11 Hz max. at max. 5 W
Short circuit / overload proofness	no		
Overload indication (I > 0.7 A)	no		
Output current limiting	no		
Proofness against reverse feeding of 24 V signals	no	yes	no
Contact rating			
For resistive load, max.	–	2 A	–
For inductive load, max.	–	–	–
For lamp load	–	200 W at 230 V AC 30 W at 24 V DC	–
Lifetime (switching cycles)			
Mechanical lifetime	–	100 000	–
Lifetime under load	–	100 000 at rated load	–
Maximum cable length for connected process signals			
Cable	shielded	500 m	
	unshielded	150 m	
Potential isolation			
Per module		●	●
Between the channels	input	–	–
	output	–	per group of 4
Voltage supply for the module's logic	internal via I/O bus		

AC500-eCo

Technical data

Analog S500-eCo I/O modules

Type		AI561	AO561	AX561	AI562	AI563
Supply voltage		24 V DC				
Current consumption on UP						
Max. typ. (without load current)		0.100 A	0.100 A	0.140 A	0.040 A	0.100 A
Number of channels per module						
Analog	inputs	4	–	4	2	4
	outputs	–	2	2	–	–
Inputs, individually configurable						
-2.5...+2.5 V	11 bits + sign	●	–	●	–	–
-5...+5 V	11 bits + sign	●	–	●	–	–
-10...+10 V	11 bits + sign	–	–	–	–	–
0...5 V	12 bits	●	–	●	–	–
0...10 V	12 bits	●	–	●	–	–
0...20 mA, 4...20 mA	12 bits	●	–	●	–	–
RTD		–	–	–	2	–
Pt100						
	-50...+400 °C (2/3-wire)	–	–	–	●	–
Pt1000						
	-50...+400 °C (2/3-wire)	–	–	–	●	–
Ni100 / Ni1000						
	-50...+150 °C (2/3-wire)	–	–	–	●	–
Resistor	0...150 Ω/0...300 Ω	–	–	–	●	–
Thermocouple	Types J, K, T, N, S, E, R	–	–	–	–	●
Voltage	-80...+80 mV	–	–	–	–	●
Outputs, individually configurable						
-10...+10 V		–	●	●	–	–
0...20 mA		–	●	●	–	–
4...20 mA		–	●	●	–	–
Potential isolation						
Per module		–	–	–	●	●

AC500-eCo

Technical data

FM562 positioning module

The FM562 module contains Pulse Train Outputs for 2 axes. Profile generator for simple motion control tasks are integrated. The RS422 outputs allow a direct connection to Stepper- or Servo drives. Function blocks in PLCopen® motion control style allow the integration of the module in an application. These function blocks are contained in the library PS552-MC-E.

Type	FM562	
Functionality		
Number of axis	2	
Digital inputs	2 digital inputs per axis Function: for axis enable or limit switch	
Pulse outputs	Modes cw/ccw or pulse/direction Built in profile generators	
Data of the digital inputs		
Signal voltage	24 V DC	
Input current at 24 V DC	typically 5 mA	
Potential isolation	by groups of 2	
Data of pulse outputs		
Signal	RS422 (differential)	
Frequency range	0...250 kHz	
Potential isolation	RS422 outputs of both axis in one group isolated against the inputs, the process voltage and the PLC CPU logic	
Maximum cable length for digital inputs		
Cable	shielded	500 m
	unshielded	300 m
Maximum cable length for pulse outputs		
Cable	shielded	300 m
	unshielded	30 m
Process voltage UP		
Nominal voltage	24 V DC	
Current consumption on UP	typically 0.04 A	
Reverse polarity protection	●	
Potential isolation		
Per module	●	
Voltage supply for the internal logic	From UP / ZP with isolation	

AC500-eCo

System data

Environmental conditions

Process and supply voltages

24 V DC	Process and supply voltage	24 V DC (-15 %, +20 % without ripple)
	Absolute limits	19.2...30 V inclusive ripple
	Ripple	< 5 %
	Protection against reverse polarity	10 s
120 V AC	Line voltage	120 V AC (-15 %, +10 %)
	Frequency	47...62.4 Hz / 50...60 Hz (-6 %, +4 %)
230 V AC	Line voltage	230 V AC (-15 %, +10 %)
	Frequency	47...62.4 Hz / 50...60 Hz (-6 %, +4 %)
120-240 V AC	Wide-range supply	
	Line voltage	102...264 V / 120...240 V (-15 %, +10 %)
	Frequency	47...62.4 Hz / 50...60 Hz (-6 %, +4 %)

Allowed interruptions of power supply

DC supply	Interruption	< 10 ms, time between 2 interruptions > 1 s, PS2
AC supply	Interruption	< 0.5 periods, time between 2 interruptions > 1 s

Important: Exceeding the maximum power supply voltage (>30 V DC) for process or supply voltages could lead to unrecoverable damage of the system. The system could be destroyed. The creepage distances and clearances meet the requirements of the overvoltage category II, pollution degree 2. For the supply of the modules, power supply units according to PELV specifications must be used.

Climatic conditions

Temperature	Operation	0...60 °C (horizontal mounting of modules) 0...40 °C (vertical mounting of modules and output load reduced to 50 % per group)
	Storage	-40...+70 °C
	Transport	-40...+70 °C
Humidity	Without condensation	Max. 95 %
Air pressure	Operation	> 800 hPa / < 2000 m
	Storage	> 660 hPa / < 3500 m

Electromagnetic Compatibility

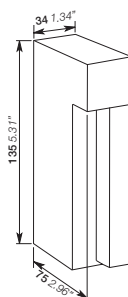
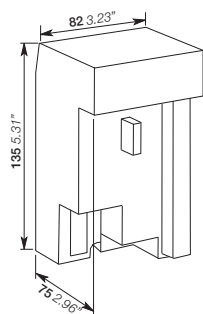
Radiated emission (radio disturbances)	Acc. to IEC61000-6-4
Conducted emission (radio disturbances)	Acc. to IEC61000-6-4
Electrostatic discharge (ESD)	Acc. to EN 61000-4-2, zone B, criterion B
Fast transient interference voltages (burst)	Acc. to EN 61000-4-4, zone B, criterion B
High energy transient interference voltages (surge)	Acc. to EN 61000-4-5, zone B, criterion B
Influence of radiated disturbances	Acc. to IEC 61000-4-3, zone B, criterion A
Influence of line-conducted interferences	Acc. to IEC 61000-4-6, zone B, criterion A

In order to prevent operating malfunctions, it is recommended, that the operating personnel discharge themselves prior to touching communication connectors or perform other suitable measures to reduce effects of electrostatic discharges. The connector of the I/O-Bus must not be touched during operation.

Mechanical data

Wiring method	Available types of terminal	Spring terminals, screw terminals
Degree of protection		IP 20 (if all terminal screws are tightened)
Vibration resistance		Acc. to IEC 61131-2
Shock resistance		Acc. to IEC 60068-2-27
Assembly position	Horizontal	no derating
	Vertical	max. ambient temp. 40°C and output load reduced to 50% per group
Assembly on DIN rail		Acc. to IEC 60715
	DIN rail type	35 mm, depth 7.5 mm or 15 mm
Assembly with screws	Screw diameter	4 mm
	Fastening torque	1.2 Nm

Main dimensions mm, inches



AC500-eCo

System data

Environmental tests

Climatic and mechanical tests

Storage	Cold withstand test	IEC 60068-2-1 Test Ab: cold withstand test -40 °C / 16 h
	Dry heat withstand test	IEC 60068-2-2 Test Bb: dry heat withstand test +70 °C / 16 h
Humidity	Damp heat test	IEC 60068-2-30 Test Db: Cyclic (12 h / 12 h) Damp-Heat Test 55 °C, 93 % r. H. / 25 °C, 95 % r. H., 2 cycles
	Insulation Test	Acc. to IEC 61131-2
Vibration resistance	DIN rail mounting	all three axes 5...11.9 Hz, continuous 3.5 mm 11.9...150 Hz, continuous 1 g
	With SD Memory Card inserted	15...150 Hz, continuous 1 g
Shock resistance	DIN rail mounting	IEC 60068-2-27: all 3 axes 15 g, 11 ms, half-sinusoidal

EMC immunity tests

Electrostatic discharge (ESD)	Electrostatic voltage in case of air discharge	8 kV
	Electrostatic voltage in case of contact discharge	6 kV
Fast transient interference voltages (burst)	Supply voltage units (AC, DC)	2 kV
	Digital inputs/outputs (24 V DC)	2 kV
	Digital inputs/outputs (120/230 V AC)	2 kV
	Analog inputs/outputs	1 kV
	CS31 system bus	2 kV
	Serial RS-485 interfaces (COM)	2 kV
	Ethernet	1 kV
	I/O supply, DC-out	1 kV
High energy transient interference voltages (surge)	Power supply AC	2 kV CM (1) / 1 kV DM (2)
	Power supply DC	1 kV CM (1) / 0.5 kV DM (2)
	DC I/O supply, add. DC-supply-out	0.5 kV CM (1) / 0.5 kV DM (2)
	Buses, shielded	1 kV CM (1)
	AC-I/O unshielded	2 kV CM (1) / 1 kV DM (2)
Influence of radiated disturbances	I/O analog, I/O DC unshielded	1 kV CM (1) / 0.5 kV DM (2)
	Test field strength	10 V/m
Influence of line-conducted interferences	Test voltage	3V zone B, 10 V is also met.

(1) CM = Common Mode.
(2) DM = Differential Mode.

CP600-eCo

Key features

- Plastic Housing
- Front protection IP66
- Engineering software Panel Builder 600 Basic integrated in Automation Builder Basic

- Improved flexibility and integration
- Configuration with Panel Builder 600 Basic for clear tailor made visualization.



- Brilliant colored display
- Free reusable 3D graphic elements (Widgets)
- Import tags from PLC, drives, motion controller and robots configuration within Automation Builder Basic

- Slim design for easy installation even in compact spaces

CP600-eCo

Ordering data



CP607

CP600-eCo control panels

Display size	Resolution pixels		Type	Order code	Weight (1 pce) kg
4.3"	480 x 272	for PB610-B Panel Builder 600 BASIC applications	CP604	1SAP504100R0001	0.400
7.0"	800 x 480	for PB610-B Panel Builder 600 BASIC applications	CP607	1SAP507100R0001	0.600
10.1"	1024 x 600	for PB610-B Panel Builder 600 BASIC applications	CP610	1SAP510100R0001	1.000

Communication cables (connection control panel <-> PLC)

Description	Type	Order code	Weight (1 pce) kg
Communication cable RS485: CP600(-eCo) - AC500-eCo	TK682	1SAP500982R0001	0.130

Technical data

Type	CP604	CP607	CP610
Application	control panels for PB610-B Panel Builder 600 Basic applications		
Display			
Exact display size diameter	4.3" widescreen	7" widescreen	10.1" widescreen
Resolution	480 x 272 pixels	800 x 480 pixels	1024 x 600 pixels
Display type, colors	TFT-LCD, 65536 colors		
Touch screen material	glass covered by plastic film		
Touch screen type	analog resistive, 4 wires		
Backlight type, life	LED, 20 000 h typ at 25 °C		
Brightness	150 cd/m ²	200 cd/m ²	
Housing			
Protection class front, rear	IP66, IP20		
Front side material	Plastic		
Reverse side material	Plastic		
System resources			
Processor type	ARM 3352		
Operating system, version	Linux V3		
Application memory	for HMI projects of 30 MB in total plus 30 MB for fonts		
Interfaces			
Ethernet ports, number, type	1 - 10/100 Mbit		
USB Host ports number, type	1 - ver. 2.0		
Serial ports number, type	1 - RS-232/-485/-422 software configurable		
Additional ports number, type	none		
Card slot number, type	none		
Power supply voltage nominal, tolerance	24 V DC, 18...32 V DC		
Current consumption at nominal voltage	0.1 A	0.15 A	0.25 A
Battery type	Supercapacitor, 72 h at 25 °C		
Weight	0.4 kg	0.6 kg	1.0 kg
Faceplate dimensions (L x H)	147 mm x 107 mm	187 mm x 147 mm	282 mm x 197 mm
Faceplate depth	5 mm		6 mm
Housing depth	29 mm		
Cutout dimensions (L x H)	135 mm x 96 mm	176 mm x 136 mm	271 mm x 186 mm
Environmental conditions			
Operating temperature range	0...50 °C		
Operating humidity range	5...85 % relative humidity, non-condensing		
Storage temperature range	-20...+70 °C		
Storage humidity range	5...85 % relative humidity, non-condensing		
Approvals	cULus, CE, EAC(1), RCM, KCC(1), ROHS		

(1) Planned

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Industries and applications

 Cranes	 Food and beverage	 HVAC	 Marine	 Mining	 Plastics and rubber
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Services

Documents and downloads	Application examples	Frequently asked questions	Training locations	Training courses	Business Online (spare parts)
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