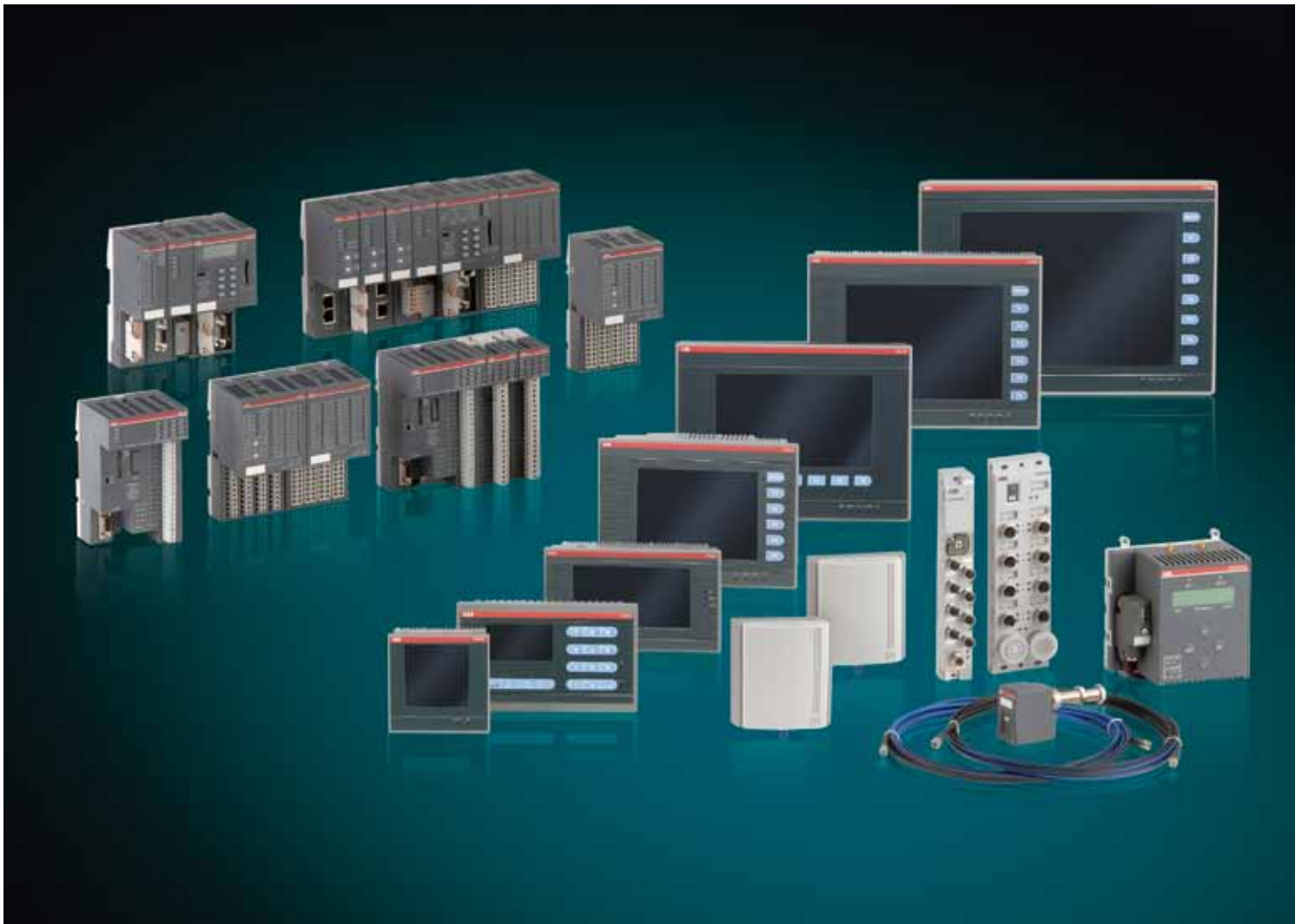




Main catalogue

Automation products

AC500, CP400, DigiVis 500, WISA

Power and productivity
for a better world™



Automation products

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Operator panels and PLC families

Fields of application

ABB offers a comprehensive range of scalable PLC's and robust HMI control panels as well as high availability solutions. Since its launch in 2006, the AC500 PLC platform has achieved significant industry recognition for delivering high performance, quality and reliability. Our unique WISA family of IP67 rated wireless Input/Output devices has also now been included into the PLC product catalogue.

ABB delivers scalable, flexible and efficient ranges of automation components to fulfill all conceivable automation applications including:



Operator panels

Touch screen or keypad graphical displays utilizing low cost, user friendly configuration software offering extensive libraries and drivers for most PLC platforms, and other automation devices. **New: IP switch function managing High Availability.**



DigiVis 500

DigiVis 500 software is a simple and easily accessible solution in the development of supervision applications. It offers all the functions that are essential to a secure environment, its functional reliability and dual-display mode will simplify all your supervision operations, keeping interruptions to a minimum.



AC500-eCo

To meet the cost effective demands of the small PLC market whilst offering total inter-operability with the core AC500 range. **New: a CPU integrating onboard Ethernet.**



AC500

ABB's powerful flagship PLC offering a wide range of performance levels and scalability within a single, simple concept and where most competitors require multiple product ranges to deliver similar functionality. **New: webserver integrated and IEC 60 870-5-104 remote control protocol.**



S500 I/O modules

Digital and analogue modules can be configured to best meet customer requirements as well as offering local and/or remote expansion options using most industry standard communications protocols.



Member of Automation Alliance

Programming package PS501 control builder

Control Builder conforms to the IEC61131-3 CoDeSys standard offering all 5 programming languages, extensive function block libraries, a powerful embedded simulation/visualization feature. It also supports a number of languages (e.g. French, German, Russian, Spanish etc).



WISA: Wireless interface for sensors and actuators

Factory Automation for high productivity because of reliable sensor and actuator network. The problems with broken cables and wires can be solved using this solution. WISA is an ideal partner for robots having sensors or actuators on end-effectors.

Operator panels and PLC families

Fields of application

ABB's automation devices deliver the performance and flexibility to enable them to be effectively deployed within diverse industries and applications including: marine, power generation and reticulation, materials handling, manufacturing and many more.

Areas of core focus for ABB include:

Industries

- Water and Waste Water
- Energy generation
- Food and Beverage
- Building Automation
- OEM.

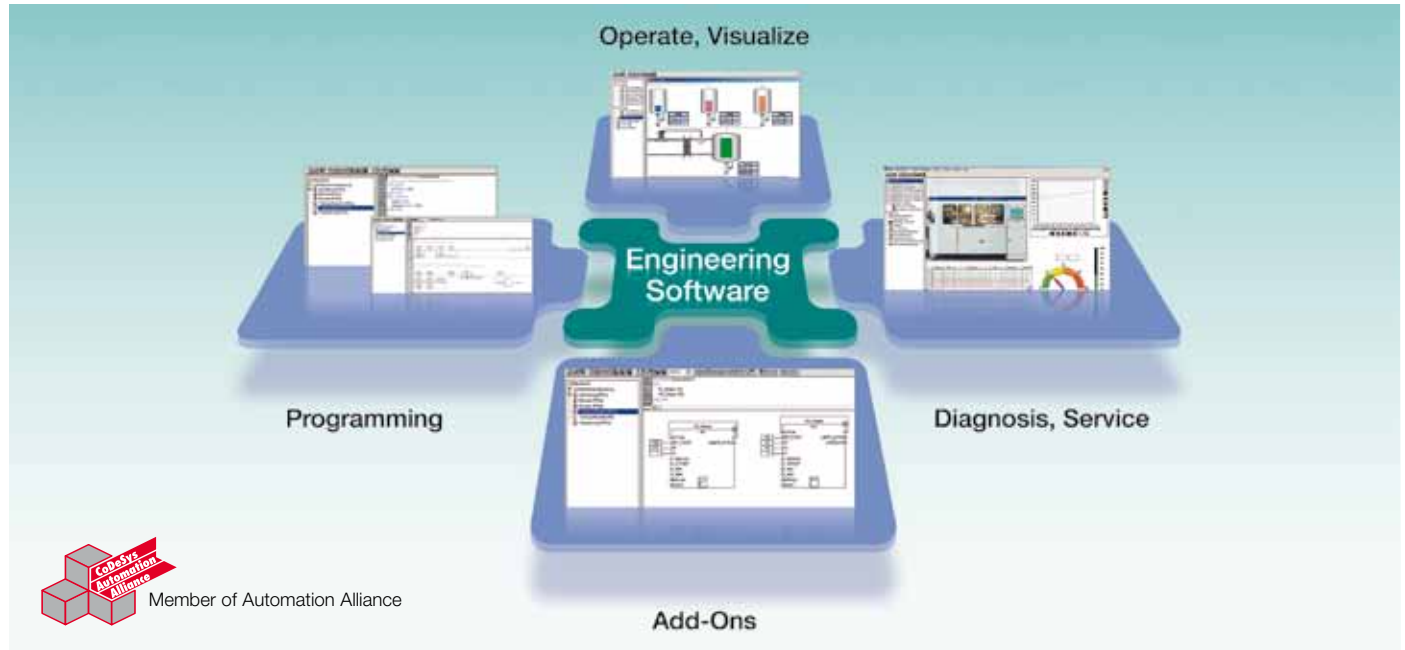
Applications

- Pumping and doping within both water and waste water treatment
- Thermo-solar, photovoltaic, windmill, water turbines, biomass
- Preparation of food, ice cream and baking processing machinery plus packaging
- HVAC, lighting, elevators, tunnel control, access management
- Most applications including robotics, press automation, transfer systems, assembly quality control, tracking.
- WISA: tools for robots, robot cell automation. In automotive, white goods, cable production.



Programming

Programming package PS501 control builder AC500



This package conforms to the IEC 61131-3 standard, offering all five programming languages. Other features include: Configuration of the overall system including Fieldbuses and interfaces, extensive diagnostic functions, alarm handling, integrated visualization and open software interfaces. With PS501 V2 you have now an intuitive tool for configuration and programming of your whole AC500 system – inclusive network and fieldbus configuration

Conformity with IEC 61131-3 Standards

For optimal planning, programming, testing and commissioning of an automation application, the following features are also included:

- 5 standardized programming languages: Function Block Diagram (FBD), Instruction List (IL), Ladder Diagram (LD), Structured Text (ST), Sequential Function Chart (SFC)
- Free graphical function chart (CFC)
- Debugging functions for the program test
 - Single step
 - Single cycle
 - Breakpoint.

Offline simulation

IEC 61131-3 commands can be simulated without a PLC being connected, including relevant fault conditions. After validation of the PLC program it can then be downloaded to the AC500 thus potentially saving significant commissioning time.

Sampling trace

Timing diagrams for process variables and storage of data in a ring buffer with event trigger.

Recipe management and watch lists

Values of selected variables are displayed. Pre-defined values can be assigned to variables which can then be simultaneously downloaded to the control system ("Write Recipe"). Ongoing values from the control system can also be pre-assigned for reading into the Watch and Recipe Manager, and stored in memory ("Read Recipe"). These functions are also helpful for setting and entering control parameters.

Visualization feature

Includes color change, moving elements, bitmaps, text display, allows input of setpoint values and display of process variables read from the PLC, dynamic bar diagrams, alarm and event management, function keys and ActiveX elements.

Configurators of the communication interfaces: for PROFIBUS DP, PROFINET, CANopen, DeviceNet, Ethernet, EtherCAT, Modbus and CS31.

Open interfaces

DDE and OPC alarm and events.

Programming

Serial or via Ethernet or ARCNET networks.

Webserver

The PS542-WEB-PC Webserver software package allows the AC500 PLC to be accessed through your Intranet or of course the Internet.

Automation products

Scalable PLC AC500

with optional wireless I/O



Scalable PLC AC500 with optional wireless I/O

The AC500 concept

The AC500 PLC range offers latest generation levels of performance and scalability. It also supports most industry standard communications variants making it an ideal solution for multi-protocol or multi-domain Fieldbus environments. It is also a very flexible range which offers different levels of CPU performance in a simple product portfolio where our

competitors, in most cases, need to supply several disparate platforms to support the same range of applications. This also means that upgrades to meet increasing system performance demands are extremely simple and low cost. The PS501 Control Builder programming software also provides a standard programming package for the whole platform.

CPUs



- 1 Back-lighted LCD display and keypad | 2 SD card slot |
- 3 Plug-in communication modules (1 to max. 4) | 4 Optionally with integrated Ethernet or ARCNET | 5 Fieldbus-neutral interface for use as slave or for programming | 6 Two serial interfaces for programming, ASCII, Modbus or CS31 Fieldbus (master) |
- 7 Expandable by up to ten local I/O modules



Interface modules



Communication modules

For connection to standard Fieldbus systems and integration into existing networks. Up to four communication modules in any desired combination are allowed at one CPU.

Configuration of the communication interfaces for:

- Profibus DP
- DeviceNet
- CANopen
- MODBUS
- CS31
- RCOM
- Ethernet TCP/IP
- PROFINET
- EtherCAT
- WISA Wireless

Scalable PLC AC500 with optional wireless I/O

The AC500 concept

CPU's modules

The CPUs are available in different performance classes which can all be programmed in five different languages. They provide an LCD display, an operator keypad, an SD card slot and two integrated serial interfaces. The CPUs can be simply plugged onto the CPU terminal base. Optionally, they are also available with integrated Ethernet.



I/O modules

Digital and analogue modules in different versions. They can be simply plugged onto the terminal units for local expansion of the CPU (max. ten modules for AC500 and seven modules for AC500-eCo) and decentralized expansion via the FBP interface (max. seven modules). Flexible use thanks to configurable channels. Wireless I/O via WISA.

Decentralized expansion



Fieldbus plug (FBP)

With embedded digital I/Os and a field-bus-neutral interface for connecting the chosen FBP connector. For decentralized expansion of the AC500 system by up to seven I/O modules (incl. max. 4 analogue modules). Please refer to the FieldBusPlugs catalog for further information about the FBP connector. The currently available FBP Fieldbus plugs are listed in the catalogue 2CDC 120 141 D0201.

Scalable PLC AC500 with optional wireless I/O

Motion control PS551-MC

The PS551-MC is a new type of application program based on PLC open standard specifically intended for OEM machine builders and systems integrators looking for a reliable and easy-to-use high performance motion control drive module in their demanding applications for example in the field of material handling, packaging, plastics, printing and textile industry. It provides accurate positioning in one package without the need of an external motion controller.

Main features of Motion Control:

- Speed control
- Position control
- Position interpolator
- Positioning speed
- Acceleration
- Deceleration
- Standard sequential homing
- Selectable physical units for position values (mm, inch, increment, degree, revolution)
- Complete package of function blocks to work together with ABB Drives.



Scalable PLC AC500 with optional wireless I/O

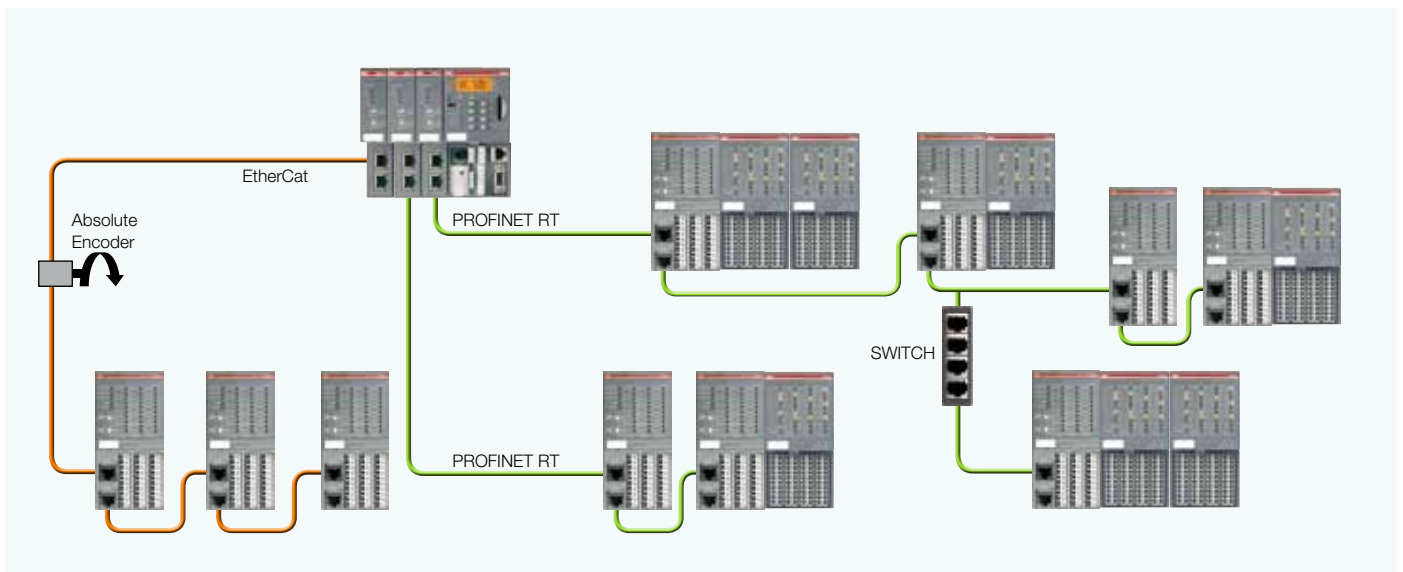
Real-time Ethernet products

The RT-Ethernet modules

The modules are available on two different Bus protocols on Ethernet basis (Profinet IO, EtherCAT). Two new master couplers provide the connection of the AC500 CPUs to the remote I/O modules. Several remote I/O modules offer the possibility to connect I/O modules to the Ethernet networks.

Profinet and EtherCAT network

Networked system without high system requirement for bus cycle time. Standard I/O modules can be used to expand totally the remote Profinet drops.



Cam-switch functionality

Modules based on decentralized real-time EtherCAT interface modules but with integrated I/Os and programmed thanks to PLC open function blocks.



Scalable PLC AC500 with optional wireless I/O

AC500 High Availability

Performance is the key

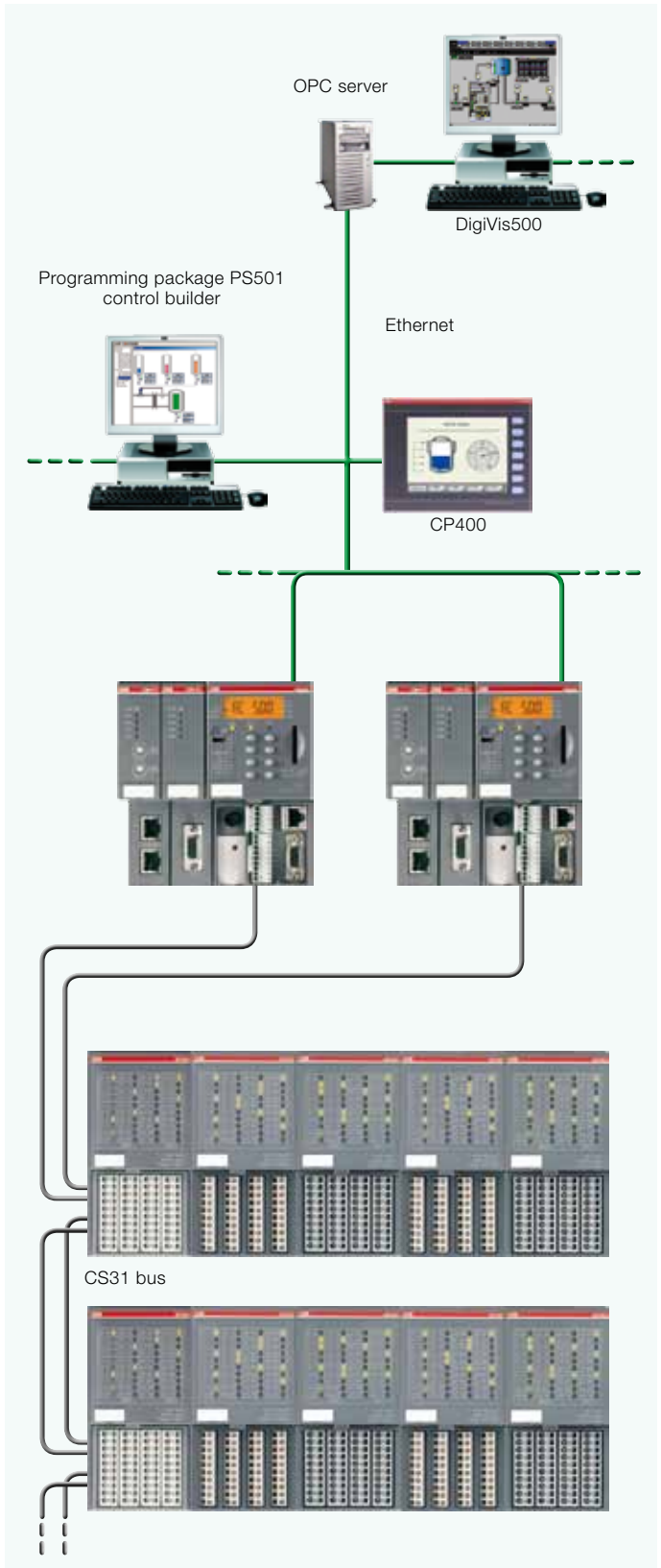
Most downtime is caused by either human error or device malfunction which could be avoided with the right solution. Utilising dual CPU's helps negate the risk of total system failure thus enhancing system availability.

If the retention of critical data and the avoidance of downtime are important to your application then our AC500 High Availability solution is ideal for your plant.

What benefits can you expect from our AC500 High Availability solution?

- Greater resource utilisation with no downtime through Hardware/Software failure with the double CPU's and communication fieldbus CS31.
- Cost efficiency and easy system maintenance by using standard hardware (only specific library is necessary).
- Standard equipment and high flexibility in your choice by using the smallest CPU to highest performance CPU.

High Availability - System overview



Scalable PLC AC500 with optional wireless I/O

CD522 encoder, counter and PWM/PULSE module

Universal encoder and flexible counting module

The CD522 module offers accuracy and dynamic flexibility for a customized solution. It has two independent encoder inputs onboard and can be easily configured using the Control Builder software for 10 different operation modes and for frequencies up to 300 kHz.

Our CD522 module also integrates outputs for PWM pulses as well as normal inputs and outputs, depending on selection of encoder mode.

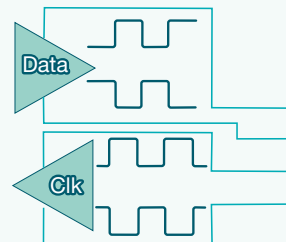
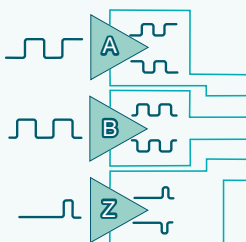
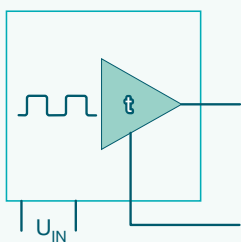
Types of encoders vary and their requirement can be different in terms of signals, voltages, formats and methods of use. This depends heavily on the application, like when measuring a position, an angle or a velocity. Sometimes an incremental encoder is the better choice and in other situations an absolute encoder is the solution.

The CD522 module can serve all these differing needs. Besides solving counting tasks the CD522 offers pulse outputs and integrated inputs, these make it easy to react very quickly with receiving inputs coming directly from the machine. This will ensure higher productivity and safer operations.

The reduction of function modules, flexible configuration and a library with preconfigured applications will save cost and time.

CD522 specifications

- Two independent encoders / counters
- High speed counter input with multiple signal types like SSI, 5 V, 24 V, Sinus with 1 Vpp
- 12 preconfigured counting modes
- Two independent PWM/PULSE outputs
- Two fast inputs for touch operation to freeze the actual counter/encoder value
- 8 configurable input/outputs
- Two independent +5 V sensor power supplies
- Frequency up to 300 kHz
- Counter can trigger digital outputs
- Certifications: CE, cULus, ABS, DNV, GL, RINA, BV and RMRS pending.



Scalable PLC AC500 with optional wireless I/O

Overview of AC500-eCo CPUs

AC500-eCo CPUs



Type	PM554				PM564					
	PM554-T	PM554-R	PM554-R-AC	PM554-T-ETH	PM564-T	PM564-R	PM564-R-AC	PM564-T-ETH	PM564-R-ETH	PM564-R-ETH-AC
	Transistor	Relay	Relay	Transistor	Transistor	Relay	Relay	Transistor	Relay	Relay
Supply voltage	24 V DC		100-240 V AC		24 V DC		100-240 V AC		24 V DC	
Program memory	128 kB									
Integrated data memory	14 kB thereof 2 kB saved									
Cycle time for 1 instruction										
Binary	µs	0.1								
Word	µs	0.3								
Floating	µs	6.0								
Onboard I/Os										
Max. digital inputs/outputs	8/6				6/6					
Max. analogue inputs/outputs					2/1					
Max. number of centralized inputs/outputs										
Digital inputs	224 + 8									
Digital outputs	168 + 6									
Analogue inputs	112									
Analogue outputs	112									
Max. number of expansion I/O modules										
Centralized I/O modules	up to max. 7 (S500 and/or S500-eCo modules allowed)									
Decentralized I/O modules	On CS31 bus: up to 31 stations with up to 120 DI / 120 DO each									
Data buffering	Flash memory									
Real-time clock (option with battery back-up)	•									
Program execution	•									
Cyclical	•									
Time controlled	•									
Multi tasking	No 1 task + 1 interrupt task max.									
Interruption	•									
User program protection by password	•									
Internal interfaces										
COM1										
RS485	•									
Sub-D connection	•									
Programming, Modbus, ASCII, CS31	•									
COM2 (option)										
RS485	•									
Terminal block	•									
Programming, Modbus, ASCII	•									
Ethernet										
RJ45					•					•
Programming, Modbus, TCP, UDP					•					•
RUN/STOP switch	•									
LED display for power, status and error	•									
Approvals*	CE - c UL				CE - c UL	CE - c UL			CE - c UL	

* See detailed overview page 41 or www.abb.com/plc

Scalable PLC AC500 with optional wireless I/O

Overview of AC500 CPUs

AC500 CPUs



Type	PM572	PM573-ETH	PM582	PM583-ETH
Supply voltage	24 V DC			
Program memory				
Flash EPROM and RAM	128 kB	512 kB	512 kB	1024 kB
Integrated data memory	128 kB thereof 12 kB saved	512 kB thereof 288 kB saved	416 kB thereof 288 kB saved	1024 kB thereof 288 kB saved
Plug-in memory card (depending on SD-Card used)	at least 512 MB			
Cycle time for 1 instruction				
Binary	µs	0.09	0.07	
Word	µs	0.3	0.07	
Floating-point	µs	6.0	1.6	
Max. number of centralized inputs/outputs				
Max. number of extension modules on I/O bus	up to max. 10 (S500 and/or S500-eCo modules allowed)			
Digital inputs	320		320	
Digital outputs	240		240	
Analogue inputs	160		160	
Analogue outputs	160		160	
Max. number of decentralized inputs/outputs	depends on the used standard Fieldbus e.g. CS31 Fieldbus: up to 31 stations with up to 120 DI/120 DOs or up to 32 AI/32 AO per station			
Data buffering	battery		battery	
Real-time clock (with battery back-up)	•		•	
Program execution				
Cyclical	•		•	
Time controlled	•		•	
Multi tasking	•		•	
User program protection by password	•		•	
Internal interfaces				
COM1				
RS232/RS485 configurable	•		•	
Connection (on TBs)	pluggable spring terminal block		pluggable spring terminal block	
Programming, Modbus RTU, ASCII, CS31 master	•		•	
COM2				
RS232/RS485 configurable	•		•	
Connection (on TBs)	SUB-D female 9 poles		SUB-D female 9 poles	
Programming, Modbus RTU, ASCII	•		•	
FieldBusPlug				
Serial neutral interface	•		•	
Connection (on TBs)	M12 male, 5 poles		M12 male, 5 poles	
Functions	Programming cable UTF-21-FBP, slave communication depending on FieldBusPlug used (Profibus DP, CANopen, DeviceNet)		Programming cable UTF-21-FBP, slave communication depending on FieldBusPlug used (Profibus DP, CANopen, DeviceNet)	
On-board Ethernet				
Ethernet connection (on TBs)	–	•	–	•
Ethernet functions: Programming, TCP/IP, UDP/IP, Modbus TCP, integrated Webserver, IEC60870-5-104 remote control protocol, SNTP (simple Network Time Protocol), DHCP	–	•	–	•
LCD display and 8 function keys				
	•		•	
Function	RUN/STOP status, diagnosis		RUN/STOP status, diagnosis	
Timers	unlimited		unlimited	
Counters	unlimited		unlimited	
Approvals*				
          (CE, cULus, C-Tick, GL, DNV, BV, LRS, RINA, RMRS, GOST)				

* See detailed overview page 41 or www.abb.com/plc

Scalable PLC AC500 with optional wireless I/O

Overview of AC500 CPUs

AC500 CPUs



Type	PM590-ETH	PM591-ETH
Supply voltage	24 V DC	24 V DC
Program memory		
Flash EPROM and RAM	2048 kB	4096 kB
Integrated data memory	3072 kB thereof 1536 kB saved	5632 kB thereof 1536 kB saved
Plug-in memory card (depending on SD-Card used)	at least 512 MB	
Cycle time for 1 instruction		
Binary	µs 0.002	0.002
Word	µs 0.006	0.006
Floating-point	µs 0.006	0.006
Max. number of centralized inputs/outputs		
Max. number of extension modules on I/O-bus	up to max. 10 (S500 and/or S500-eCo modules allowed)	
Digital inputs	320	320
Digital outputs	240	240
Analogue inputs	160	160
Analogue outputs	160	160
Max. number of decentralized inputs/outputs		
	depends on the used standard Fieldbus e.g. CS31 Fieldbus: up to 31 stations with up to 120 Dis or up to 32 Ais / 32 AOs per station	
Data buffering	battery	battery
Real-time clock (with battery back-up)	•	•
Program execution		
Cyclical	•	•
Time controlled	•	•
Multi tasking	•	•
User program protection by password	•	•
Internal interfaces		
COM1		
RS232/RS485 configurable	•	•
Connection (on TBs)	pluggable spring terminal block	pluggable spring terminal block
Programming, Modbus RTU, ASCII, CS31 Master	•	•
COM2		
RS232/RS485 configurable	•	•
Connection (on TBs)	SUB-D female 9 poles	SUB-D female 9 poles
Programming, Modbus RTU, ASCII	•	•
FieldBusPlug		
Serial neutral interface	•	•
Connection (on TBs)	M12 male, 5 poles	M12 male, 5 poles
Functions	Programming cable UTF-21-FBP, slave communication depending on FieldBusPlug used (Profibus DP, CANopen, DeviceNet)	Programming cable UTF-21-FBP, slave communication depending on FieldBusPlug used (Profibus DP, CANopen, DeviceNet)
On-board Ethernet		
Ethernet connection (on TBs)	RJ45	RJ45
Ethernet functions: Programming, TCP/IP, UDP/IP, Modbus TCP, integrated Webserver, IEC60870-5-104 remote control protocol, SNTP (simple Network Time Protocol), DHCP	•	•
LCD display and 8 function keys		
	• RUN/STOP	• RUN/STOP
Function	status, diagnosis	status, diagnosis
Timers	unlimited	unlimited
Counters	unlimited	unlimited
Approvals*		
         (CE, cULus, C-Tick, GL, DNV, BV, LRS, RINA, RMRS, GOST)		

* See detailed overview page 41 or www.abb.com/plc

Scalable PLC AC500 with optional wireless I/O

Overview of digital S500-eCo I/O modules

Digital S500-eCo I/O modules



Type	DI561	DI562	DI571	DO561
Number of Channels per Module				
Digital Inputs	8	16	8 (AC)	–
Digital Outputs	–	–	–	8
Configurable as Input or Output DC	–	–	–	–
Relays (R) / Transistor (T)	–	–	–	T
Additional configuration of channels as:				
Fast Counter	No			
Digital inputs				
Input signal voltage	24 V DC	24 V DC	110-240 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	< 1 mA	–	–
	+15 V DC	> 2.5 mA	–	–
	+30 V DC	< 6.5 mA	–	–
	40 V AC	–	< 3 mA	–
	159 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
Residual current at signal state 0	–	–	–	< 0.5 mA
Demagnetization when switching off inductive loads	–	–	–	Must be provided externally
Switching frequency				
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	–	–	–	–
Spark suppression for inductive AC load	–	–	–	–
Demagnetization for inductive DC load	–	–	–	–
Maximum cable length for connected process signals				
Shielded cable	m 500	500	500	500
Unshielded cable	m 300	300	300	150
Potential isolation				
Per module	•	•	•	•
Between the input channels	–	per group of 8	•	–
Between the output channels	–	–	–	per group of 8
Voltage supply for the module	Internal via I/O bus	Internal via I/O bus	Internal via I/O bus	Internal via I/O bus
Fieldbus connection	CI501-PNIO or CI502-PNIO or DC551-CS31 or CI590-CS31-HA or CI592-CS31			
Address setting	Automatically (internal)			

Scalable PLC AC500 with optional wireless I/O

Overview of digital S500-eCo I/O modules

Digital S500-eCo I/O modules



Type	DO571	DO572	DX561	DX571	DC561
Number of Channels per Module					
Digital Inputs	–	–	8	8	–
Digital Outputs	8	8	8	8	–
Configurable as Input or Output DC	–	–	–	–	16
Relays (R) / Transistor (T)	R	Triac (AC)	T	R	T
Process voltage					
DC	24 V	–	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	–	–
Input current per channel					
At Input voltage					
+24 V DC	–	–	Typically 5 mA	Typically 5 mA	Typically 4 mA
+5 V DC	–	–	< 1 mA	< 1 mA	< 1 mA
+15 V DC	–	–	> 2.5 mA	> 2.5 mA	> 2.5 mA
+30 V DC	–	–	< 6.5 mA	< 6.5 mA	< 6 mA
Output current					
Nominal current per channel	2 A (24 V DC or 100...240 V AC)	0.3 A at 100...240 V AC	0.5 A at UP=24 V DC	2 A (24 V DC or 230 V AC)	0.1 A at UP=24 V DC
Maximum (total current of all channels)	2 X 8 A	2.4 A / 8 X 0.3 A	4 A	2 X 8 A	1.6 A
Residual current at signal state 0	–	1.1 mA rms at 132 V AC and 1.8 mA rms at 264 V AC	< 0.5 mA	–	< 0.5 mA
Demagnetization when switching off inductive loads	must be performed externally	must be performed externally	must be performed externally	must be performed externally	must be performed externally
Switching frequency					
For inductive load	–	–	0.5 Hz max.	–	0.5 Hz max.
For lamp load	1 Hz max.	10 Hz max.	11 Hz max. at max. 5 W	1 Hz max.	–
Short circuit / overload proofness	No	No	No	No	No
Overload indication (I > 0.7 A)	No	No	No	No	No
Output current limiting	No	No	No	No	No
Proofness against reverse feeding of 24 V signals	Yes	–	No	No	No
Contact rating					
For resistive load, max.	2 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	–	–	100 000	–
Spark suppression for inductive AC load	Must be performed externally	–	–	Must be performed externally	–
Demagnetization for inductive DC load	Must be performed externally	–	–	Must be performed externally	–
Maximum cable length for connected process signals					
Shielded cable	m 500	500	500	500	500
Unshielded cable	m 150	150	150	150	150
Potential isolation					
Per module	–	•	•	–	•
Between the input channels	–	–	–	–	–
Between the output channels	per group of 4	•	–	per group of 4	–
Voltage supply for the module's logic	Internal via I/O bus	Internal via I/O bus	Internal via I/O bus	Internal via I/O bus	Internal via I/O bus
Fieldbus connection	CI501-PNIO or CI502-PNIO or DC551-CS31 or CI590-CS31-HA or CI592-CS31	–	–	–	–
Address setting	Automatically (internal)	–	–	–	–

Scalable PLC AC500 with optional wireless I/O

Overview of digital S500 I/O modules

Digital S500 I/O modules



Type	DI524	DC522	DC523	DC532	DX522	DX531
Number of channels per module						
Digital inputs DI	32	–	–	16	8	8
Digital outputs DO	–	–	–	–	8 relays	4 relays
Configurable channels DC (configurable as inputs or outputs)	–	16	24	16	–	–
Additional configuration of channels as						
Fast counter	Configuration of max. 2 channels per module. Operating modes see table on page 19					–
Occupies max. 1 DO or DC when used as counter	–	•	•	•	–	–
Connection via terminal unit (refer to table on page 35)	•	•	•	•	•	•
Digital inputs						
Input signal voltage	24 V DC					230 V AC or 120 V AC
Frequency range	–					47 ... 63 Hz
Input characteristic acc. to EN61132-2	Type 1					Type 2
0 signal	- 3 V DC ... + 5 V DC					0 ... 40 V AC
Undefined signal state	> + 5 V DC ... < + 15 V DC					> 40 V AC ... < 74 V AC
1 signal	+ 15 V DC ... + 30 V DC					74 ... 265 V AC
Input time delay (0 -> 1 or 1 -> 0)	8 ms typically, configurable from 0.1 up to 32 ms					20 ms typically
Input current per channel						
At input voltage	+ 24 V DC	5 mA typically				–
	+ 5 V DC	> 1 mA				–
	+ 15 V DC	> 5 mA				–
	+ 30 V DC	< 8 mA				–
	159 V AC	–				> 7 mA
	40 V AC	–				< 5 mA
Digital outputs						
Transistor outputs 24 V DC, 0.5 A	–	•	•	•	–	–
Readback of output	–	•	•	•	–	–
Relay outputs, supplied via process voltage UP, changeover contacts	–	–	–	–	•	•
Switching of 24 V load	–	•	•	•	•	•
Switching of 230 V load	–	–	–	–	•	•
Output voltage at signal state 1	Process voltage UP minus 0.8 V				–	–
Output current						
Nominal current per channel	–	500 mA at UP = 24 V				–
Maximum (total current of all channels)	–	8 A				–
Residual current at signal state 0	–	< 0.5 mA				–
Demagnetization when switching off inductive loads	–	By internal varistors				–

Scalable PLC AC500 with optional wireless I/O

Overview of digital S500 I/O modules

Digital S500 I/O modules



Type	DI524	DC522	DC523	DC532	DX522	DX531
Switching frequency						
For inductive load	–	0.5 Hz max.			2 Hz max.	
For lamp load	–	11 Hz max. at max. 5 W			11 Hz max. at max. 5 W	
Short-circuit / overload proofness	–	•	•	•	By external fuse / circuit breaker. 6 A gL/gG per channel	
Overload indication ($I > 0.7$ A)	–	After approx. 100 ms			–	–
Output current limiting	Yes, with automatic reclosure				–	–
Proofness against reverse feeding of 24 V signals	–	•	•	•	–	–
Contact rating						
For resistive load, max.	–	–	–	–	3 A at 230 V AC 2 A at 24 V DC	
For inductive load, max.	–	–	–	–	1.5 A at 230 V AC 1.5 A at 24 V DC	
For lamp load	–	–	–	–	60 W at 230 V AC 10 W at 24 V DC	
Lifetime (switching cycles)						
Mechanical lifetime	–	–	–	–	300 000	
Lifetime under load	–	–	–	–	300 000 at 24 V DC/ 2 A 200 000 at 120 V AC/ 2 A 100 000 at 230 V AC/ 3 A	
Spark suppression for inductive AC load	–	–	–	–	External measure depending on the switched load	
Demagnetization for inductive DC load	–	–	–	–	External measure: Free-wheeling diode connected in parallel to the load	
Process voltage UP						
Nominal voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Maximum ripple	5 %	5 %	5 %	5 %	5 %	5 %
Reverse polarity protection	•	•	•	•	•	•
Fuse for process voltage UP	10 A miniature fuse					
Connections for sensor voltage supply. Terminal + 24 V and 0 V for each connection. Permitted load for each group of 4 or 8 connections: 0.5 A	–	8	4	–	–	–
Short-circuit and overload proof 24 VDC sensor supply voltage	–	•	•	–	–	–
Maximum cable length for connected process signals						
Shielded cable	m 1000	1000	1000	1000	1000	1000
Unshielded cable	m 600	600	600	600	600	600
Potential isolation						
Per module	•	•	•	•	•	•
Between the input channels	–	–	–	–	–	• (per 2)
Between the output channels	–	–	–	–	•	•
Voltage supply for the module	Internally via extension bus interface (I/O bus)					
Fieldbus connection	Via AC500 CPU or communication interface module					
Address setting	Automatically (internal)					

Scalable PLC AC500 with optional wireless I/O

Overview of S500 I/O modules

Digital I/O modules, "Fast Counter" operating modes. Not applicable for DC541 or eCo-I/O modules (see technical documentation for details)

Operating mode, configured in the user program of the AC500		Occupied inputs DI or DC	Occupied outputs DO or DC	Maximum counting frequency kHz	Notes
0	No counter	0	0	–	–
1	One count-up counter with "end value reached" indication	1	1	50	Note for input module DI524: It is not possible to set an output directly. As an alternative, the status byte should be evaluated and applied to another output in the system.
2	One count-up counter with "enable" input and "end value reached" indication	2	1	50	
3	Two up/down counters	2	0	50	
4	Two up/down counters with 1 counting input inverted	2	0	50	"End value" interrogation via status byte
5	One up/down counter with "dynamic set" input	2	0	50	Acts to the rising signal edge (0->1) "End value" interrogation via status byte
6	One up/down counter with "dynamic set" input	2	0	50	Acts to the falling signal edge (1->0) "End value" interrogation via status byte
7	One up/down counter with directional discriminator For synchro transmitters using two counting pulses with an offset of 90° (track A and B)	2	0	50	For synchro transmitters with 24 V signals. In case of 5 V synchro transmitters, the signal has to be increased to 24 V. The zero track of the synchro transmitter is not processed. Interrogation of the "end value" indication via the status byte. Single evaluation.
8	–	0	0	–	–
9	One up/down counter with directional discriminator and double evaluation For synchro transmitters using two counting pulses with an offset of 90° towards each other (track A and B)	2	0	30	See operating mode 7 Difference: double evaluation, i.e. evaluation of the rising edge and the falling edge of track A -> higher accuracy due to the double number of counting pulses
10	One up/down counter with directional discriminator and fourfold evaluation For synchro transmitters using two counting pulses with an offset of 90° towards each other (track A and B)	2	0	15	See operating mode 7 Difference: fourfold evaluation, i.e. evaluation of the rising edge and the falling edge of track A and track B -> higher accuracy due to the fourfold number of counting pulses.

Scalable PLC AC500 with optional wireless I/O

Overview of analogue S500-eCo I/O modules

Analogue S500-eCo I/O modules



Type		AI561	AO561	AX561	AI562	AI563
Number of Channels per Module						
Analogue Inputs		4	–	4	2	4
Analogue Outputs		–	2	2	–	–
Inputs, single configurable as						
-2.5 V...+2.5 V	11 bits + sign	•	–	•	–	–
-5 V...+5 V	11 bits + sign	•	–	•	–	–
-10 V...+10 V	11 bits + sign	–	–	–	–	–
0...5 V	12 bits	•	–	•	–	–
0...10 V	12 bits	•	–	•	–	–
0...20 mA, 4...20 mA	12 bits	•	–	•	–	–
Temperature resolution	0.1 °C	–	–	–	•	•
Analogue Inputs Signal configuration per AI						
RTD		–	–	–	2	–
Thermocouple		–	–	–	–	4
Outputs, single configurable as						
-10...+10 V		–	•	•	–	–
0...20 mA		–	•	•	–	–
4...20 mA		–	•	•	–	–
Pt100						
-50 °C...400 °C (2/3-wire)	–	–	–	–	•	–
Pt1000						
-50 °C...+400 °C (2/3-wire)	–	–	–	–	•	–
Ni100/Ni1000						
-50 °C...+150 °C (2/3-wire)	–	–	–	–	•	–
0... 150 Ω/ 0... 300 Ω	–	–	–	–	•	–
Thermocouples of types J, K, T, N, S, E, R	–	–	–	–	–	•
-80 mV... +80 mV	–	–	–	–	–	•
Potential isolation						
Per module		–	–	–	•	•
Fieldbus connection		CI501-PNIO or CI502-PNIO or DC551-CS31 or CI590-CS31-HA or CI592-CS31				
Address setting		automatically (internal)				

Scalable PLC AC500 with optional wireless I/O

Overview of analogue S500 I/O modules

Analogue S500-eCo I/O devices



Type	AX521	AX522	AI523	AO523	AI531
Number of channels per module					
Analogue inputs AI, individual configuration	4	8	16	–	8
Analogue outputs AO, individual configuration	4	8	–	16	–
Signal resolution for channel configuration					
-10 V ... +10 V	12 bits + sign				15 bits + sign
0 ... 10 V	12 bits				15 bits
0 ... 20 mA, 4 ... 20 mA	12 bits				15 bits
Temperature: 0.1 °C	•	•	•	•	•
Monitoring configuration per channel					
Plausibility monitoring	•	•	•	•	•
Wire break & short-circuit monitoring	•	•	•	•	•
Analogue Inputs AI					
Signal configuration per AI	Max. number per module and with regard to the configuration: AIs / Measuring points (depending on the use of 2/3-wire connection or differential input)				
0 ... 10 V	4 / 4	8 / 8	16 / 16	–	8 / 8
-10 V ... +10 V	4 / 4	8 / 8	16 / 16	–	8 / 8
0 ... 20 mA	4 / 4	8 / 8	16 / 16	–	8 / 8
4 ... 20 mA	4 / 4	8 / 8	16 / 16	–	8 / 8
Pt100					
-50 °C ... +400 °C (2-wire)	4 / 4	8 / 8	16 / 16	–	8 / 8
-50 °C ... +400 °C (3-wire), 2 channels	4 / 2	8 / 4	16 / 8	–	8 / 8
-50 °C ... +400 °C (4-wire)	–	–	–	–	8 / 8
-50 °C ... +70 °C (2-wire)	4 / 4	8 / 8	16 / 16	–	8 / 8
-50 °C ... +70 °C (3-wire), 2 channels	4 / 2	8 / 4	16 / 8	–	8 / 8
-50 °C ... +70 °C (4-wire)	–	–	–	–	8 / 8
Pt1000					
-50 °C ... +400 °C (2-wire)	4 / 4	8 / 8	16 / 16	–	8 / 8
-50 °C ... +400 °C (3-wire), 2 channels	4 / 2	8 / 4	16 / 8	–	8 / 8
-50 °C ... +400 °C (4-wire)	–	–	–	–	8 / 8
Ni1000					
-50 °C ... +150 °C (2-wire)	4 / 4	8 / 8	16 / 16	–	8 / 8
-50 °C ... +150 °C (3-wire), 2 channels	4 / 2	8 / 4	16 / 8	–	8 / 8
-50 °C ... +150 °C (4-wire)	–	–	–	–	8 / 8
Thermocouples of types J, K, T, N, S	–	–	–	–	•
0 ... 10 V using differential inputs, 2 channels	4 / 2	8 / 4	16 / 8	–	8 / 8
-10 V ... +10 V using differential inputs, 2 channels	4 / 2	8 / 4	16 / 8	–	8 / 8
Digital signals (digital input)	4 / 4	8 / 8	16 / 16	–	8 / 8
Input resistance per channel	Voltage: > 100 kΩ. Current: approx. 330 Ω.			–	Voltage: > 100 kΩ. Current: approx. 330 Ω.
Time constant of the input filter	Voltage: 100 µs. Current: 100 µs.			–	Voltage: 100 µs. Current: 100 µs.
Conversion cycle	2 ms (for 8 AI + 8 AO), 1 s for Pt/Ni...			–	1 ms (for 8 AI + 8 AO), 1 s for Pt/Ni...
Overvoltage protection	•	•	•	–	•
Data when using the AI as digital input					
Input time delay	8 ms typically, configurable from 0.1 up to 32 ms			–	8 ms typically, configurable from 0.1 up to 32 ms
Input signal voltage	24 V DC			–	24 V DC
0 signal	-30 V ... +5 V			–	-30 V ... +5 V
1 signal	+13 V ... +30 V			–	+13 V ... +30 V

Scalable PLC AC500 with optional wireless I/O

Overview of analogue S500 I/O modules

Analogue S500 I/O devices



Type	AX521	AX522	AI523	AO523	AI531
Analogue outputs AO					
Possible configuration per AO	Max. number of AOs per module and with regard to the configuration:				
-10 V ... +10 V	4	8 ¹⁾	–	16 ¹⁾	–
0 ... 20 mA	4	4	–	8	–
4 ... 20 mA	4	4	–	8	–
Output resistance (burden) when used as current output	0 ... 500 Ω		–	0 ... 500 Ω	–
Output loading capability when used as voltage output	Max. ± 10 mA		–	Max. ± 10 mA	–
Process voltage UP					
Nominal voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
Maximum ripple	5 %	5 %	5 %	5 %	5 %
Reverse polarity protection	•	•	•	•	•
Max. line length of the analogue lines, conductor cross section > 0.14 mm²	100 m				
Conversion error of analogue values caused by non-linearity, calibration errors ex works and the resolution in the nominal range	0.5 % typically, 1 % max.				
Potential isolation					
Per module	•	•	•	•	
Fieldbus connection	Via AC500 CPU or communication interface module				
Voltage supply for the module	Internally via extension bus interface (I/O bus)				

¹⁾ Half can be used on current (the other half remains available)

Scalable PLC AC500 with optional wireless I/O

CD522 encoder module

The CD522 module offers accuracy and dynamic flexibility for a customized solution. It has two independent encoder inputs onboard and is easily configured using the Control Builder software for 10 different operation modes and for frequencies up to 300 kHz. The CD522 module also integrates outputs for pulses and for PWM as well as normal inputs and outputs, depending on selected encoder mode. Certifications: CE, cUL, GL, DNV, BV, LRS and RINA pending

CD522 encoder module



Type	CD522	
Functionality		
Digital inputs/outputs	24 V DC, dedicated inputs/outputs can be used for specific counting functions: - Catch/touch operation, counter value stored in separate variable on external event (rising or falling edge) - Set input to preset counter register with predefined value - Set input to reset counter register - End value output; the output is set when predefined value is reached - Reference point initialization (RPI) input for relative encoder initialization All unused inputs/outputs can be used with the specification of standard input/output range.	
High-speed counter/encoder	Integrated, 2 counters (hardware interface with +24 V DC, +5 V DC, differential and 1 Vpp sinus input): - 32 bits one counter mode - 16 bits two counter mode - Relative position encoder (X1, X2, X4) - Absolute SSI encoder - Time frequency meter - Frequency input up to 300 kHz	
PWM/pulse outputs	2 pulse-width-modulators or pulse outputs Output mode specification: - Push-pull output: 24 V DC, 100 mA max. - Current limitation (thermal and over current) PWM mode specification: - Frequency from 1 Hz to 100 kHz - Value from 0 to 100 % Pulse mode specification: - Frequency from 1 Hz to 15 kHz - Pulse emission from 1 to 65535 pulses - Number of pulses emitted indicator (0 to 100 %) Frequency mode specification: - Frequency output = 100 kHz - Duty cycle set to 50 %	
Number of channels per module		
Digital Inputs DI	2	
Digital outputs DO	8	
Configurable channels DC (configurable as inputs or outputs)	8	
Additional configuration of channels as		
Fast counter	Integrated 2 counter encoders	
Connection via terminal unit (refer to table on page 35)	•	
Digital Inputs		
Input signal voltage	24 V DC	
Input time delay	8 ms typically configurable from 0.1 up to 32 ms	
Input current per channel		
At input voltage	+24 V DC	Typically 5 mA
	+5 V DC	> 1 mA
	+15 V DC	> 5 mA
	+30 V DC	< 8 mA

Scalable PLC AC500 with optional wireless I/O

CD522 encoder module

CD522 encoder module



Type	CD522	
Digital outputs		
Output voltage at signal state 1	UP – 0.8 V	
Output current		
Nominal current per channel	0.5 A at UP = 24 V	
Maximum (total current of all channels)	8 A	
Residual current at signal state 0	< 0.5 mA	
Demagnetization when switching off inductive loads	By internal varistors	
Switching frequency		
For inductive load	Max. 0.5 Hz	
For lamp load	Max. 11 Hz with max. 5 W	
Short-circuit / Overload proofness	•	
Overload indication (I > 0.7 A)	After approx. 100 ms	
Output current limiting	•	
Proofness against reverse feeding of 24 V signals		
Maximum cable length for connected process signals		
Shielded cable	1000 m	
Unshielded cable	600 m	
Potential isolation		
Per module	•	
Technical data of the high-speed inputs		
Number of channels per module	6	
Input Type	24 V DC	5 V DC / Differential / Sinus 1 Vpp
Frequency	300 kHz	
Technical data of the fast outputs		
Number of channels	2	
Indication of the output signals	Brightness of the LED depends on the number of pulses emitted (0 % to 100 %) (pulse output mode only)	
Output current		
Rated value, per channel	100 mA at UP = 24 V	
Maximum value (all channels together, configurable outputs included)	8 A	
Leakage current with signal 0	< 0.5 mA	
Rated protection fuse on UP	10 A fast	
De-magnetization when inductive loads are switched off	with varistors integrated in the module (see figure below)	
Overload message (I > 0.1x A)	yes, after ca. 100 ms	
Output current limitation	yes, automatic reactivation after short-circuit/overload	
Resistance to feedback against 24 V signals	yes	

Scalable PLC AC500 with optional wireless I/O

DA501 analogue / digital mixed I/O module

For all modules: max cable length for connected process signals is 1000 m for shielded cable and 600 m for unshielded ones.
For all Input modules, the signal resolution for channel configuration is: -10 V...+10 V: 12 bit + sign; 0...10 V, 0...20 mA, 4...20 mA: 12 bits

Expansion module



Type	DA501
Number of Channels per Module	
Digital inputs DI	8
Digital outputs DO	—
Analogue inputs AI	4
Analogue outputs AO	2
Digital configurable channels DC (configurable as inputs or outputs)	8
Additional configuration of channels as:	
Fast counter	No
Occupies max. 1 DO or DC when used as counter	Configuration of max. 2 channels per module. Operating modes see table on page 19
Connection via terminal unit TU 5xx (refer to table on page 35)	•
Digital inputs	
Input signal voltage	24 V DC
Input characteristic acc. to EN 61 132-2	Type 1
0 signal	-3 V DC... +5 V DC
Undefined signal state	> +5 V DC < +15 V DC
1 signal	+15 V DC... +30 V DC
Residual ripple, range for 0 signal	-3 V DC... +5 V DC
Residual ripple, range for 1 signal	+15 V DC... +30 V DC
Input time delay (0 -> 1 or 1 -> 0)	8 ms typically, configurable from 0.1 up to 32 ms
Digital outputs	
Transistor outputs 24 V DC, 0.5 A	•
Readback of output	•
Outputs, supplied via process voltage UP	•
Switching of 24 V load	•
Output voltage at signal state 1	Process voltage UP - 0.8 V
Output current	
Nominal current per channel	500 mA at UP = 24 V DC
Maximum (total current of all channels)	8 A
Residual current at signal state 0	< 0.5 mA
Demagnetization when switching off inductive loads	By internal varistors
Analogue inputs AI	
Signal configuration per AI	•
0...10 V / -10 V ... +10 V	4/4
0...20 mA / 4...20 mA	4/4
RTD using 2/3 wire needs 1/2 channel(s)	4/2
0...10 V using differential inputs, needs 2 channels	4/2
-10 V...+10 V using differential inputs, needs 2 channels	4/2
Digital signals (digital input)	4/4
Data when using the AI as digital input	
Input time delay	8 ms typically, configurable from 0.1 up to 32 ms
Input signal voltage	24 V DC
Outputs, single configurable as	
Possible configuration per AO	•
-10...+10 V	•
0...20 mA / 4...20 mA	•
Output resistance (load) when used as current output	0...500 Ω
Output loading capability when used as voltage output	±10 mA max.
Potential isolation	
Per module	•
Voltage supply for the module	By external 24 V DC voltage via terminal
Approvals*	
                  	

* See detailed overview page 41 or www.abb.com/plc

Scalable PLC AC500 with optional wireless I/O

DC541 interrupt I/O and fast counter module

DC541 interrupt I/O and fast counter module



Type	DC541	
Number of Channels per Module		
Configurable channels DC (configurable as inputs or outputs)	8	
Additional configuration of channels as		
Fast counter	Yes	
Connection via CPU terminal base. Occupies one communication module slot.	•	
Digital inputs		
Input signal voltage	24 V DC	
Input characteristic acc. to EN61132-2	Type 1	
0 signal	-3 V DC ... +5 V DC	
Undefined signal state	> +5 V DC ... < +15 V DC	
1 signal	> +5 V DC ... < +15 V DC	
Input time delay (0 -> 1 or 1 -> 0)	8 ms typically, configurable from 0.1 up to 32 ms	
Input current per channel		
At input voltage	+24 V DC	5 mA typically
	+5 V DC	> 1 mA
	+15 V DC	> 5 mA
	+30 V DC	< 8 mA
Digital outputs		
Transistor outputs 24 V DC, 0.5 A	•	
Readback of output	•	
Switching of 24 V load	•	
Output voltage at signal state 1	Process voltage UP minus 0.8 V	
Output current		
Nominal current per channel	500 mA at UP = 24 V	
Maximum (total current of all channels)	8 A	
Residual current at signal state 0	< 0.5 mA	
Demagnetization when switching off inductive loads	by internal varistors	
Potential isolation		
Per module	•	
Voltage supply for the module	Internally via backplane bus	
Fieldbus connection	Via AC500 CPU	
Address setting	Automatically (internal)	

Interrupt I/O table

Configuration as	Configuration for channel no.	Chan. 0	Chan. 1	Chan. 2	Chan. 3	Chan. 4-7	Max. no. of channels for this function	Remarks and notes regarding possible alternative combinations of the remaining channels (a and b)
Mode 1: Interrupt functionality								
Interrupt	Digital input	1	1	1	1	4	8	Each channel can be configured individually as interrupt input or interrupt output.
	Digital output	1	1	1	1	4	8	
Mode 2: Counting functionality								
Digital I/Os PWM*	Digital input	1	1	1	1	4	8	Usual input
	Digital output	1	1	1	1	4	8	Usual output
	PWM, resolution 10 kHz	1	1	1	1	4	8	Outputs and pulsed signal with and adjustable on-off ratio

* Counter and fast counter data available on technical documentation

Scalable PLC AC500 with optional wireless I/O

Communication interface modules

For all modules: max cable length for connected process signals is 1000 m for shielded cable and 600 m for unshielded ones.
For all Input modules, the signal resolution for channel configuration is: -10 V...+10 V: 12 bits + sign; 0...10 V, 0...20 mA, 4...20 mA: 12 bits
Temperature: 0.1°C

Communication interface modules



Type	DC505-FBP	DC551-CS31	CI590-CS31-HA**	CI592-CS31
Number of Channels per Module				
Digital Inputs DI	8	8	—	8
Digital outputs DO	—	—	—	—
Analogue inputs AI	—	—	—	4
Analogue outputs AO	—	—	—	2
Digital configurable channels DC (configurable as inputs or outputs)	8	16	16	8
Additional configuration of channels as:				
Fast counter	—	Configuration of max. 2 channels per module		
Occupies max. 1 DO or DC when used as counter	—	•	•	•
Connection via terminal base TU 5xx (refer to table on page 35)	•	•	•	•
Local IO extension				
Max. number of extension modules	max. 7 x S500 IO modules, nb and type (dig. /analog) dep. on FBP and protocol used. Note: eCo IO modules are not allowed to be used.	max. 7 (S500 and/or S500-eCo modules allowed), up to 31 stations with up to 120 DIs / 120 DOs or up to 32 AIs / 32 AOs per station		
Digital inputs				
Input signal voltage	24 V DC			
Input characteristic acc. to EN 61 132-2	Type 1			
0 signal	-3 V DC... +5 V DC			
Undefined signal state	> +5 V DC < +15 V DC			
1 signal	+15 V DC... +30 V DC			
Residual ripple, range for 0 signal	-3 V DC... +5 V DC			
Residual ripple, range for 1 signal	+15 V DC...+30 V DC			
Input time delay (0 -> 1 or 1 -> 0)	8 ms typically, configurable from 0.1 up to 32 ms			
Digital outputs				
Transistor outputs 24 V DC, 0.5 A	•			
Readback of output	•			
Outputs, supplied via process voltage UP	•			
Switching of 24 V load	•			
Output voltage at signal state 1	Process voltage UP - 0.8 V			
Output current				
Nominal current per channel	500 mA at UP = 24 V DC			
Maximum (total current of all channels)	4 A	8 A	8 A	4 A
Residual current at signal state 0	< 0.5 mA			
Demagnetization when switching off inductive loads	By internal varistors			
Analogue inputs AI				
Max. number per module and with regard to the configuration: AIs / Measuring points				
Signal configuration per AI	—	•		
0...10 V / -10 V... +10 V	—	4/4		
0...20 mA / 4...20 mA	—	4/4		
RTD using 2/3 wire needs 1/2 channel(s)	—	4/2		
0...10 V using differential inputs, needs 2 channels	—	4/2		
-10 V...+10 V using differential inputs, needs 2 channels	—	4/2		
Digital signals (digital input)	—	4/4		
Data when using the AI as digital input				
Input time delay	—	8 ms typically, configurable from 0.1 up to 32 ms		
Input signal voltage	—	24 V DC		
Outputs, single configurable as				
Possible configuration per AO				•
-10...+10 V				•
0...20 mA / 4...20 mA				•
Output resistance (load) when used as current output				0...500 Ω
Output loading capability when used as voltage output				±10 mA max.
Potential isolation				
Per module	•	•	•	•
Voltage supply for the module	Via FBP	By external 24 V DC voltage via terminal		
Fieldbus connection on the TUs	Via FBP	CS31 Fieldbus, via terminal / redundant for CI590-CS31-HA		
Address setting	By rotary switch on the front side, max. 99 addresses			
Approvals*				
 (CE, cULus, C-Tick, GL, DNV, BV, LRS, RINA, RMRS, GOST)				

* See detailed overview page 41 or www.abb.com/plc - ** Dedicated to High Availability

Scalable PLC AC500 with optional wireless I/O

Communication interface modules

Type	PROFINET		EtherCAT	
	CI501-PNIO	CI502-PNIO	CI511-ETHCAT	CI512-ETHCAT
Number of Channels per Module				
Digital Inputs DI	8	8	8	8
Digital outputs DO	8	8	8	8
Analogue Inputs AI	4	—	4	—
Analogue outputs AO	2	—	2	—
Digital configurable channels DC (configurable as inputs or outputs)	—	8	—	8
Additional configuration of channels as:				
Connection via terminal unit TB 5xx (refer to table on page 35)	•	•	•	•
Local IO extension	Yes		No extension modules allowed	
Max. number of extension modules	max. 10x S500 extension modules (standard or eCo modules allowed)			
Digital inputs				
Input signal voltage	24 V DC			
Input characteristic acc. to EN 61 132-2	Type 1			
0 signal	-3 V DC... +5 V DC			
Undefined signal state	> +5 V DC < +15 V DC			
1 signal	+15 V DC...+30 V DC			
Residual ripple, range for 0 signal	-3 V DC...+5 V DC			
Residual ripple, range for 1 signal	+15 V DC...+30 V DC			
Input time delay (0 -> 1 or 1 -> 0)	8 ms typically, configurable from 0.1 up to 32 ms			
Digital outputs				
Transistor outputs 24 V DC, 0.5 A	•			
Readback of output	•			
Outputs, supplied via process voltage UP	•			
Switching of 24 V load	•			
Output voltage at signal state 1	Process voltage UP - 0.8 V			
Output current				
Nominal current per channel	500 mA at UP = 24 V DC			
Maximum (total current of all channels)	8 A			
Residual current at signal state 0	< 0.5 mA			
Demagnetization when switching off inductive loads	By internal varistors			
Analogue inputs AI				
	Max. number per module and with regard to the configuration: AIs / Measuring points			
Signal configuration per AI	4	—	4	—
0...10 V / -10 V... +10 V	4/4	—	4/4	—
0...20 mA / 4...20 mA	4/4	—	4/4	—
RTD using 2/3 wire needs 1/2 channel(s)	4/2	—	4/2	—
0...10 V using differential inputs, needs 2 channels	4/2	—	4/2	—
-10 V...+10 V using differential inputs, needs 2 channels	4/2	—	4/2	—
Digital signals (digital input)	4/4	—	4/4	—
Data when using the AI as digital input				
Input time delay	8 ms typically, configurable from 0.1 up to 32 ms	—	8 ms typically, configurable from 0.1 up to 32 ms	—
Input signal voltage	24 V DC	—	24 V DC	—
Outputs, single configurable as:				
Possible configuration per AO	•	—	•	—
-10...+10 V	•	—	•	—
0...20 mA / 4...20 mA	•	—	•	—
Output resistance (load) when used as current output	0...500 Ω	—	0...500 Ω	—
Output loading capability when used as voltage output	±10 mA max.	—	±10 mA max.	—
Potential isolation				
Per module	•	•	•	•
Between the input channels	—	—	—	—
Between the output channels	—	—	—	—
Voltage supply for the module	By external 24 V DC voltage via terminal			
Fieldbus connection on TUs	2x RJ45 with switch functionality for simple daisy chain			
Address setting	By rotary switch on the front side, max. 99 addresses			
Approvals*				
				

* See detailed overview page 41 or www.abb.com/plc

Scalable PLC AC500 with optional wireless I/O

AC500 system data

Operating and environmental conditions - Voltages according to EN 61131-2

24 V DC	Process and supply voltage UP	24 V DC (-15%, +20% without residual ripple)
	Absolute limits	19.2 V ... 30 V incl. residual ripple
	Residual ripple	< 5%
	Polarity reversal protection	10 s
120 V AC	Supply voltage	120 V AC (-15%, +10%)
	Frequency	47 Hz ... 62.4 Hz/50 ... 60 Hz (-6%, +4%)
230 V AC	Supply voltage	230 V AC (-15%, +10%)
	Frequency	47 Hz ... 62.4 Hz/50 ... 60 Hz (-6%, +4%)
120–240 V AC	Wide voltage input	
	Voltage	102 V ... 264 V/120 V ... 240 V (-15%, +10%)
	Frequency	47 Hz ... 62.4 Hz/50 ... 60 Hz (-6%, +4%)
Power failure bridging time acc. to EN 61131-2	DC supply	Failure < 10 ms, time between 2 failures > 1 s, PS2
	AC supply	Failure < 0.5 periods, time between 2 failures > 1 s
Temperature	Operation	0 °C ... +60 °C for horizontal mounting
	Storage	-40 °C ... +70 °C
	Transport	-40 °C ... +70 °C
Humidity		95% max., no condensation
Air pressure	Operation	> 800 hPa/< 2000 m
	Storage	> 660 hPa/< 3500 m

Creepage distances and clearances - The creepage distances and clearances correspond to Overvoltage Category II, Pollution Severity 2

Electromagnetic compatibility - Interference immunity

Against electrostatic discharge (ESD)	Acc. to EN 61000-4-2, Zone B, Criteria B
Interference voltage with air discharge	8 kV
Interference voltage with contact discharge	4 kV, in a closed switchgear cabinet 6 kV1)

Interference immunity

Against radiated interferences (CW radiated)	Acc. to EN 61000-4-3, Zone B, Criteria A
Test field strength	10 V/m
Against transient interference voltages (burst)	Acc. to EN 61000-4-4, Zone B, Criteria B
Against conduction-bound interferences (CW conducted)	Acc. to EN 61000-4-6, Zone B, Criteria A
Test voltage	3 V Zone B, 10 V is also met
Impulse voltage	Acc. to EN 61000-4-5, Zone B, Criteria B
Insulation test voltage	Acc. to EN 61131-2
Emitted interferences	Acc. to EN 55011, Group 1, Class A

Mechanical data

Connection type / terminals

Mounting	Horizontal
Degree of protection	IP 20
Housing	Acc. to UL 94

Vibration resistance	All three axes (for AC500)	All three axes (for AC500-eCo)
	2 Hz ... 15 Hz, continuously 3.5 mm	5 Hz ... 11.9 Hz, continuously 3.5 mm
	15 Hz ... 150 Hz, continuously 1 g	11.9 Hz ... 150 Hz, continuously 1 g
Vibration resistance with SD card plugged in	15 Hz ... 150 Hz, continuously 1 g	5 Hz ... 11.9 Hz, continuously 3.5 mm
		11.9 Hz ... 150 Hz, continuously 1 g

Shock resistance	All three axes
	15 g, 11 ms, semi-sinusoidal

Device mounting

DIN top-hat rail acc. to DIN EN 50022	35 mm, overall height 7.5 mm or 15 mm
Screw mounting	Screws with 4 mm diameter
Torque	1.2 Nm

¹⁾ High requirement for shipping classes unachieved with additional specific measures.

Scalable PLC AC500 with optional wireless I/O

AC500 communication - CS31

CS31 functionality	AC500 CPU with integrated CS31 interface	S500 I/O with communication interface DC551-CS31 CI590-CS31-HA CI592-CS31
Master	Yes, at COM1	–
Slave	No	Yes / Redundant for CI590-CS31-HA
Protocols supported	ABB CS31 protocol	
Diagnosis		
Error indication	On LCD display of the CPU / AC500-eCo Error LED	Via module LEDs
Online diagnosis	Yes	
Error code	Errors are recorded in the diagnosis system of the CPU	
Associated function blocks	Yes	
Physical layer	RS485 / 2 x RS485 for CI590-CS31-HA for redundancy	
Connection	Plug at COM1	Screw-type or spring-type terminals
Baud rate	187.5 kbit/s	
Distance	AC500-eCo: up to 50 m / AC500: up to 500 m; up to 2000 m using a repeater	
Max. number of modules on fieldbus	31 modules max. Please note: The DC551 bus interface occupies one or two module addresses (if counters are configured onboard or if the module is a mixed digital analog module). Depending on the configuration, or if the module contains also mixed digital analog I/O, connected extension modules can occupy further module addresses.	
Configuration		
Station address configuration	No	Using rotary switches (99 max.)

Scalable PLC AC500 with optional wireless I/O

Ordering data



PM554



PM564-T-ETH



PM582

AC500 CPUs

All AC500-eCo products are packaged and delivered by 6 units!

AC500-eCo CPUs

- 1 internal serial interface, RS485 (2nd is optional)
- Centrally expandable with up to 7 IO modules (S500 and/or S500-eCo modules allowed)
- Optional SD card adapter for data storage and program backup
- Variants with integrated Ethernet.

Type	Program memory	Onboard I/Os DI/DO/ AI/AO	Relay/ Transistor outputs	Integrated communication	Power supply	Order code	Price	Weight per piece kg	SPU*
PM554-T	128 kB	8 / 6 / - / -	Transistor	-	24 V DC	1TNE 968 900 R0100		0.300	6
PM554-R	128 kB	8 / 6 / - / -	Relay	-	24 V DC	1TNE 968 900 R0200		0.350	6
PM554-R-AC	128 kB	8 / 6 / - / -	Relay	-	100-240 V AC	1TNE 968 900 R0220		0.400	6
PM554-T-ETH	128 kB	8 / 6 / - / -	Transistor	Ethernet	24 V DC	1TNE 968 900 R0110		0.300	6
PM564-T**	128 kB	6 / 6 / 2 / 1	Transistor	-	24 V DC	1TNE 968 900 R1100		0.300	6
PM564-R**	128 kB	6 / 6 / 2 / 1	Relay	-	24 V DC	1TNE 968 900 R1200		0.350	6
PM564-R-AC**	128 kB	6 / 6 / 2 / 1	Relay	-	100-240 V AC	1TNE 968 900 R1220		0.350	6
PM564-T-ETH**	128 kB	6 / 6 / 2 / 1	Transistor	Ethernet	24 V DC	1TNE 968 900 R1110		0.300	6
PM564-R-ETH**	128 kB	6 / 6 / 2 / 1	Relay	Ethernet	24 V DC	1TNE 968 900 R1210		0.350	6
PM564-R-ETH-AC**	128 kB	6 / 6 / 2 / 1	Relay	Ethernet	100-240 V AC	1TNE 968 900 R1211		0.400	6

*SPU: Sales Package Unit

**All analogue inputs on AC500 CPU PM564 can be configured as digital inputs.

AC500 CPUs

- 2 internal serial interfaces, RS232/RS485 configurable
- Display and 8 function keys for diagnosis and status
- Centrally expandable with up to 10 IO modules (S500 and/or S500-eCo modules allowed)
- Simultaneous operation of up to 4 external communication modules in any desired combination
- Optional SD card for data storage and program backup
- Can also be used as slave on Profibus DP, DeviceNet or CANopen via FieldBusPlug
- Onboard 2nd version provides webserver and IEC 60 870-5-104 remote control protocol.

Type	Program memory	Cycle time in ms 1000 instructions Bit/Word/Float. point	Integrated communication	Order code	Price	Weight per piece kg	SPU*
PM572	128 kB	0.09/0.3/6	-	1SAP 130 200 R0200		0.135	1
PM573-ETH ¹⁾	512 kB	0.09/0.3/6	Ethernet ²⁾	1SAP 130 300 R0271		0.150	1
PM582	512 kB	0.07/0.07/1.6	-	1SAP 140 200 R0200		0.135	1
PM583-ETH ¹⁾	1024 kB	0.07/0.07/1.6	Ethernet ²⁾	1SAP 140 300 R0271		0.150	1
PM590-ETH ¹⁾	2048 kB	0.002/0.006/0.006	Ethernet ²⁾	1SAP 150 000 R0271		0.150	1
PM591-ETH ¹⁾	4096 kB	0.002/0.006/0.006	Ethernet ²⁾	1SAP 150 100 R0271		0.150	1

¹⁾ Onboard Ethernet communication. - ²⁾ Provides integrated webserver and IEC 60 870-5-104 remote control protocol.

*SPU: Sales Package Unit

Scalable PLC AC500 with optional wireless I/O

Ordering data



CM572



CM575



CM577

Terminal base

- For mounting and connection of the CPUs and communication modules
- 1 to 4 plug-in communication modules
- Connection for communication coupler integrated in the CPU
- I/O interface for direct connection of up to 10 expansion modules
- Fieldbus-neutral FieldBusPlug-Slave interface
- Connection COM1: 9-pole pluggable terminal block
- Connection COM2: 9-pole SUB-D (socket)

Type	Number of coupler slots	Connection for coupler integrated in the CPU	Order code	Price	Weight per piece kg	SPU*
TB511-ETH	1	Ethernet RJ45	1SAP 111 100 R0270		0.215	1
TB521-ETH	2	Ethernet RJ45	1SAP 112 100 R0270		0.215	1
TB541-ETH	4	Ethernet RJ45	1SAP 114 100 R0270		0.215	1

*SPU: Sales Package Unit

⚠ These TBs are compatible with previous AC500 CPU versions (R01xx) and new ones (R02xx).

Profibus DP communication module

For Profibus DP master V0/V1. Multi master functionality.

Transfer rate: 9.6 kbit/s up to 12 Mbit/s.

Max. no. of subscribers: 126 (V0) or 32 (V1).

CPU interface: 8 kB dual-port memory.

Contains a separate communication processor and 256 kB RAM memory.

No external power supply required.

Type	Interface	Order code	Price	Weight per piece kg	SPU*
CM572-DP	Sub-D socket	1SAP 170 200 R0001		0.115	1

DeviceNet communication module

For DeviceNet master.

Transfer rate: 125 kbit/s, 250 kbit/s, 500 kbit/s.

CPU interface: 8 kB dual-port memory.

Contains a separate communication processor, 256 kB RAM memory and 512 kB flash memory.

No external power supply required.

Type	Interface	Order code	Price	Weight per piece kg	SPU*
CM575-DN	Plug-in terminal block, spring-type terminals	1SAP 170 500 R0001		0.115	1

Ethernet communication module

10/100 Mbit/s, full/half duplex with auto-sensing. 2-port switch integrated.

Transport protocols TCP/IP, UDP/IP, Modbus TCP.

CPU interface: 8 kB dual-port memory.

Contains a separate communication processor, 256 kB RAM memory and 512 kB flash memory.

No external power supply required.

Type	Protocol	Interfaces	Order code	Price	Weight per piece kg	SPU*
CM577-ETH	TCP/IP, UDP/IP, Modbus TCP	2 X RJ45	1SAP 170 700 R0001		0.115	1

CANopen communication module

For CANopen master.

Transfer rate: 10 kbit/s up to 1 Mbit/s.

CPU interface: 8 kB dual-port memory.

Contains a separate communication processor, 256 kB RAM memory and 512 kB flash memory.

No external power supply required.

Type	Interface	Order code	Price	Weight per piece kg	SPU*
CM578-CN	Plug-in terminal block, spring-type terminals	1SAP 170 800 R0001		0.115	1

*SPU: Sales Package Unit

Scalable PLC AC500 with optional wireless I/O

Ordering data



CM579



CM574

PROFINET I/O RT master communication module

Controller protocol, integrated 2 ports switch.
Interface to the CPU using Dual Port Memory coupler bus,
Up to 4 communication modules can be used on an AC500 CPU.

Type	Interface	Order code	Price	Weight per piece kg	SPU*
CM579-PNIO	2 X RJ45	1SAP 170 901 R0001		0.115	1

ETHERCAT master protocol communication module

Interface to the CPU using Dual Port Memory coupler bus,
Up to 4 communication modules can be used on an AC500 CPU.

Type	Interface	Order code	Price	Weight per piece kg	SPU*
CM579-ETHCAT	2 X RJ45	1SAP 170 902 R0001		0.115	1

Serial communication module and CPU coprocessor

Stand alone CPU in coupler module housing allowing to be used as standard serial interface or as free programmable serial interface coupler. 2x serial RS-232/485 interfaces COM1 / COM2
CPU interface: dual-port memory
Program memory: 256 kB / Data memory 384 KB not saved
Protocols ASCII / free configurable / 2xCS31 master COM1/COM2 / 2x Modbus Master/Slave,
independent internal CPU which can be programmed by the PS501 for own communication protocol or data processing. Interface to the CPU using Dual Port Memory coupler bus. Connection with 2x 9 pole pluggable spring terminals. Up to 4 communication modules can be used on an AC500 CPU.

Type	Interface	Order code	Price	Weight per piece kg	SPU*
CM574-RS	Serial 2x RS-232/485	1SAP 170 400 R0201		0.115	1

Serial protocol RCOM communication module

2x serial RS-232/485 interfaces with 1x RCOM / 1x Console,
Interface to the CPU using Dual Port Memory coupler bus.
Connection with 2x 9 pole pluggable spring terminals.
Up to 4 communication modules can be used on an AC500 CPU.

Type	Interface	Order code	Price	Weight per piece kg	SPU*
CM574-RCOM	Serial 2x RS-232/485 (1x RCOM / 1x Console)	1SAP 170 401 R0201		0.115	1

*SPU: Sales Package Unit

All communication modules are to be inserted in a slot of terminal base TB5xx. The terminal base is a separate product and mandatory for the CPU modules PM57x/58x/59x.

Scalable PLC AC500 with optional wireless I/O

Ordering data



DC532



DI524



AI561



AI562

Digital input/output modules

- For central expansion of the AC500 CPUs
- For decentralized expansion in combination with interface module DC551-CS31, Profinet CI50x modules or DC505-FBP for S500 I/Os.
- Plug-in electronic modules, terminal unit required (refer to table below)
- DC: Channels can be configured individually as inputs or outputs.

Type	DI/DO/DC	Input-signal	Output-type	Output-signal	Usable with DC505-FBP	Order code	Terminal block 9 poles	Terminal block 11 poles	Price, SPU**
DI561	8 / - / -	24 V DC	-	-	-	1TNE 968 902 R2101	1	-	6
DI562	16 / - / -	24 V DC	-	-	-	1TNE 968 902 R2102	1	1	6
DI571	8 / - / -	100-240 V AC	-	-	-	1TNE 968 902 R2103	1	1	6
DO561	- / 8 / -	24 V DC	Transistor	24 V DC, 0.5 A	-	1TNE 968 902 R2201	-	1	6
DO571	- / 8 / -	-	Relay	24 V DC, 120/240 V AC, 2A	-	1TNE 968 902 R2202	-	1	6
DO572	- / 8 / -	-	Triac	100-240 V AC, 0.3A	-	1TNE 968 902 R2203	1	1	6
DX561	8 / 8 / -	24 V DC	Transistor	24 V DC, 0.5 A	-	1TNE 968 902 R2301	1	1	6
DX571	8 / 8 / -	24 V DC	Relay	24 V DC, 120/240 V AC, 2A	-	1TNE 968 902 R2302	1	1	6
DC561	- / - / 16	24 V DC	Transistor	24 V DC, 0.1A	-	1TNE 968 902 R2001	HE10-201	-	6

Terminal block (9 or 11 poles) is necessary for each S500-eCo I/O. They are delivered separately. See page 35.

Type	Number of DI/DO/DC	Input signal	Relay/transistor outputs	Output signal	Usable with DC505-FBP	Order code	Price	Weight per piece kg	SPU**
DI524	32/-/-	24 V DC	-	-	•	1SAP 240 000 R0001		0.200	1
DC522	-/-/16	24 V DC	Transistor	24 V DC, 0.5 A	•	1SAP 240 600 R0001		0.200	1
DC523	-/-/24	24 V DC	Transistor	24 V DC, 0.5 A	•	1SAP 240 500 R0001		0.200	1
DC532	16/-/16	24 V DC	Transistor	24 V DC, 0.5 A	•	1SAP 240 100 R0001		0.200	1
DX522	8/8/-	24 V DC	Relay	230 V AC, 3 A ¹⁾	•	1SAP 245 200 R0001		0.300	1
DX531	8/4/-	230 V AC	Relay	230 V AC, 3 A ¹⁾	•	1SAP 245 000 R0001		0.300	1

¹⁾ Relay outputs, changeover contacts

Type	Scope of delivery	Usable with DC505-FBP	Order code	Price	Weight per piece kg	SPU**
CD522	CD522, encoder & PWM module, 2 encoder inputs, 2 PWM outputs, 2 digital inputs 24 V DC, 8 digital outputs 24 V DC	•	1SAP 260 300 R0001		0.125	1

DC541 occupies one communication module slot on the CPU terminal base, no terminal block required.

Type	Number of DI/DO/DC	Input signal	Relay/transistor outputs	Output signal	Usable with DC505-FBP	Order code	Price	Weight per piece kg	SPU**
DC541 ²⁾	-/-/8	24 V DC	Transistor	24 V DC, 0.5 A	-	1SAP 270 000 R0001		0.100	1

²⁾ Multifunctional module, refer to table on page 26 for details.

Analogue input/output modules

- For central expansion of the AC500 CPUs
- For decentralized expansion in combination with interface module DC551-CS31, Profinet CI50x modules or DC505-FBP for S500 I/Os.
- Plug-in electronic modules, terminal unit required (refer to table below)
- Each channel can be configured individually
- Resolution: 12 bits + sign (AI531: 15 bits + sign) (AI561, AO561, AX561: 12 bits/11 bits + sign) (AI562, AI563: 15 bits + sign)

Type	AI/AO	Input-signal	Output-signal	Usable with DC505-FBP	Order code	Terminal block 9 poles	Terminal block 11 poles	Price, SPU**
AI561	4 / 0	-2.5...+2.5 V, -5...+5 V, 0...5 V, 0...10 V, 0...20 mA, 4...20 mA	-	-	1TNE 968 902 R1101	1	1	6
AI562	2 / 0	PT100, PT1000, Ni100, Ni1000, Resistance: 150 Ω, 300 Ω	-	-	1TNE 968 902 R1102	-	1	6
AI563	4 / 0	S, T, R, E, N, K, J, Voltage range : ±80 mV	-	-	1TNE 968 902 R1103	1	1	6
AO561	0 / 2	-	-10...+10 V, 0...20 mA, 4...20 mA	-	1TNE 968 902 R1201	-	1	6
AX561	4 / 2	-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	-	1TNE 968 902 R1301	1	1	6

Terminal block (9 or 11 poles) is necessary for each S500-eCo I/O. They are delivered separately. See page 35.

**SPU: Sales Package Unit

Scalable PLC AC500 with optional wireless I/O

Ordering data



DA501



TU505



TU516

Analogue input/output modules

Type	Number of AI/AO	Input signal	Output signal	Usable with DC505-FBP ¹	Order code	Price*	Weight per piece: kg	SPU**
AI523	16 / 0	0 ... 10 V, ± 10 V	–	•	1SAP 250 300 R0001		0.200	1
AX521	4 / 4	0 / 4 ... 20 mA	± 10 V	•	1SAP 250 100 R0001		0.200	1
AX522	8 / 8 (max. 4 current outputs)	Pt100, Pt1000, Ni1000	0 / 4 ... 20 mA		1SAP 250 000 R0001		0.200	1
AO523	0 / 16 (max. 8 current outputs)	–			1SAP 250 200 R0001		0.200	1
AI531	8 / 0	0...10 V, 0/4...20 mA, Pt100, Pt1000	–	•	1SAP 250 600 R0001		0.200	1

Analogue/digital mixed I/O module

Standard I/O module with high functionality: 8 digital input channels 24 V DC with configurable input filter time, 8 configurable In/Output channels, DC as DI: 24 V DC, DC as DO: 24 V DC/0.5 A, input filter configurable from 0.1, 1, 8... 32 ms, first two inputs are also usable as high-speed counter (up to 50 kHz) together with an AC500 CPU or a CS31 communication interface. 4 analogue input channels independent configurable for voltage (0...10 V, ±10 V), current (0/4... 20 mA), 12 bit + sign, 1-2 wire connection, 24 V DC process supply voltage. Galvanic isolation per module.

Type	Number of AI/AO/DI/DO/DC	Input signal	Output type	Output signal	Order code	Price*	Weight per piece: kg	SPU**
DA501	4/2/8/-/8	24 V DC / 0...10 V, -10...+10 V, 0...20 mA, 4...20 mA, PT100, PT1000, Ni100, Ni1000	Transistor	24 V DC, 0.5 A / -10...+10 V, 0...20 mA, 4...20 mA	1SAP 250 700 R0001		0.200	1

Terminal units

For digital and analogue expansion modules and interface modules.

Please note: For modules with relay outputs, terminal units for 230 V AC (TU531/TU532) are required!

For the module-terminal unit assignments, please consult the table.

	For I/O modules		For interface modules		
	TU515/TU516	TU531/TU532	TU505-FBP / TU506-FBP	TU507-ETH / TU508-ETH	TU551-CS31 / TU552-CS31
DA501	•				
DI524	•				
DC522	•				
DC523	•				
DC532	•				
DX522		•			
DX531		•			
AI523	•				
AI531	•				
AX521	•				
AX522	•				
AO523	•				
CD522	•				
DC505-FBP			•		
DC551-CS31					•
CI590-CS31-HA					•
CI592-CS31					•
CI501-PNIO				•	
CI502-PNIO				•	
CI511-ETHCAT				•	
CI512-ETHCAT				•	

Type	For	Supply	Connection type	Order code	Price*	Weight per piece: kg	SPU**
TU505-FBP	FBP interface modules		Screw-type terminals	1SAP 210 200 R0001		0.300	1
TU506-FBP	FBP interface modules		Spring-type terminals	1SAP 210 000 R0001		0.300	1
TU507-ETH	Ethernet interface modules	24 V DC	Screw-type terminals	1SAP 214 200 R0001			1
TU508-ETH	Ethernet interface modules	24 V DC	Spring-type terminals	1SAP 214 000 R0001			1
TU515	I/O modules	24 V DC	Screw-type terminals	1SAP 212 200 R0001		0.300	1
TU516	I/O modules	24 V DC	Spring-type terminals	1SAP 212 000 R0001		0.300	1
TU531	I/O modules AC / relay	230 V AC	Screw-type terminals	1SAP 217 200 R0001		0.300	1
TU532	I/O modules AC / relay	230 V AC	Spring-type terminals	1SAP 217 000 R0001		0.300	1
TU551-CS31	CS31 interface modules	24 V DC	Screw-type terminals	1SAP 210 600 R0001		0.300	1
TU552-CS31	CS31 interface modules	24 V DC	Spring-type terminals	1SAP 210 400 R0001		0.300	1

*Unit price is given by piece - **SPU: Sales Package Unit

Scalable PLC AC500 with optional wireless I/O

Ordering data



DC505



CI501



CI511

Connectors for AC500-eCo

Type	Description	Order code	Price*	Weight per piece kg	SPU**
L44460901501	9 poles terminal block for S500 I/O eCo modules Screw Front / Cable Side	1SSS 444 609 R1100		0.017	6
L44461101501	11 poles terminal block for S500 I/O eCo modules Screw Front / Cable Side	1SSS 444 611 R1100		0.020	6
L44440901501	9 poles terminal block for S500 I/O eCo modules Screw Front / Cable Front	1SSS 444 409 R1100		0.026	6
L44441101501	11 poles terminal block for S500 I/O eCo modules Screw Front / Cable Front	1SSS 444 411 R1100		0.035	6
L44470901501	9 poles terminal block for S500 I/O eCo modules Spring Front / Cable Front	1SSS 444 709 R1100		0.016	6
L44471101501	11 poles terminal block for S500 I/O eCo modules Spring Front / Cable Front	1SSS 444 711 R1100		0.020	6

* Unit price is given by piece

⚠ Only ABB connectors must be used with AC500-eCo

Communication interface modules

For decentralized I/Os

Communication via FieldBusPlug with Profibus DP, DeviceNet or CANopen. Fieldbus-dependant FieldBusPlug required*, terminal unit TU505 or TU506 required (DC505-FBP)

Communication via internal interface with CS31 system bus, plug-in electronic modules, terminal unit TU551 or TU552 required. In DC, channels can be configured individually as inputs or outputs (DC551-CS31, CI590-CS31-HA, CI592-CS31).

Type	Number of AI/AO/DI/DO/DC	Input signal	Output-type	Output-signal	Order code	Price	Weight per piece kg	SPU**
DC505-FBP	-/-/8/-/8	24 V DC	Transistor	24 V DC, 0.5 A	1SAP 220 000 R0001		0.200	1
DC551-CS31	-/-/8/-/16	24 V DC	Transistor	24 V DC, 0.5 A	1SAP 220 500 R0001		0.200	1
CI590-CS31-HA	-/-/16	24 V DC	Transistor	24 V DC, 0.5 A	1SAP 220 500 R0001		0.200	1
CI592-CS31	4/2/8/-/8	24 V DC / 0...10 V, -10...+10 V, 0...20 mA, 4...20 mA, PT100, PT1000, Ni100, Ni1000	Transistor	24 V DC, 0.5 A / -10...+10 V, 0...20 mA, 4...20 mA	1SAP 221 200 R0001		0.200	1

* Please refer to the FieldBusPlugs catalogue for information about FBP. The currently available FBP Fieldbus plugs are listed in the catalogue 2CDC 120 141 D02XX

Communication interface modules

For decentralized I/Os

Communication via PROFINET IO real-time Ethernet based protocol (CI501-PNIO)

Terminal unit TU507 or TU508 required (CI502-PNIO)

Communication via EtherCAT real-time Ethernet based protocol. Terminal unit TU507 or TU508 required (CI511-ETHCAT, CI512-ETHCAT)

Type	Number of AI/AO/DI/DO/DC	Input signal	Output-type	Output-signal	Order code	Price	Weight per piece kg	SPU**
CI501-PNIO	4/2/8/8/-	24 V DC / 0...10 V, -10...+10 V, 0...20 mA, 4...20 mA, PT100, PT1000, Ni100, Ni1000	Transistor	24 V DC, 0.5 A / -10...+10 V, 0...20 mA, 4...20 mA	1SAP 220 600 R0001		0.200	1
CI502-PNIO	-/-/8/8/8	24 V DC	Transistor	24 V DC, 0.5 A	1SAP 220 700 R0001		0.200	1
CI511-ETHCAT	4/2/8/8/-	24 V DC / 0...10 V, -10...+10 V, 0...20 mA, 4...20 mA, PT100, PT1000, Ni100, Ni1000	Transistor	24 V DC, 0.5 A / -10...+10 V, 0...20 mA, 4...20 mA	1SAP 220 900 R0001		0.200	1
CI512-ETHCAT	-/-/8/8/8	24 V DC	Transistor	24 V DC, 0.5 A	1SAP 221 000 R0001		0.200	1

**SPU: Sales Package Unit

Scalable PLC AC500 with optional wireless I/O

Ordering data



PS501



TA562-RS-RTC



TA561-RTC



PM554-STAKIT

Programming package PS501 Control Builder AC500

For all AC500 CPUs, all programming languages according to IEC 61131-3

Contains: 5 programming languages, sampling - trace, debugging, offline simulation, integrated visualization, trace recording (multi-channel), recipe management, Continuous Function Chart

Languages: German / English / French

Scope of delivery: Software, libraries and documentation (PDF) on CD-ROM

Type	For	Description	Order code	Price	Weight per piece kg	SPU**
PS501	all AC500 CPUs	Programming package PS501 Control Builder AC500	1SAP 190 100 R0200		0.300	1
PS541-HMI ¹⁾		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		0.300	1
PS542-WEB-PC ^{1) 2)}		License enabling package for PC applet for WEBserver visualization. Delivery includes licence code and documentation	1SAP 190 900 R0001		0.300	1

1) This package allows granting the license for the software. To install the PC applet WEBserver or HMI software, the PS501 control builder should be purchased separately. - 2) PS542-WEB-PC includes visualization package. - Please refer to the FieldBusPlug catalog for Field-BusPlug (FBP) ordering data. The currently available FBP Fieldbus plugs are listed in the catalogue 2CDC190022D0201.

Motion control library

Type	For	Description	Order code	Price	Weight per piece kg	SPU**
PS551-MC	all AC500 CPUs	Motion control library single license	1SAP 190 600 R0001			1
PS551-MC	all AC500 CPUs	Motion control library multiple license	1SAP 190 600 R0101			1

Accessories for AC500-eCo

Type	Description	Order code	Price	Weight per piece kg	SPU**
MC502	SD Memory Card 512 MB needs the MC503 option	1SAP 180 100 R0001		0.020	1
MC503	SD Memory Card adapter	1TNE 968 901 R0100		0.100	1
TK503	Programming cable USB => RS485 SUB-D, 3 m	1TNE 968 901 R1100		0.400	1
TK504	Programming cable USB => RS485 Terminal block, 3 m	1TNE 968 901 R2100		0.400	1
TA561-RTC ³⁾	Real time clock option board, battery CR2032 not included	1TNE 968 901 R3200		0.100	1
TA562-RS	TA562-RS, RS485 serial adapter COM2 for CPU's PM554 and PM564, to be installed in right option slot of the CPU, pluggable screw terminal block included	1TNE 968 901 R4300		0.100	1
TA562-RS-RTC ³⁾	TA562-RS-RTC, Combined Real Time Clock option with RS485 serial adapter COM2 for CPU's PM554 and PM564, to be installed in right option slot of the CPU, pluggable screw terminal block, battery CR2032 not included	1TNE 968 901 R5210		0.100	1
TA566	Wall Mounting Accessory for AC500 eCo CPU and S500 eCo I/O modules	1TNE 968 901 R3107		0.200	1
TA570	Set of accessories: 6 x plastic cover for option slot, 6 x 5 pole terminal block for AC500 eCo, 6 x 5 pole screw terminal block for COM2 serial interface.	1TNE 968 901 R3203			1
TA571-SIM	Input simulator for onboard IO of CPU PM55x and PM56x, 6 x switch, 24 V DC	1TNE 968 903 R0203		0.050	1
PM554-STAKIT	Starter kit: 1 x CPU PM554-T with CPU power supply, 1 x TK503 programming cable, 1 x PS501 promotion CD*, 1 x E-learning DVD, 1 screwdriver	1TNE 968 903 R0100			1

* Promotion CD means no licensed product

**SPU: Sales Package Unit

³⁾ Standard battery CR 2032 has to be purchased separately

Scalable PLC AC500 with optional wireless I/O

Ordering data



MC502



TA511-CASE

Accessories for AC500

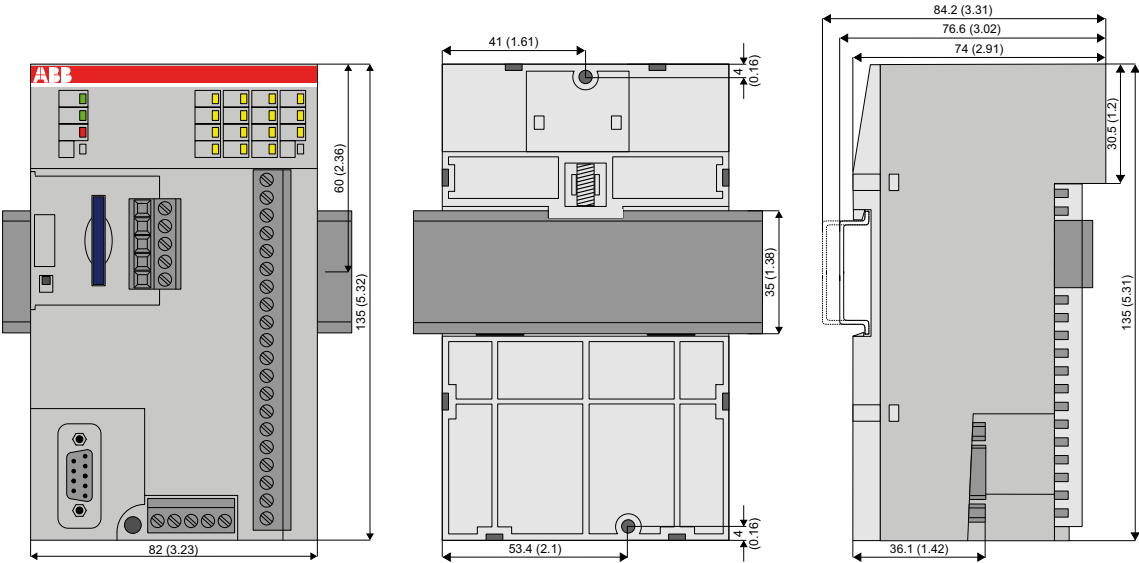
Type	For	Description	Order code	Price	Weight per piece kg	SPU**
TK501	AC500 CPUs COM2	Programming cable Sub-D/Sub-D, length 5 m	1SAP 180 200 R0001		0.400	1
TK502	AC500 CPUs COM1	Programming cable Sub-D/terminal block, length 5 m	1SAP 180 200 R0101		0.400	1
UTF21-FBP	Cable for programming the AC500 via the integrated fieldbus neutral interface	Connection to PC via USB interface. Includes USB extension cable and installation CD.	1SAJ 929 400 R0001			1
MC502	AC500 CPUs	Memory card (SD card) 512 MB	1SAP 180 100 R0001		0.100	1
TA521	AC500 CPUs	Lithium battery for data buffering	1SAP 180 300 R0001		0.100	1
TA523	I/O modules	Pluggable marker holder for I/O modules, packing unit incl. 10 pcs.	1SAP 180 500 R0001		0.300	1
TA524	Terminal base	Communication module, dummy housing	1SAP 180 600 R0001		0.120	1
TA525	I/O modules	White labels, packing unit incl. 10 pcs.	1SAP 180 700 R0001		0.100	1
TA526	CPU terminal base	Accessories for mounting, packing unit incl. 10 pcs.	1SAP 180 800 R0001		0.200	1
TA527	CPU terminal base	5-pole power plug for AC500. Spare part. Can be plugged to CPU terminal base TB5x1. Packing unit incl. 5 pcs.	1SAP 181 100 R0001		0.200	1
TA528	CPU terminal base	9-pole COM1 plug for AC500. Spare part. Can be plugged to CPU terminal base TB5x1. Packing unit incl. 5 pcs.	1SAP 181 200 R0001		0.200	1
TA511-CASE	AC500	AC500 basic demo case with Ethernet CPUs, I/Os, FBP, Profibus	1SBP 260 082 R1001		6.500	1

** SPU: Sales Package Unit

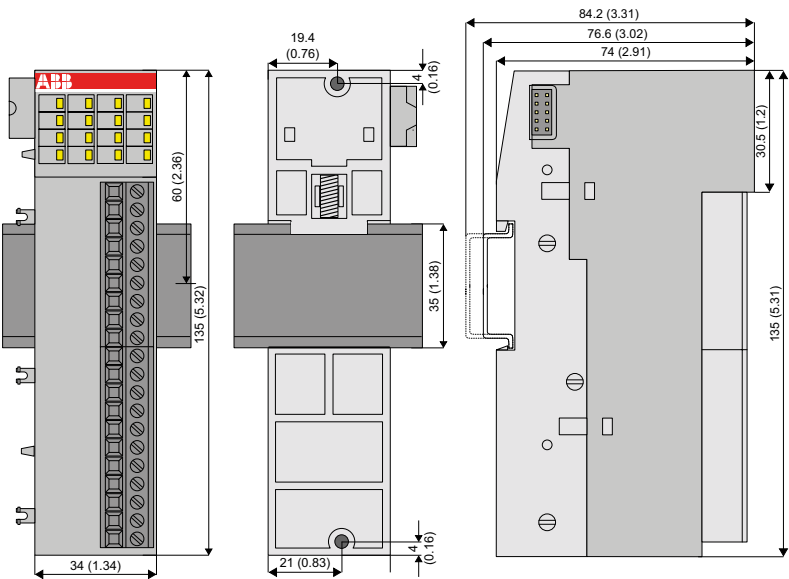
AC500-eCo scalable PLC with optional wireless I/O

CPU, I/O expansion and interface module

Dimensions mm (inches)



CPU AC500-eCo

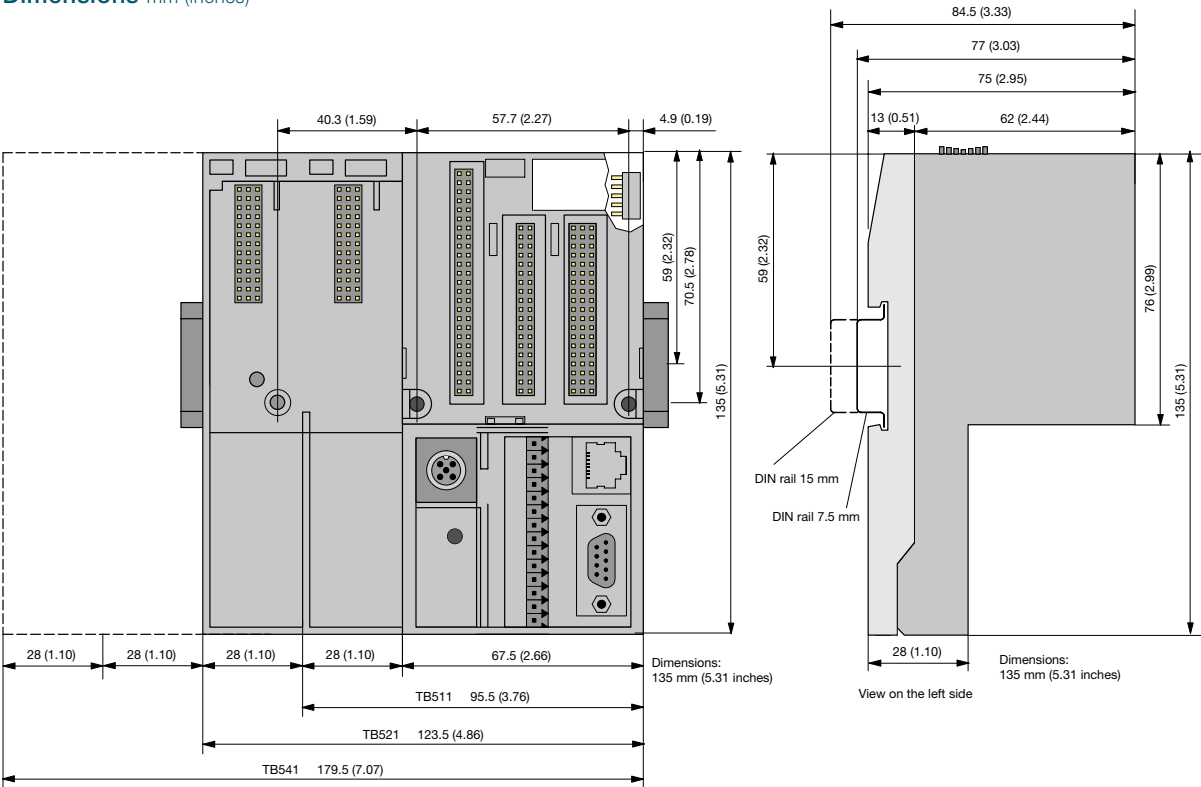


I/O expansion and interface module

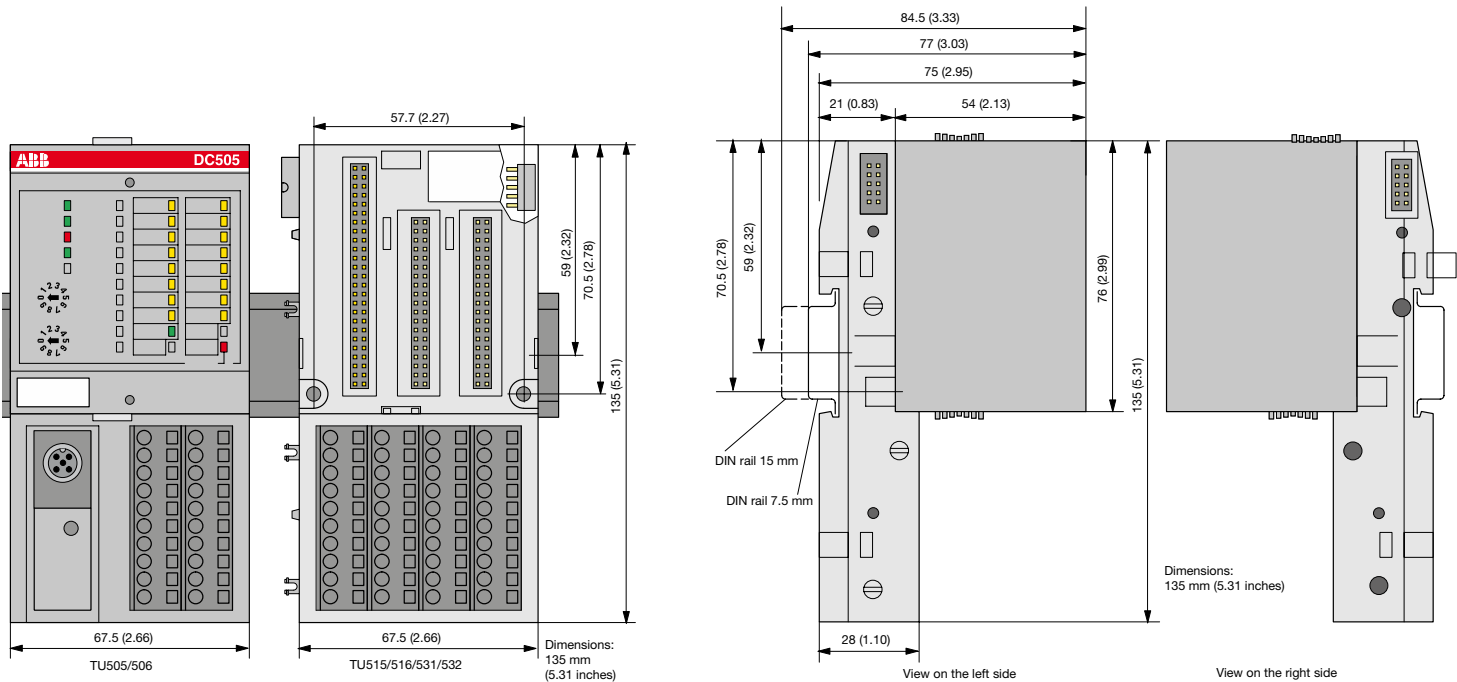
AC500 scalable PLC with optional wireless I/O

CPU terminal bases TB5XX, I/O expansion and interface module

Dimensions mm (inches)



CPU terminal base TB511, TB521 and TB541



I/O expansion and interface modules

Scalable PLC AC500 with optional wireless I/O

Approvals and certifications

Symbols and legends: ■ Standard product certified: product sticker wears approval mark when it is obligatory
 ● In special model certified
 ◆ Certified with restrictions
 n.a. Not applicable

□ Approval submitted, date of approval delivery on request
 ○ No general approbation obligation, unless special cases
 ◇ Submission planned (no date available, details on request)
 n.n. Not needed

	Approvals				Shipping classification companies							
Symbol												
Abbreviation	CE	cUL	cTIC	GOST R	ABS	BV	DNV	GL	LRS	RINA	RMRS	
Approved in		USA/Canada	Australia	Russia	USA	France	Norway	Germany	Great Britain	Italy	Russia	
TB511-ARCNET	■	■	■	■	■	■	■	■	■	■	■	
TB511-ETH	■	■	■	■	■	■	■	■	■	■	■	
TB521-ARCNET	■	■	■	■	■	■	■	■	■	■	■	
TB521-ETH	■	■	■	■	■	■	■	■	■	■	■	
TB541-ETH	■	■	■	■	■	■	■	■	■	■	■	
PM572	■	■	■	■	◇	◇	◇	◇	◇	◇	◇	
PM573-ETH	■	■	■	■	◇	■	◇	◇	◇	◇	◇	
PM582	■	■	■	■	■	■	■	■	■	■	■	
PM583-ETH	■	■	■	■	◇	◇	◇	◇	◇	◇	◇	
PM590-ETH	■	■	■	■	■	■	■	■	■	■	■	
PM591-ETH	■	■	■	■	■	■	■	■	■	■	■	
CM572-DP	n.a.	n.a.	■	■	■	■	■	■	■	■	■	
CM574-RS	■	■	■	■	■	◇	■	■	◇	■	◇	
CM574-RCOM	■	■	■	■	■	◇	■	■	◇	■	◇	
CM575-DN	■	■	■	■	■	■	■	■	■	■	■	
CM577-ETH	■	■	■	■	■	■	■	■	■	■	■	
CM578-CN	■	■	■	■	■	■	■	■	■	■	■	
CM579-ETHCAT	■	■	■	■	■	◇	◇	■	◇	■	◇	
CM579-PNIO	■	■	■	■	■	◇	◇	■	◇	■	◇	
MC502	■	■	n.a.	■	■	■	■	■	■	■	■	
TK501	■	■	n.a.	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
TK502	■	■	n.a.	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
TA521	■	■	n.a.	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
TA523	■	■	n.a.	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
TA524	■	■	n.a.	■	n.a.	n.a.	n.a.	■	n.a.	n.a.	n.a.	
TA525	■	■	n.a.	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
TA526	■	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
TA510-CASE	■	n.a.	n.a.	n.a.	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.	n.n.	
TA527	■	■	n.a.	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
TA528	■	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
PS501-PROG	■	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
PS541-HMI	■	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
PS542-WEB-PC	■	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
PS551-MC	■	■	n.a.	■	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	
TU505-FBP	■	■	■	■	■	■	■	■	■	■	■	
TU506-FBP	■	■	■	■	■	■	■	■	■	■	■	
TU507-ETH	■	■	■	■	■	◇	◇	■	◇	■	◇	
TU508-ETH	■	■	■	■	■	◇	◇	■	◇	■	◇	
TU515	■	■	■	■	■	■	■	■	■	■	■	
TU516	■	■	■	■	■	■	■	■	■	■	■	
TU531	■	■	■	■	■	■	■	■	■	■	■	
TU532	■	■	■	■	■	■	■	■	■	■	■	
TU541	■	■	■	■	■	■	■	■	■	■	■	
TU542	■	■	■	■	■	■	■	■	■	■	■	
TU551-CS31	■	■	■	■	■	■	■	■	■	■	■	
TU552-CS31	■	■	■	■	■	■	■	■	■	■	■	
CI501-PNIO	■	■	■	■	■	◇	◇	■	◇	■	◇	
CI502-PNIO	■	■	■	■	■	◇	◇	■	◇	■	◇	
CI511-ETHCAT	■	■	■	■	■	◇	◇	■	◇	■	◇	
CI512-ETHCAT	■	■	■	■	■	◇	◇	■	◇	■	◇	
CI590-CS31-HA	■	■	■	■	■	◇	◇	■	◇	■	◇	
CI592-CS31	■	■	■	■	◇	◇	◇	■	◇	■	◇	
DA501	■	■	■	◇	◇	◇	◇	■	◇	■	◇	
DC505-FBP	■	■	■	■	■	■	■	■	■	■	■	
CD522	■	■	■	■	■	◇	◇	■	◇	■	◇	
DC522	■	■	■	■	■	■	■	■	■	■	■	
DC523	■	■	■	■	■	■	■	■	■	■	■	
DC532	■	■	■	■	■	■	■	■	■	■	■	
DC551-CS31	■	■	■	■	■	■	■	■	■	■	■	
DI524	■	■	■	■	■	■	■	■	■	■	■	
DX522	■	■	■	■	■	■	■	■	■	■	■	
DX531	■	■	■	■	■	■	■	■	■	■	■	
AI523	■	■	■	■	■	■	■	■	■	■	■	
AI531	■	■	■	■	■	◇	◇	■	◇	■	◇	
AO523	■	■	■	■	■	■	■	■	■	■	■	
AO523	■	■	■	■	■	■	■	■	■	■	■	
AX521	■	■	■	■	■	■	■	■	■	■	■	
AX522	■	■	■	■	■	■	■	■	■	■	■	
DC541-CM	■	■	■	■	■	■	■	■	■	■	■	

Scalable PLC AC500 with optional wireless I/O

Approvals and certifications

Symbols and legends: ■ Standard product certified: product sticker wears approval mark when it is obligatory
 ● In special model certified
 ◆ Certified with restrictions
 n.a. Not applicable

□ Approval submitted, date of approval delivery on request
 ○ No general approbation obligation, unless special cases
 ◇ Submission planned (no date available, details on request)
 n.n. Not needed

	Approvals				Shipping classification companies						
Symbol											
Abbreviation	CE	cUL	cTIC	GOST R	ABS	BV	DNV	GL	LRS	RINA	RMRS
Approved in		USA/Canada	Australia	Russia	USA	France	Norway	Germany	Great Britain	Italy	Russia
PM554-R	■	■	■	■	■	◇	■	■	■	■	◇
PM554-R-AC	■	■	■	■	■	◇	■	■	■	■	◇
PM554-T	■	■	■	■	■	◇	■	■	■	■	◇
PM554-T-ETH	■	■	◇	◇	◇	◇	◇	◇	◇	◇	◇
PM564-R	■	■	■	■	■	◇	■	■	■	■	◇
PM564-R-AC	■	■	■	■	■	◇	■	■	■	■	◇
PM564-R-ETH	■	■	◇	◇	◇	◇	◇	◇	◇	◇	◇
PM564-R-ETH-AC	■	■	◇	◇	◇	◇	◇	◇	◇	◇	◇
PM564-T	■	■	■	■	■	◇	■	■	■	■	◇
PM564-T-ETH	■	■	◇	◇	◇	◇	◇	◇	◇	◇	◇
MC503	■	■	■	■	■	◇	■	■	■	■	◇
TK503	■	■	■	■	■	◇	■	■	◇	◇	◇
TK504	■	■	◇	◇	◇	◇	◇	◇	◇	◇	◇
TA561-RTC	■	■	■	■	■	◇	■	■	◇	◇	◇
TA562-RS	■	■	■	■	■	◇	■	■	■	■	◇
TA562-RS-RTC	■	■	■	■	■	◇	■	■	■	■	◇
TA566	n.a.	n.a.	n.a.	■	n.a.	n.a.	n.a.	■	■	n.a.	n.a.
TA570	n.a.	■	◇	■	◇	◇	n.a.	n.a.	n.a.	n.a.	n.a.
AI561	■	■	■	■	■	◇	■	■	■	■	◇
AI562	■	■	■	■	■	◇	■	■	■	■	◇
AI563	■	■	■	■	■	◇	■	■	■	■	◇
AO561	■	■	■	■	■	◇	■	■	■	■	◇
AX561	■	■	■	■	■	◇	■	■	■	■	◇
DC561	■	■	■	■	■	◇	■	■	■	■	◇
DI561	■	■	■	■	■	◇	■	■	■	■	◇
DI562	■	■	■	■	■	◇	■	■	■	■	◇
DI571	■	■	■	■	■	◇	■	■	■	■	◇
DO561	■	■	■	■	■	◇	■	■	■	■	◇
DO571	■	■	■	■	■	◇	■	■	■	■	◇
DO572	■	■	■	■	■	◇	■	■	■	■	◇
DX561	■	■	■	■	■	◇	■	■	■	■	◇
DX571	■	■	■	■	■	◇	■	■	■	■	◇
L44440901501	■	UL	◇	◇	◇	◇	■	■	■	■	◇
L44441101501	■	UL	◇	◇	◇	◇	■	■	■	■	◇
L44460901501	■	UL	◇	◇	◇	◇	■	■	■	■	◇
L44461101501	■	UL	◇	◇	◇	◇	■	■	■	■	◇
L44470901501	■	UL	◇	◇	◇	◇	■	■	■	■	◇
L44471101501	■	UL	◇	◇	◇	◇	■	■	■	■	◇

Automation products

Displays and operator panels



Human Machine Interfaces

ABB operator panels are distinguished by their easy yet comprehensive functionality. These devices make comprehensive operational information for production plants and machines available at a single touch.

This enables an operator to intervene manually at any time to stop or modify the production process.

Individual solutions for each application

The ABB range of HMI operator panels offers an excellent diversity of features and functionality to facilitate maximum operator comfort at a price to meet requisite budgetary needs.

ABB operator panels offer highly efficient and effective functionality such as alarm and event management, graphics, animation, macro and Ladder Diagram functionality and recipe management. The range is available from a compact 3 inches monochrome version up to a large 10.4 inches colour TFT display.

RS232 & 485 Modbus are standard communications options across the whole range with Ethernet being available on most products. Other options include Ethernet plus CF Memory card slot and USB ports.

Most models are available in either STN or TFT screen format.

Displays and operator panels

CP400: graphics and text displays, touch panels



	CP410M	CP415M	CP420B	CP430B	CP430BP	CP430BP-ETH	
Display type	LCD-STN 16 grey	Touch Mono FSTN 16 grey	Touch 16 blue STN	Touch 16 blue, STN			
Display size	3"	3.5"	4.7"	5.7"			
Resolution	pixels 160 x 80	240 x 240	240 x 128	320 x 240			
Brightness	cd/m² 36	90	110	110			
Contrast adjustment	Via VR (variable resistance)	Via touch panel	Via touch panel	Via touch panel			
Back-light type	LED	LED	CCFL	CCFL			
Back-light life	75 000 hours	40 000 hours	50 000 hours	50 000 hours			
Touch screen (number of times)	–	> 1 million	> 1 million	> 1 million			
Function keys / other keys	16 keys (10 of which may be function keys)	–	–	5 keys + 1 key menu			
Application flash prom	4 MB	4 MB	4 MB	4 MB			
RTC (rechargeable lithium battery)	•	•	•	•	•	•	
Ethernet	–	–	–	–	–	•	
Alarm management	–	•	•	•	•	•	
Recipe management	–	–	–	–	•	•	
Data/Recipe	–	–	–	–	512 KB		
Trends	–	•	•	•	•	•	
Data storage (CF card)	–	–	–	–	•	•	
Communication interface	1	1	2	2			
USB 2.0	–	–	–	–	1 host + 1 device		
Printer port	–	–	–	–	USB		
UL certificate	•	•	•	•	•	•	
Ambient temperature	0 °C to +50 °C						
Storage temperature	-10 °C to +60 °C						
Relative humidity	20 % to 90 %						
Consumption	< 330 mA	< 330 mA	< 500 mA	< 840 mA			
Dimensions							
LxHxD (external)	mm 173 x 106 x 52	96 x 96 x 40.6	170 x 103 x 45	195 x 145 x 60			
Weight	kg 0.650	0.230	0.470	0.810			

For the entire range:

- 32 bit RISC CPU
- Graphics and text
- Macro and Ladder
- On-line and off-line simulation
- Real time clock
- Password protection
- 24 V DC ± 15% supply voltage
- IP65 class protection
- Conform to ROHS
- UL certified

Displays and operator panels

CP400: graphics and text displays, touch panels



	CP430T	CP430T-ETH	CP435T	CP435T-ETH	CP440C-ETH	CP450T	CP450T-ETH
	Touch 64 K colors, TFT		Touch 64 K colors, TFT		Touch 64 K colors, STN	Touch 64 K colors, TFT	
	5.7"		7"		7.5"	10.4"	
	320 x 240		800 x 480		640 x 480	640 x 480	
	300		250		350	350	
	–		–		Via touch panel	–	
	CCFL		CCFL		CCFL	CCFL	
	60 000 hours		30 000 hours		45 000 hours	50 000 hours	
	> 1 million		> 1 million		> 1 million	> 1 million	
	5 keys + 1 key menu		6 keys + 1 key menu		6 keys + 1 key menu	7 keys + 1 key menu	
	4 MB		8 MB		8 MB	8 MB	
	•	•	•	•	•	•	•
	–	•	–	•	•	–	•
	•	•	•	•	•	•	•
	•	•	•	•	•	•	•
	512 KB		512 KB		512 KB	512 KB	
	•	•	•	•	•	•	•
	•	•	•	•	•	•	•
	2		3		3	3	
	1 host + 1 device		2 hosts + 1 device		2 hosts + 1 device	2 hosts + 1 device	
	USB		USB		USB	USB	
	•	•	•	•	•	•	•
	0 °C to +50 °C						
	-10 °C to +60 °C						
	20 % to 90 %						
	< 840 mA		< 1 A		< 1 A	< 1.25 A	
	195 x 145 x 60		231 x 176 x 47		231 x 176 x 47	297 x 222 x 52	
	0.810		1.200		1.200	1.900	

Displays and operator panels

Ordering data for CP400 operator panels



CP450

Operator panels with graphics display - LCD screen with backlight

Type	Pixels	Display	Order code	Price	Weight per piece kg
CP410M	160 x 80	3", 16 grey levels	1SBP 260 181 R1001		0.650

Operator panels with touch display

Type	Pixels	Display	Order code	Price	Weight per piece kg
CP415M	240 x 240	3.5", 16 grey levels	1SBP 260 191 R1001		0.230
CP420B	240 x 128	4.7", 16 blue levels	1SBP 260 182 R1001		0.470
CP430B	320 x 240	5.7", 16 blue levels	1SBP 260 183 R1001		0.810
CP430BP	320 x 240	5.7", 16 blue levels	1SBP 260 192 R1001		0.810
CP430BP-ETH	320 x 240	5.7", 16 blue levels	1SBP 260 194 R1001		0.810
CP430T	320 x 240	5.7", 64000 colors TFT	1SBP 260 195 R1001		0.810
CP430T-ETH	320 x 240	5.7", 64000 colors TFT	1SBP 260 196 R1001		0.810
CP435T	800 x 480	7", 64000 colors TFT	1SBP 260 193 R1001		1.200
CP435T-ETH	800 x 480	7", 64000 colors TFT	1SBP 260 197 R1001		1.200
CP440C-ETH	640 x 480	7.5", 64000 colors STN	1SBP 260 187 R1001		1.200
CP450T	640 x 480	10.4", 64000 colors TFT	1SBP 260 188 R1001		1.900
CP450T-ETH	640 x 480	10.4", 64000 colors TFT	1SBP 260 189 R1001		1.900

Programming cables CP400

Type	Plug on CP400 side	Description	Order code	Price	Weight per piece kg
TK401	SubD9	Connection to COM1 of CP400. Length: 4 m	1SBN 260 216 R1001		0.180
TK402	SubD25	Connection to COM2 of CP400. Length: 4 m	1SBN 260 217 R1001		0.230

Communication cables CP400 (connection operator panel <-> PLC)

Type	Plug on PLC side	PLC	Order code	Price	Weight per piece kg
TK403	MiniDin	AC31 series 40..50	1SBN 260 218 R1001		0.120
TK405	SubD9	AC500	1SBN 260 221 R1001		0.130
TK406	SubD9	AC500-eCo	1SBN 260 224 R1001		0.130

Programming software

Type	Description	Order code	Price	Weight per piece kg
CP400Soft	Programming software for CP400 operator panels. Delivery includes the programming software and corresponding documentation on CD-ROM.	1SBS 260 284 R1001		0.070

DigiVis 500

Reliability and accessibility,
Supervision within your grasp...



Reliability and accessibility, supervision within your grasp

DigiVis 500 software is a simple and easily accessible solution in the development of supervision applications. It offers all the functions that are essential to a secure environment, its functional reliability and dual-display mode will simplify all your supervision operations, keeping interruptions to a minimum.

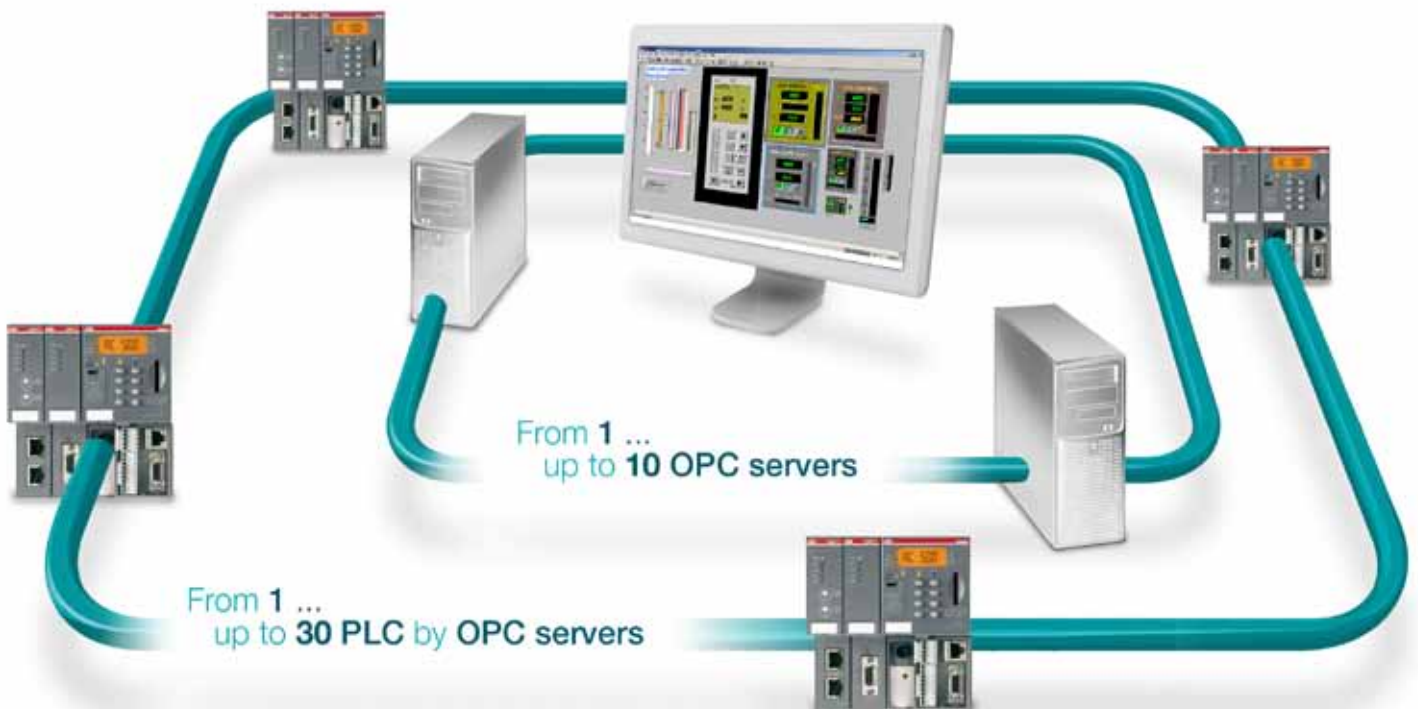
Whether you are an OEM, a machine manufacturer or an integrator DigiVis 500 will adapt to any application, on a machine or in the control room.

Create your applications quickly and easily

The environment and the development functions have been designed to offer greater accessibility and to be exceptionally user-friendly.

The management structure allows you to place data in a hierarchy and access the different elements of your project efficiently.

Configuring the supervision applications is easy, whether you create your own or choose to customize or use one of the predefined models from the different libraries.





Adaptability

A range of options are available to allow you to choose and adjust the maximum number of operational variables per project, from 50 to an infinite number of variables, you will find a size to fit your application needs.

Save time

DigiVis 500 is easy to connect and put into operation through its interaction with our PLC AC500 solution.

The development functions require no scripting, so you will not waste time with debugging.

What is more, updating your projects on the fly allows you to quickly make any minor changes without rebooting the software.

Manage your projects efficiently

DigiVis 500 software runs on any Windows XP PC platform.

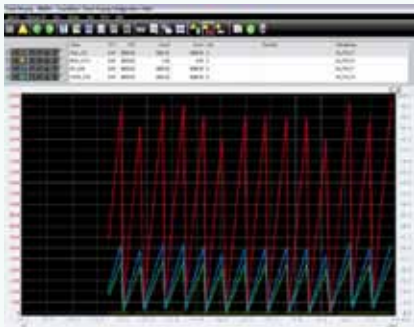
The dual-display mode enhances availability.

The overview offers quick access to all available visualization screens.

The “DigiBrowse” option gives you access to all the supervision data outside the software.

Manage your results

Data processing is optimized from archiving and safeguarding to exporting and making practical use of the data.

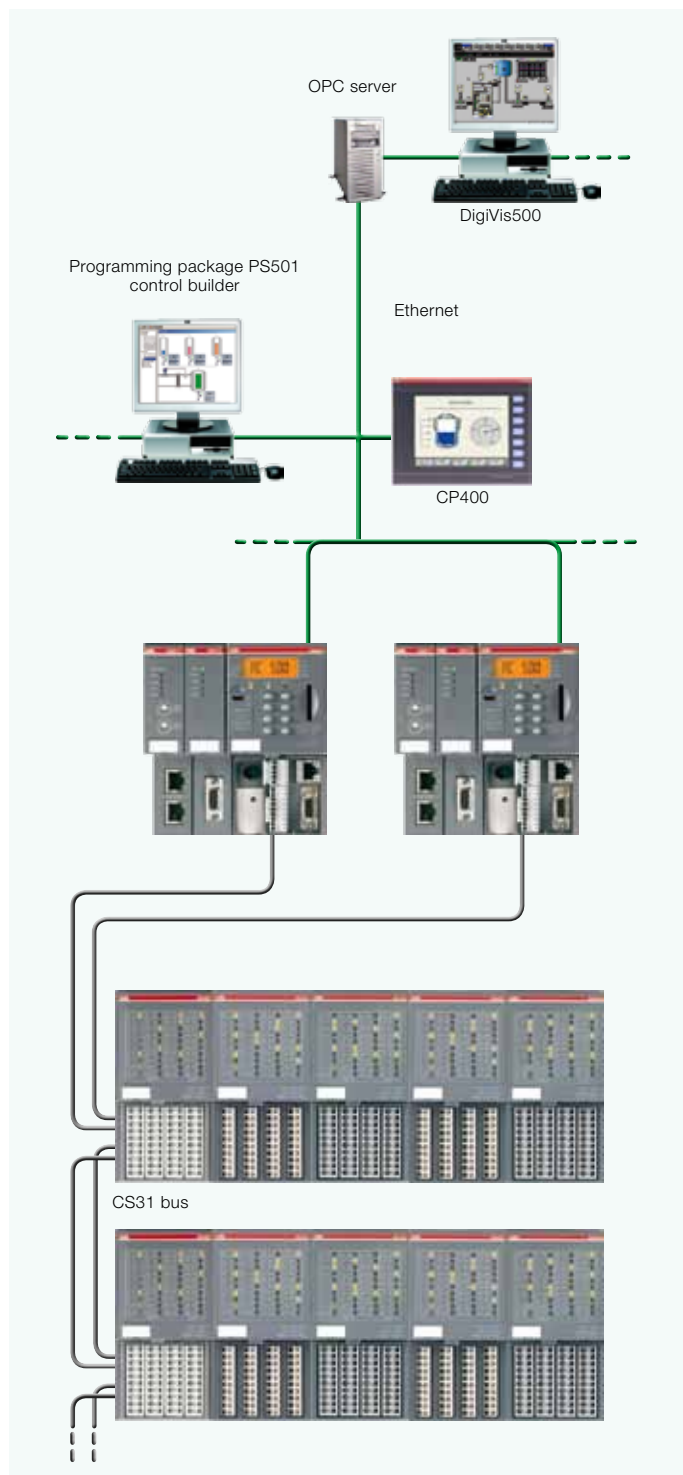


Region	Description	Unit	Start value	End value	Alarm
PROPERTIES	PROPERTIES	mm	0.00000000	0.00000000	0.00000000
PROPERTIES	PROPERTIES	mm	0.00000000	0.00000000	0.00000000
PROPERTIES	PROPERTIES	mm	0.00000000	0.00000000	0.00000000
PROPERTIES	PROPERTIES	mm	0.00000000	0.00000000	0.00000000
PROPERTIES	PROPERTIES	mm	0.00000000	0.00000000	0.00000000

Reliability and accessibility, supervision within your grasp

Modularity

Whatever the size of your system, DigiVis 500 will fit your needs. It also allows you to manage High Availability systems. In this case we offer a turnkey PLC (CI590) supervision solution.

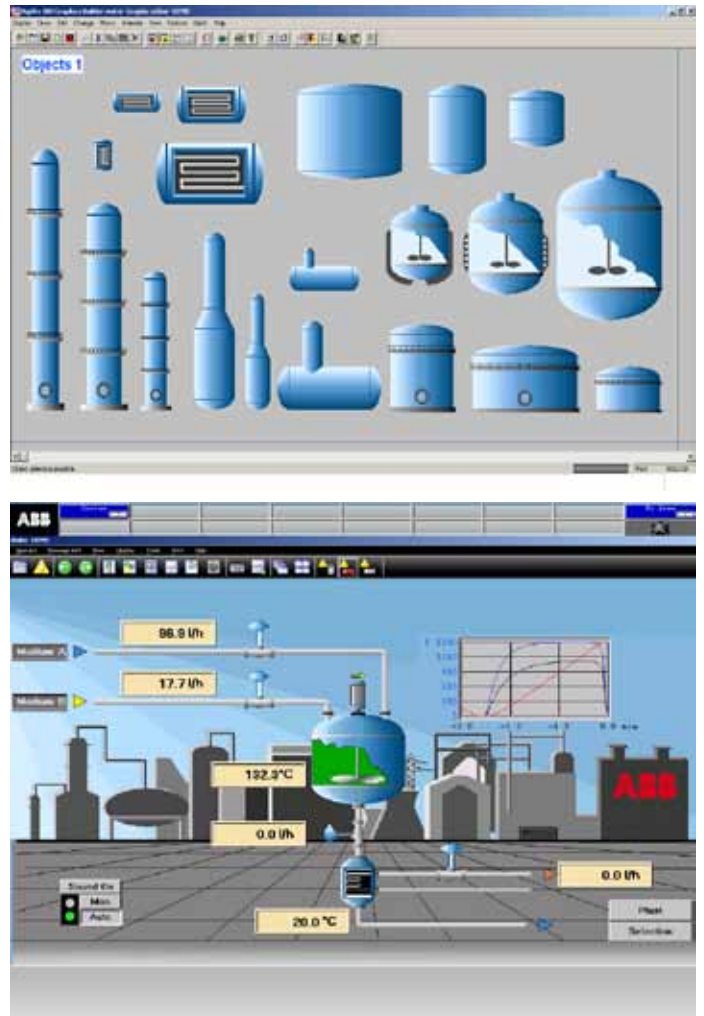


Reliability and security

The software's reliability and stability ensure a constant flow in the supervision of installations and the recovery of key data, particularly in managing high availability solutions.

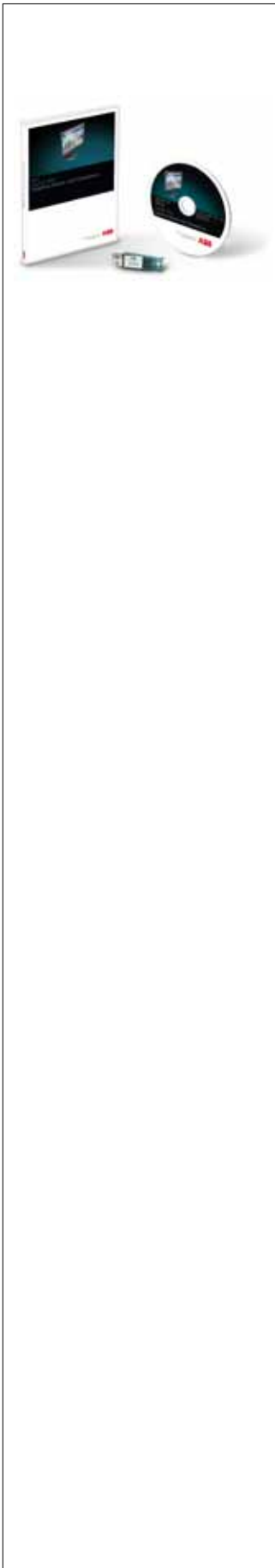
The in-built alarm system enables you to ensure the integrity of your installations by customizing the advanced configuration.

The "Security Lock" option which controls access allows you to set up to 16 profiles for a maximum of 1,000 individual users.



DigiVis 500

Ordering data



Type	Description	Order code
DV500-GBUILDER	DigiVis 500 – Graphics Builder	1SBS 260 262 R1001
DV500-OP50	DigiVis 500 – Operations, 50 OPC signals	1SBS 260 263 R1001
DV500-OP100	DigiVis 500 – Operations, 100 OPC signals	1SBS 260 264 R1001
DV500-OP250	DigiVis 500 – Operations, 250 OPC signals	1SBS 260 265 R1001
DV500-OP500	DigiVis 500 – Operations, 500 OPC signals	1SBS 260 266 R1001
DV500-OP1000	DigiVis 500 – Operations, 1000 OPC signals	1SBS 260 267 R1001
DV500-OP2000	DigiVis 500 – Operations, 2000 OPC signals	1SBS 260 268 R1001
DV500-OPUNL	DigiVis 500 – Operations, unlimited OPC signals	1SBS 260 269 R1001
DV500-EXP100	DigiVis 500 – Expansion from 50 to 100 OPC signals	1SBS 260 270 R1001
DV500-EXP250	DigiVis 500 – Expansion from 100 to 250 OPC signals	1SBS 260 271 R1001
DV500-EXP500	DigiVis 500 – Expansion from 250 to 500 OPC signals	1SBS 260 272 R1001
DV500-EXP1000	DigiVis 500 – Expansion from 500 to 1000 OPC signals	1SBS 260 273 R1001
DV500-EXP2000	DigiVis 500 – Expansion from 1000 to 2000 OPC signals	1SBS 260 274 R1001
DV500-EXPUNL	DigiVis 500 – Expansion to unlimited OPC signals	1SBS 260 275 R1001
DV500-USB-R	DigiVis 500 – USB dongle replacement license	1SBS 260 276 R1001
DV500-WEBDIS	DigiVis 500 – WEB Display runtime	1SBS 260 290 R1001
DV500-DUALMON	DigiVis 500 – Dual monitor Support	1SBS 260 291 R1001
DV500-DIGIB	DigiVis 500 – DigiBrowse	1SBS 260 292 R1001
DV500-SLOCK	DigiVis 500 – Security Lock	1SBS 260 293 R1001
DV500-USB	DigiVis 500 – USB dongle	1SBN 260 318 R1001
DV500-CD	DigiVis 500 – Software and Documentation CD	1SBS 260 261 R1001

Automation products

Wireless automation devices WISA

Reduce life cycle costs of robots



Wireless automation device WISA

Overview

Wireless Interface for sensors and actuators

WISA is a wireless sensor and actuator interface technology that ABB developed to meet the demands of realtime factory automation applications, particularly robotics and handling scenarios. It covers both:

- Wireless communication (WISA-COM) and
- The optional wireless power supply (WISA-POWER).

WISA advantages

- Reduces life cycle costs, compared with robots using moving cables.
- Higher reliability compared to moving cables and connectors, thus providing outstanding productivity.
- Ideally suited for retrofits and sensor/actuator extensions.
- Can replace slip rings and contacts moving on tool changers (swivels) for higher reliability and cost reduction.
- Real-time capability: wireless cycle time of 2 ms.
- High node density of up to 624 field devices without loss of performance.
- Free from frequency/radio planning.
- Coexistence with Bluetooth, WLAN, and other common radio systems.

WISA field devices for wireless automation

Wireless I/O pad (WIOP100, WIOP208)

Wireless I/O pads are particularly suitable for the integration of conventional sensor technology and actuators into WISA systems. These devices communicate via radio transmission to replace fieldbus cables and are supplied with conventional 24 V DC.

TrueWireless communication module WSIX

The WSIX is primarily a control, communication and power module. Both data and power are wireless, without batteries. As sensors, switches can be used. Secondly, it accommodates the WSIF or WSIN inductive proximity switches from ABB.

TrueWireless sensor pad (WSP100)

Similar to WSIX, the WSP100 accommodates up to eight WISA sensor heads (WSIF..., WSIN...) or switches (limit switches, reed/auxiliary contacts, pushbuttons, etc.)

WISA-COM: Reliable industrial real-time communication

WISA field devices communicate by radio technology (WISA-COM) with an input/output module (WDIO100) which transmits/ receives the signals via a pair of antennas (WAT100). Communication is based on IEEE802.15.1 in the license-free 2.4 GHz band. This is the globally available Industrial, Scientific and Medical ISM band. One input/output module can support up to 120 wireless proximity switches or up to 13 WISA pads assigned or a mixed configuration

of different WISA field devices. Periodical diagnostic signals of all WISA field devices enable continuous monitoring and advanced fault recognition. Up to three WDIO100 modules can be operated inside a machine or a cell without loss of performance. The connection between the WDIO100 and the control (PLC, e.g. AC500 from ABB) is done via a field bus. For this purpose, the WDIO100 is equipped with a FieldBusPlug (FBP) interface. Depending on the selected FieldBusPlug, data exchange can take place via Profibus DP, DeviceNet, Modbus, etc. Stand-alone operation is possible, too (called "Mapping"). This is useful for cable-replacement.

WISA-COM advantages

- Higher reliability than moving cables and connectors
- Real-time capability: deterministic protocol, delays are independent of the number of WISA field devices used.
- High node density (up to 624 sensors/actuators are possible inside a working area without loss of performance, practically unlimited number of nodes inside a plant hall).

WISA-POWER: Optional wireless power supply

The WSP and WSIX wireless field devices receive their operating energy from low-emission magnetic fields: The power supply WPU100 produces a sinusoidal current at 120 kHz to generate the magnetic field. Typically, two WPU100 modules with one pair of primary loops connected each are required to supply a volume of 3 x 3 x 3 m³. Using further power supplies and primary loops, this arrangement can be extended to a volume of up to 6 x 6 x 3 m³. Modular structures of several cells are possible. Using WISA-POWER, it is also possible to implement circular, line and spot supply concepts of wireless power supply. From small to large - there are many opportunities. Easy design and setup guides are available from ABB, e.g. on the WISA System CD-ROM or in Internet.

Wireless automation devices WISA

Overview of modules

Wireless I/O pads



Type	WIOP100-8DI8DC	WIOP208-8DC
Number of inputs	8, digital (type 3 in accordance with IEC 61131) per switching	
Number of configurable (as Input or Output, DC)	8, digital; 0.5 A	8, digital; 0.5 A
Module/actuator supply	Separate, 24 V each in 7/8" mini plug, loopable through to next pad	24 V DC in M12 plug
Communication band	GHz 2.4 ISM band, based on standard IEEE 802.15.1	
Range of radio communication	5 m (industrial environment; typically 10 m)	
Diagnostics	Block by block for sensors, actuators; continuous radio monitoring	
Status LEDs	Status of inputs/outputs, input/output diagnostics, voltages, communication	
Addressing	By pushbutton and WDIO100-CON-FBP	
Protection category in accordance with IEC 60529	IP67	
Ambient temperature	°C 0 ... +55	0 ... +70
Data transmission	WISA COM radio system, real-time capable ABB radio standard (see WDIO100)	
Dimensions H x W x D	mm 213 x 60 x 39.5	205.5 x 30 x 40.5
Accessories	- Plug, 7/8" socket ("Mini") 5-pole for power supply - M12 standard Y-splitter SZC1-YU0 for 2 sensors/actuators at one connection	

Wireless input/output module WDIO100-CON-FBP



Configuration for 1 I/O module; max. 3 I/O modules possible	Choice of: - 13 WIOPxxx wireless I/O pads or - 56 wireless sensors + 7 WIOPxxx wireless I/O pads or - 120 wireless sensors WSIX
Number of WDIO100 per machine unit/manufacturing cell	1 ... 3 without significant loss of performance
Communication band	GHz 2.4 ISM band, based on IEEE 802.15.1
Range of radio communication	5 m (industrial environment; typically 10 m)
Connection to machine control system	FieldBusPlug (FBP: PROFIBUS, DeviceNet, Modbus, CANopen...)
Operator display	- LCD display, two lines with 16 characters each - 4 membrane pushbuttons
Supply voltage	24 V DC; 15 W max.
Protection category in accordance with IEC 60529	IP20
Ambient temperature	°C 0 ... +50
Mounting	On 35 mm DIN rail in accordance with EN 60715 or screw mounting
Dimensions H x W x D	mm 140 x 120 x 85 (housing: 120 x 120 x 80)
Total delay (for 99.9% of signals)	7 ms for Mapping, 20 ms until the signal is available on fieldbus. Wireless cycle time is 2 ms.
Mapping function	Easy to setup, fast radio transmission of the inputs of one WISA field device (e.g. WIOP100) to the outputs of another one (WISA field device of the WIOP type without PLC, no fieldbus required)
Accessories	For connection to the control system (PLC): ABB FieldBusPlug, available for PROFIBUS, DeviceNet, CANopen, Modbus

Antennas

WAT100-x	Panel antenna, 70 degree beam width x = R, L (right, left-handed circular polarisation)
Dimensions H x W x D	mm 101 x 95 x 32
WAC100-N0x	Antenna cable in lengths x = 3 m or 5 m
Accessories	WAM100 antenna mounting for mast mounting

Wireless automation devices WISA

Overview of modules

Sensor heads for wireless sensor pad and communication module

Type (diameter as metric thread, pitch)	M8x1	M12x1	M18x1	M30x1.5
Designation (inductive, flush)	WSIF015-M8N	WSIF020-M12N	WSIF050-M18N	WSIF100-M30N
Designation (inductive, non-flush)	WSIN020-M8N	WSIN040-M12N	WSIN080-M18N	WSIN150-M30N
Nominal operating distance S_n (flush / non-flush)	mm 1.5 / 2	2 / 4	5 / 8	10 / 15
Assured operating distance S_a (flush/non-flush)	mm 0...1.21 / 0...1.62	0...1.62 / 0...3.24	0...4.05 / 0...6.5	0...8.1 / 0...12.15
Reduction factor $r_{V2A/r_{AI}/r_{Cu}}$				
flush	mm 0.75 / 0.4 / 0.4	0.75 / 0.3 / 0.25	0.75 / 0.35 / 0.3	0.75 / 0.45 / 0.25
non-flush	mm 0.75 / 0.4 / 0.4	0.8 / 0.45 / 0.4	0.75 / 0.45 / 0.4	0.7 / 0.45 / 0.35
Overall length/thread	mm 50 / 30	60 / 50	60 / 50	60 / 50
Nominal signal transmission rate (1/s)	5 (min.; signal changes per second, higher in individual cases, see below)			
Ambient temperature	°C -25 ... +70 (0 ... +55 for wireless modules)			
Protection category in accordance with IEC 60529	IP67			

Wireless sensor pad and communication module



Type	WSP100-8i sensor pad	WSIX100 communication module
Number of inputs	8 for WISA sensor heads and dry contacts (limit switches)	1 for WISA sensor heads and dry contacts (limit switches)
Nominal signal transmission rate 1/s	≥ 5 signal changes per second per input; Up to 40/s for individual input; may be higher, dependent on available power/field strength of magnetic field	≥ 5 (signal change per second)
Range of radio communication	5 m (industrial environment; typically 10 m)	
Switching status indicator	LED, yellow per input	LED, yellow
Operating indicator	LED, green	
Addressing/diagnostics	By membrane pushbutton and WDIO100-CON-FBP; captive storage	
Operating temperature range	°C 0 ... +55	
Protection category in accordance with IEC 60529	IP67	
Connections	4 M12 device sockets, 2 inputs WISA pin assignment, regular 4-pin; cable can be used each Sensor signals on contacts 4 and 1 (!)	1 M12 device socket
Weight	g 550	125
Sensor head supply	Pin 2; 2.8 VDC (1 mW max.)	
Power supply	WISA-POWER (120 kHz magnetic field)	
Data transmission	WISA-COM radio system, real-time capable ABB radio standard (see WDIO100)	
Accessories	M12 WISA Y-splitter WSC1-YU0 for 2 sensors on a single connection	WSC100 extension cable, mounting between WSIX communication module and WSI/WSIF sensor head: 0.3/0.6/ 0.75/1 m

WPU100-24M power supply



Volume supplied by one pair WPU100	m³ 1 x 1 x 1 to 3 x 3 x 3 or 2.5 x 2.5 x 5
Expandability	with several WPU100-24M up to 6 x 6 x 3 m
Frequency of power transmission	kHz 120
Power supply and consumption	100-264 V AC, max. 600 W (typ. 10 W/m³ supplied machine volume)
Protection category in accordance with IEC 60529	IP65
Ambient temperature	°C 0 ... +45
Distance of heart pacemaker wearers	0.8 – 2.5 m depending on cell size or electricity
Mounting	Screw mounting

WPC100-Nxx primary loop conductor



Length	m 10 to 28 in steps of 1
Connection type	Lug for direct connection to WPU100

Wireless automation devices WISA

Ordering data



WDIO100



WAT100



WAC100



WAM100-N



WSIX100



WIOP100

Input/output module

Type	Description	Order code	Price	Weight per piece kg
WDIO100-CON-FBP	Basic infrastructure for WISA. I/O module	1SAF 960 300 R2000		0.410

Antennas for input module

The antennas WAT100 transmit and receive the signals between an input module and the wireless proximity switches. Please order one WAT100-R and one WAT100-L per WDIO.

Type	Description	Order code	Price	Weight per piece kg
WAT100-R	Right circular polarized antenna	1SAF 900 600 R0001		0.100
WAT100-L	Left circular polarized antenna	1SAF 900 600 R0002		0.100

Antenna cables for input module

Type	Description	Order code	Price	Weight per piece kg
WAC100-N03	3 m coaxial cable	1SAF 900 600 R1030		0.370
WAC100-N05	5 m coaxial cable	1SAF 900 600 R1050		0.600

Antenna mounting bracket

Type	Description	Order code	Price	Weight per piece kg
WAM100-N	Antenna mounting bracket, one per antenna	1SAF 900 900 R0001		0.095

Wireless Proximity switches and wireless sensor pads - Sensor heads

Type	Description	Order code	Price	Weight per piece kg
WSIF015-M8N	1.5 mm switching distance, M8x1 flush mounted	1SAF 108 911 R3000		0.025
WSIN020-M8N	2 mm switching distance, M8x1 non flush mounted	1SAF 108 921 R3000		0.025
WSIF020-M12N	2 mm switching distance, M12x1 flush mounted	1SAF 112 911 R3000		0.030
WSIN040-M12N	4 mm switching distance, M12x1 non flush mounted	1SAF 112 921 R3000		0.025
WSIF050-M18N	5 mm switching distance, M18x1 flush mounted	1SAF 118 911 R3000		0.060
WSIF080-M18N	8 mm switching distance, M18x1 non flush mounted	1SAF 118 921 R3000		0.055
WSIF100-M30N	10 mm switching distance, M30x1.5 flush mounted	1SAF 130 911 R3000		0.140
WSIF150-M30N	15 mm switching distance, M30x1.5 non flush mounted	1SAF 130 921 R3000		0.120

IP67 Input/Output Pads, Input Pad - Communication module, I/O pads, sensor pad

Type	Description	Order code	Price	Weight per piece kg
WSIX100-B50NF	WISA Communication module	1SAF 900 100 R4000		0.125
WIOP100-8DI8DC	WISA I/O Pad, 8DI/8DC	1SAF 960 100 R1000		0.350
WIOP208-8DC	WISA I/O Pad, 8DC	1SAF 975 100 R1000		0.165
WSP100-8I	WISA Sensor pad, 8E	1SAF 968 100 R3000		0.550

Wireless automation devices WISA

Ordering data



Connection cables/ holder for WSIX

Type	Description	Order code	Price	Weight per piece kg
WSC100-N000	Bracket f. WSIX, M12 recept., no cable	1SAF 900 100 R1000		0.070
WSC100-N003	Bracket f. WSIX, M12 recept., 0,30 m cable	1SAF 900 100 R1003		0.085
WSC100-N006	Bracket f. WSIX, M12 recept., 0,60 m cable	1SAF 900 100 R1006		0.095
WSC100-N007	Bracket f. WSIX, M12 recept., 0,75 m cable	1SAF 900 100 R1007		0.100
WSC100-N008	Bracket f. WSIX, M12 recept., 0,85 m cable	1SAF 900 100 R1008		0.105
WSC100-N010	Bracket f. WSIX, M12 recept., 1,00 m cable	1SAF 900 100 R1010		0.110

Optional Power supplies (only when WSIX or WSP is used)

Type	Description	Order code	Price	Weight per piece kg
WPU100-24M	Power supply 24A mod.	1SAF 960 200 R0001		17.000

Primary loops for optional WISA-POWER (only when WSIX or WSP is used)

The primary loops WPC100 emit an electromagnetic field of 120kHz with the help of the connected power supply for WPU. Please inquire ABB for applications in paint shops of automotive industry.

Type	Description	Order code	Price	Weight per piece kg
WPC100-N10	10 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2100		1.280
WPC100-N11	11 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2110		1.410
WPC100-N12	12 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2120		1.535
WPC100-N13	13 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2130		1.665
WPC100-N14	14 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2140		1.790
WPC100-N15	15 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2150		1.920
WPC100-N16	16 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2160		2.050
WPC100-N17	17 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2170		2.175
WPC100-N18	18 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2180		2.305
WPC100-N19	19 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2190		2.430
WPC100-N20	20 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2200		2.550
WPC100-N21	21 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2210		2.690
WPC100-N22	22 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2220		2.815
WPC100-N23	23 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2230		2.945
WPC100-N24	24 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2240		3.070
WPC100-N25	25 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2250		3.200
WPC100-N26	26 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2260		3.330
WPC100-N27	27 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2270		3.455
WPC100-N28	28 m prepacked cable (cable shoes on both ends) for the connection to the power supply for wireless position sensors	1SAF 900 800 R2280		3.585

Wireless automation devices WISA

Ordering data



SZC1-YU0



SZC8-YU0



WSC1-YU0



SZC7-5POL-P



SZC7-5POL-S

Y-connectors (Data ports - Splitters)

Type	Description	Order code	Price	Weight per piece kg
SZC1-YU0	Y-distributor M12-2xM12 f. 2 SA, for WIOP100	1SAF 912 910 R1000		0.035
SZC8-YU0	Y-distributor M12-2xM8 f. 2 SA, for WIOP100	1SAF 912 911 R1000		0.045
WSC1-YU0	Y-distributor M12-2xM12, for WSP	1SAF 912 990 R1000		0.035

7/8" connectors 5 poles (Power connectors for WIOP100)

Type	Description	Order code	Price	Weight per piece kg
SZC7-5POL-P	Power connector for WIOP100. Plug 7/8"	1SAF 937 780 R1000		0.045
SZC7-5POL-S	Power connector for WIOP100. Socket 7/8"	1SAF 937 781 R1000		0.045

Documentation

Type	Description	Order code	Price	Weight per piece kg
CD-ROM	English/German documentation and use-case videos	2CDC 171 007 E0406		0.020

Notes:

Videos about WISA Application Reports and Use Cases

Robot Application, ABB Robotics Manufacturing Västerås/Sweden:

<http://www.youtube.com/watch?v=gYvasEUokvo>

Cable Armoring, ABB High Voltage Cables, Karlskrona/Sweden:

<http://www.youtube.com/watch?v=tx8DwEpgB9Q>

To download the above videos in High Definition Video format:

<http://www.abb.us/product/seitp329/c9c850a941f3612cc12570cb0027bd75.aspx?productLanguage=us&country=US&tabKey=5>

Pick & Place, Discrete Manufacturing, ABB Manufacturing Heidelberg/Germany:

<http://www.youtube.com/watch?v=suuaFZFj0HM>

http://www.youtube.com/watch?v=r_kUF8ejxGM

<http://www.youtube.com/watch?v=xxd9uFJ3cow>

<http://www.youtube.com/watch?v=8r--Oc5lsVk>

<http://www.youtube.com/watch?v=ylqFHmSK8IA>

Spanish Language

French Language

English Language

Portugese Language

Swedish Language

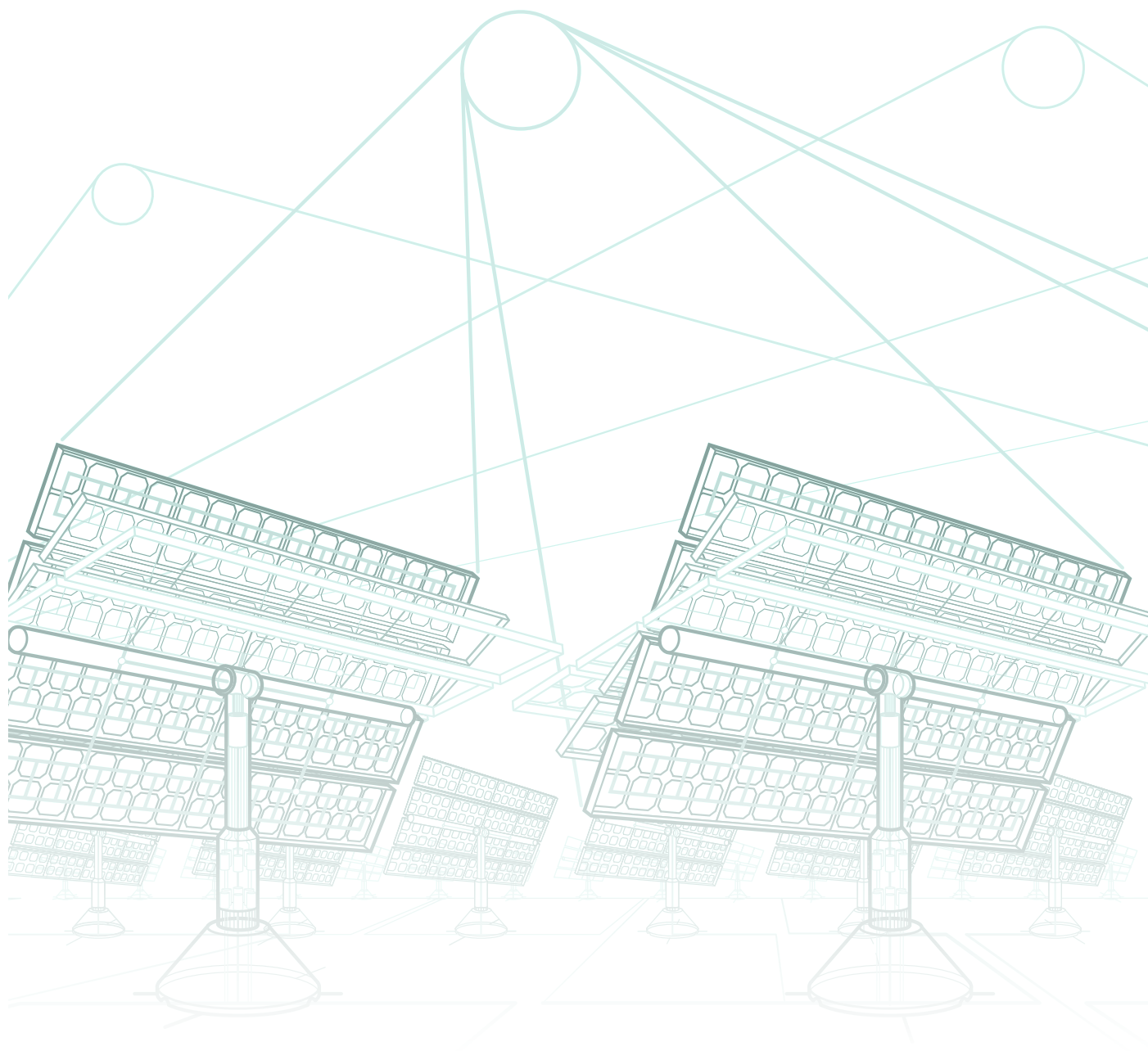
From non-ABB manufacturing sites:

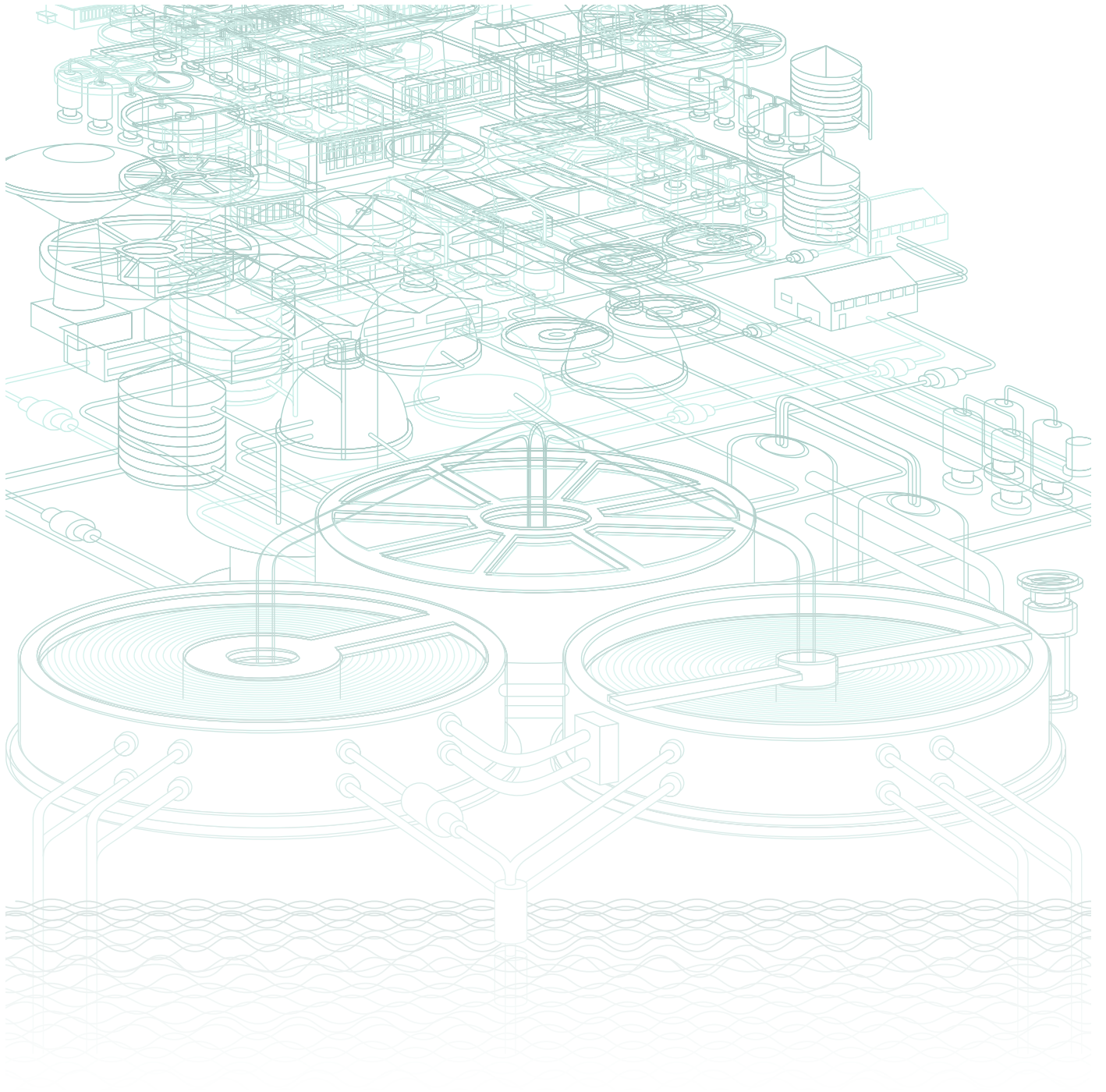
FORD Motors, Inc., Detroit

<http://www.youtube.com/watch?v=cr9Lsb7WlmY>

Food Packaging in USA/South Carolina

<http://www.youtube.com/watch?v=UmxLow7yzqM>





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Life-cycle management

ABB's PLC life-cycle management model maximizes the value of your investment by maintaining high availability, eliminating unplanned repair costs and extending the lifetime of the device. Life-cycle management includes:

- Availability of spare parts and expertise throughout each products life cycle
- Providing efficient product support for improved reliability
- Ongoing product upgrades to maximize functionality
- Ensuring a smooth transition to latest technologies at the end of the life cycle.

Training

PLC product training can be provided where required. A range of training programs is offered from basic standard tutorials to programs tailored to the customer's specific needs.

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