AC500
Technical data

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…+10 V: 13 bits including sign; 0…10 V, 0…20 mA, 4…20 mA: 12 bits. Temperature: 0.1 °C.

Type			DC551-CS31	CI592-CS31
Communication Interface				
Protocol			Proprietary CS31 bus protocol on RS485 interface	
ID configuration			Per rotary switches on front face from 00d to 99d	
Field bus connection on terminal units			CS31 field bus, via terminal / redundant for CI590-CS31-HA on TU551-CS31 or TU552-CS31	
Number of Channels per Module				
Digital		inputs	8	8
		outputs	–	–
Analog		inputs	–	4
		outputs	–	2
Digital configurable channels DC (configurable as inputs or outputs)			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 unit TU5xx			●	●
Local I/O extension				
Max. number of extension modules			max. 7 x S500 extension modules (standard or eCo), up to 31 stations with up to 120 DIs/120 DOs or up to 32 AIs/32AOs per station	
Digital inputs				
Input	signal voltage		24 V DC	
	characteristic acc. to EN 61132-2		Type 1	
0 signal			-3...+5 V DC	
Undefined signal state			5...15 V DC	
1 signal			15...30 V DC	
Residual ripple, range for		0 signal	-3...+5 V DC	
		1 signal	15...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			0.5 A	
Maximum (total current of all channels)			8 A	4 A
Residual current at signal state 0			< 0.5 mA	
Demagnetization when switching off inductive loads			By internal varistors	
Analog inputs AI			Max. number per module and with regard to the configuration: AIs / Measuring points	
Signal configuration per AI			–	●
0…10 V / -10…+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…+10 V using differential inputs, needs 2 channels			–	4 / 2
Digital signals (digital input)			–	4 / 4

AC500
Technical data

Communication interface modules

Type			DC551-CS31	CI592-CS31
Data when using the AI as digital input				
Input		time delay	–	8 ms typically, configurable from 0.1 up to 32 ms
		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
	loading capability when used as voltage output		–	±10 mA max.
Potential isolation				
Per module			●	●
Between fieldbus interface against the rest of the module			●	●
Voltage supply for the module			By external 24 V DC voltage via terminal UP	
Process voltage UP				
Nominal voltage			24 V DC	
Current consumption on UP				
	Min. (module alone)		0.100 A	0.070 A
	Max. (min. + loads)		0.100 A + load	0.070 A + load
Reverse polarity protection			●	
Fuse for process voltage UP			10 A miniature fuse	
Approvals			See detailed page 262 or new.abb.com/plc	

AC500
Technical data

PROFIBUS-DP modules

Type			CI541-DP	CI542-DP
Communication Interface				
Protocol			PROFIBUS DP (DP-V0 and DP-V1 slave)	
ID configuration			Per rotary switches on front face from 00h to FFh	
Field bus connection on terminal units			Sub-D 9 poles on TU509, TU510 preferred but TU517/TU518 can be used with baud rate up to 1Mbaud	
Number of Channels per Module				
Digital		inputs	8	8
		outputs	8	8
Analog		inputs	4	–
		outputs	2	–
Digital configurable channels DC (configurable as inputs or outputs)			–	8
Additional configuration of channels as				
Fast counter (onboard I/O)			Configuration of max. 2 DI channels per module	
Occupies max 1 DO or DC when used as counter			●	
Connection				
Local I/O extension			●	
Max. number of extension modules			max. 10 x S500 extension modules (standard or eCo modules allowed). Fast counter from digital I/O modules can be also used.	
Via terminal unit TU5xx			●	
Digital inputs				
Input	signal voltage		24 V DC	
	characteristic acc. to EN 61132-2		Type 1	
0 signal			-3...+5 V DC	
Undefined signal state			5...15 V DC	
1 signal			15...30 V DC	
Residual ripple, range for		0 signal	-3...+5 V DC	
		1 signal	15...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			–	● (on DC outputs)
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			0.5 A	
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	
Analog Inputs AI			Max. number per module and with regard to the configuration: AIs / Measuring points	
Signal configuration per AI			4	–
0...10 V / -10...+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...+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	Input time delay		8 ms typically, configurable from 0.1 up to 32 ms	–
	signal voltage		24 V DC	–

AC500
Technical data

PROFIBUS-DP modules

Type			CI541-DP	CI542-DP
Outputs, single configurable as				
Possible configuration per AO			●	–
-10...+10V			●	–
0...20 mA / 4...20 mA			●	–
Output	resistance (load) when used as current output		0...500 Ω	–
	loading capability when used as voltage output		±10 mA max.	–
Potential isolation				
Per module			●	●
Between fieldbus interface against the rest of the module			●	●
Between the channels		input	–	–
		output	–	–
Voltage supply for the module			By external 24 V DC voltage via terminal UP	
Process voltage UP				
Nominal voltage			24 V DC	
Current consumption on UP				
Min. (module alone)			0.260 A	
Max. (min. + loads)			0.260 A + load	
Reverse polarity protection			●	
Fuse for process voltage UP			10 A miniature fuse	
Approvals			See detailed page 262 or new.abb.com/plc	

AC500
Technical data

CANopen modules

Type			CI581-CN	CI582-CN
Communication interface				
Protocol			CANopen slave, DS401 profile selectable using rotary switches	
ID configuration			Per rotary switches on front face for CANopen ID node from 00h to 7Fh and 80h to FFh for CANopen DS401 profile	
Field bus connection on terminal units			Terminal blocks on TU517/TU518 or TU509/TU510	
Number of channels per module				
Digital		inputs	8	8
		outputs	8	8
Analog		inputs	4	–
		outputs	2	–
Digital configurable channels DC (configurable as inputs or outputs)			–	8
Additional configuration of channels as				
Fast counter (onboard I/O)			Configuration of max. 2 DI channels per module	
Occupies max. 1 DO or DC when used as counter			●	●
Connection				
Local I/O extension			●	
Max. number of extension modules			max. 10 x S500 extension modules (standard or eCo modules are allowed)	
Via terminal unit TU5xx			●	●
Digital inputs				
Input	signal voltage		24 V DC	
	characteristic acc. to EN 61132-2		Type 1	
0 signal			-3...+5 V DC	
Undefined signal state			5...15 V DC	
1 signal			15...30 V DC	
Residual ripple, range for		0 signal	-3...+5 V DC	
		1 signal	15...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			–	● (on DC outputs)
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			0.5 A	
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	
Analog Inputs AI			Max. number per module and with regard to the configuration: AIs / Measuring points	
Signal configuration per AI			4	–
0...10 V / -10...+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...+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	–
		signal voltage	24 V DC	–

AC500
Technical data

CANopen modules

Type			CI581-CN	CI582-CN
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	–
	loading capability when used as voltage output		±10 mA max.	–
Potential isolation				
Per module			●	●
Between fieldbus interface against the rest of the module			●	●
Between the channels		input	–	–
		output	–	–
Voltage supply for the module			By external 24 V DC voltage via terminal UP	
Process voltage UP				
Nominal voltage			24 V DC	
Current consumption on UP				
Min. (module alone)			0.260 A	
Max. (min. + loads)			0.260 A + load	
Reverse polarity protection			●	
Fuse for process voltage UP			10 A miniature fuse	
Approvals			See detailed page 262 or new.abb.com/plc	

AC500
Technical data

PROFINET IO RT device modules

Type		CI501-PNIO	CI502-PNIO	CI504-PNIO
Communication interface				
Ethernet Interface				
Main protocol		PROFINET IO RT device		
ID Device configuration		By rotary switch on the front side, from 00h to FFh		
Ethernet connection on terminal units		2 x RJ45 with switch functionality for simple daisy chain on TU507-ETH or TU508-ETH or TU520-ETH		
Gateway Interface				
Gateway to		–	–	3 x RS232 / RS422 / RS485 ASCII serial interfaces
Fieldbus Protocol used		–	–	–
CAN physical interface		–	–	–
Baudrate		–	–	–
Serial interface		–	–	3 x RS232 / RS422 or RS485
Protocol used		–	–	ASCII
Baudrate		–	–	Configurable from 300 bit/s to 115200 bit/s
Fieldbus or serial connection on terminal units		–	–	3 x pluggable terminal blocks with spring on TU520-ETH
Number of channels per module				
Digital	inputs	8	8	–
	outputs	8	8	–
Analog	inputs	4	–	–
	outputs	2	–	–
Digital configurable channels DC (configurable as inputs or outputs)		–	8	–
Additional configuration of channels as				
Fast counter (onboard I/O)		Configuration of max. 2 DI channels per module		–
Occupies max. 1 DO or DC when used as counter		●		–
Connection				
Local I/O extension		●		●
Max. number of extension modules		max. 10 x S500 extension modules (standard or eCo modules allowed). Fast counter from digital I/O modules can be also used.		Valid for CI501, 502and 504. All modules can have extension up to 10 modules
Via terminal unit TU5xx		●	●	●
Digital inputs				
Input	signal voltage	24 V DC		–
	characteristic acc. to EN 61132-2	Type 1		–
0 signal		-3...+5 V DC		–
Undefined signal state		5...15 V DC		–
1 signal		15...30 V DC		–
Residual ripple, range for	0 signal	-3...+5 V DC		–
	1 signal	15...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		–	● (on DC outputs)	–
Outputs, supplied via process voltage UP		●		–
Switching of 24 V load		●		–
Output voltage at signal state 1		Process voltage UP - 0.8 V		–

AC500
Technical data

PROFINET IO RT device modules

Type			CI501-PNIO	CI502-PNIO	CI504-PNIO
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		–
Analog inputs AI			Max. number per module and with regard to the configuration: AIs / Measuring points		
Signal configuration per AI			4	–	–
0…10 V / -10… +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…+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	–	–
		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	–	–
	loading capability when used as voltage output		±10 mA max.	–	–
Potential isolation					
Per module			●	●	●
Between Ethernet interface against the rest of the module			●	●	●
Voltage supply for the module			By external 24 V DC voltage via terminal UP		
Process voltage UP					
Nominal voltage			24 V DC		
Current consumption on UP					
min. (module alone)			0.260 A		0.150 A
max. (min. + loads)			0.260 A + load		0.150 A
Reverse polarity protection			●		
Fuse for process voltage UP			10 A miniature fuse		
Approvals			See detailed page 262 or new.abb.com/plc		

AC500
Technical data

EtherCAT modules

Type		CI511-ETHCAT	CI512-ETHCAT
Communication interface			
Protocol		EtherCAT slave with CAM-Switch configurable function on the digital outputs	
ID Device configuration		Address is defined by position on Ethernet bus	
Field bus connection on TUs		2 x RJ45 with switch functionality for simple daisy chain on TU507-ETH or TU508-ETH	
Number of channels per module			
Digital	inputs	8	8
	outputs	8	8
Analog	inputs	4	–
	outputs	2	–
Digital configurable channels DC (configurable as inputs or outputs)		–	8
Additional configuration of channels as			
Fast counter (onboard I/O)		–	
Occupies max. 1 DO or DC when used as counter		–	
Connection			
Local I/O extension		●	
Max. number of extension modules		max. 10 x S500 extension modules (standard or eCo modules allowed). Fast counter from digital I/O modules can be also used.	
Via terminal unit TU5xx		●	
Digital inputs			
Input signal voltage		24 V DC	
Input characteristic acc. to EN 61 132-2		Type 1	
0 signal		-3...+5 V DC	
Undefined signal state		5...15 V DC	
1 signal		15...30 V DC	
Residual ripple, range for	0 signal	-3...+5 V DC	
	1 signal	15...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		–	● (on DC outputs)
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	
Analog inputs AI		Max. number per module and with regard to the configuration: AIs / Measuring points	
Signal configuration per AI		4	–
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...+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	–
	signal voltage	24 V DC	–

AC500
Technical data

EtherCAT modules

Type		CI511-ETHCAT	CI512-ETHCAT
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		●	●
Between Ethernet interface against the rest of the module		●	●
Between the channels	input	–	–
	output	–	–
Voltage supply for the module		By external 24 V DC voltage via terminal UP	
Process voltage UP			
Nominal voltage		24 V DC	
Current consumption on UP			
min. (module alone)		0.260 A	
max. (min. + loads)		0.260 A + load	
Reverse polarity protection		●	
Fuse for process voltage UP		10 A miniature fuse	
Approvals		See detailed page 262 or new.abb.com/plc	

AC500
Technical data

Modbus TCP modules

Type			CI521-MODTCP	CI522-MODTCP
Communication interface				
Ethernet Interface				
Main protocol			Modbus TCP	
ID Device configuration			By rotary switch on the front side, from 00h to FFh	
Ethernet connection on terminal units			2 x RJ45 with switch functionality for simple daisy chain on TU507-ETH or TU508-ETH	
Number of channels per module				
Digital		inputs	8	8
		outputs	8	8
Analog		inputs	4	–
		outputs	2	–
Digital configurable channels DC (configurable as inputs or outputs)			–	8
Additional configuration of channels as				
Fast counter (onboard I/O)			Configuration of max. 2 DI channels per module	
Occupies max. 1 DO or DC when used as counter			●	
Connection				
Local I/O extension			●	
Max. number of extension modules			max. 10 x S500 extension modules (standard or eCo modules allowed). Fast counter from digital I/O modules can be also used.	
Via terminal unit TU5xx			●	●
Digital inputs				
Input	signal voltage		24 V DC	
	characteristic acc. to EN 61132-2		Type 1	
0 signal			-3...+5 V DC	
Undefined signal state			5...15 V DC	
1 signal			15...30 V DC	
Residual ripple, range for		0 signal	-3...+5 V DC	
		1 signal	15...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			–	● (on DC outputs)
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	
Analog inputs AI			Max. number per module and with regard to the configuration: AIs / Measuring points	
Signal configuration per AI			4	–
0...10 V / -10... +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...+10 V using differential inputs, needs 2 channels			4 / 2	–
Digital signals (digital input)			4 / 4	–

(1) Not simultaneously.

AC500
Technical data

Modbus TCP modules

Type			CI521-MODTCP	CI522-MODTCP
Data when using the AI as digital input				
Input		time delay	8 ms typically, configurable from 0.1 up to 32 ms	–
		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	–
	loading capability when used as voltage output		±10 mA max.	–
Potential isolation				
Per module			●	●
Between Ethernet interface against the rest of the module			●	●
Voltage supply for the module			By external 24 V DC voltage via terminal UP	
Process voltage UP				
Nominal voltage			24 V DC	
Current consumption on UP				
	min. (module alone)		0.260 A	
	max. (min. + loads)		0.260 A + load	
Reverse polarity protection			●	
Fuse for process voltage UP			10 A miniature fuse	
Approvals			See detailed page 262 or new.abb.com/plc	

(1) Not simultaneously.

AC500
Technical data

CS31 functionality

	AC500 CPU with integrated CS31 interface	S500 I/O with communication interface DC551-CS31 CI592-CS31
Master	Yes, at COM1	–
Slave	No	Yes
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	
Connection	Plug at COM1	Screw-type or spring-type terminals
Baud rate	187.5 kbit/s	
Distance	AC500-eCo: up to 50 m and up to 500 m	
Max. number of modules on fieldbus	31 modules max. Please note: The CS31 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	Using configuration tool (included in Automation Builder software suite)	
Station address configuration	No	Using rotary switches (99 max.)

Digital and mixed signal I/O modules, “Fast Counter” operating modes. Not applicable for eCo-I/O modules (1)

Operating mode, configured in the user program of the AC500		Occupied inputs DI or DC	Occupied outputs DO or DC	Maximum counting frequency kHz
0	No counter	0	0	–
1	One count-up counter with “end value reached” indication	1	1	50
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
5	One up/down counter with “dynamic set” input	2	0	50
6	One up/down counter with “dynamic set” input	2	0	50
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
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
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

(1) See technical documentation for details.

AC500
System data

Environmental Conditions

Process and supply voltages		
24 V DC	Voltage	24 V (-15 %, +20 %)
	Protection against reverse polarity	yes
Allowed interruptions of power supply	DC supply	Interruption < 10 ms, time between 2 interruptions > 1 s, PS2
Important: Exceeding the maximum process and supply voltages could lead to unrecoverable damage of the system. The system could be destroyed. For the supply of the modules, power supply units according to PELV or SELV specifications must be used. The creepage distances and clearances meet the requirements of the overvoltage category II, pollution degree 2.		
Assembly position		
Horizontal	●	
Vertical	●	
Temperature		
Operating	0 °C ... +60 °C	Preferred mounting position horizontal. Other mounting positions see manual.
Storage / Transport	-40 °C ... +70 °C	
Humidity		
Operating / Storage		Max 95 % r. H. without condensation
Air pressure		
Operating		-1000 m ... 2000 m (1080 hPa ... 800 hPa)
Storage		<3500 m (>660 hPa)
Electromagnectic Compatibility		
Radiated emission (radio disturbances)		Yes, Yes, in accordance with CISPR 16-2-3
Conducted emission (radio disturbances)		Yes, Yes, in accordance with CISPR 16-2-1, CISPR 16-1-2
Electrostatic discharge (ESD)		Yes, in accordance with IEC 61000-4-2, zone B, criterion B
		Electrostatic voltage in case of air discharge: 8 kV
		Electrostatic voltage in case of contact discharge: 6 kV
Fast transient interference voltages (burst)		Yes, in accordance with IEC 61000-4-4, zone B, criterion B
		Supply voltage units (DC): 2 kV
		Supply voltage units (AC): 2 kV
		Digital inputs/outputs (24 V DC): 1 kV
		Digital inputs/outputs (120...240 V AC): 2 kV
		Analog inputs/outputs: 1 kV
		Communication lines shielded: 1 kV
		I/O supply (DC-out): 2 kV
High energy transient interference voltages (surge)		Yes, in accordance with IEC 61000-4-5, zone B, criterion B
		Supply voltage units (DC): 1 kV CM* / 0.5 kV DM*
		Supply voltage units (AC): 2 kV CM* / 1 kV DM*
		Digital inputs/outputs (24 V DC): 1 kV CM* / 0.5 kV DM*
		Digital inputs/outputs (120...240 V AC): 2 kV CM* / 1 kV DM*
		Analog inputs/outputs: 1 kV CM* / 0.5 kV DM*
		Communication lines shielded: 1 kV CM*
		I/O supply (DC-out): 0,5 kV CM* / 0.5 kV DM*
		* CM = Common Mode, * DM = Differential Mode
Influence of radiated disturbances		Yes, in accordance with IEC 61000-4-3, zone B, criterion A
		Test field strength: 10 V/m
Influence of line-conducted interferences		Yes, in accordance with IEC 61000-4-6, zone B, criterion A
		Test voltage: 10 V
Influence of power frequency magnetic fields		Yes, in accordance with IEC 61000-4-8, zone B, criterion A
		30 A/m 50 Hz
		30 A/m 60 Hz

WARNING!
Risk of malfunctions and damages to persons!
Unused slots for communication modules are not protected against contact discharge. Dust and Dirt may cause contact problems and malfunctions.
Unused slots for Communication Modules must be covered with Dummy Communication Modules ("TA524 - Dummy Communication Module").
I/O-Bus connectors must not be touched during operation.
In order to prevent malfunctions, it is recommended that the operating personnel discharge themselves prior to touching communication connectors or perform other suitable measures to reduce effects of electrostatic discharges.

AC500
System data

Environmental Conditions

Environmental Tests		
Storage		IEC 60068-2-1 Test Ab: cold withstand test -40 °C / 16 h
		IEC 60068-2-2 Test Bb: dry heat withstand test +70 °C / 16 h
Humidity		IEC 60068-2-30 Test Db: Cyclic (12 h / 12 h) Damp-Heat Test 55 °C, 93 % r. H. / 25 °C, 95 % r. H., 2 cycles
Vibration resistance		IEC 61131-2 / IEC 60068-2-6: 15 Hz ... 150 Hz, 1 g (with Memory Card inserted)
Shock resistance		IEC 60068-2-27: all 3 axes 15 g, 11 ms, half-sinusoidal
Mechanical Data		
Wiring method		Spring terminals / Screw terminals
Degree of protection		IP 20
Assembly on DIN rail	DIN rail type	According to IEC 60715
		35 mm, depth 7.5 mm or 15 mm
Assembly with screws	Screw diameter	4 mm
	Fastening torque	1.2 Nm

Main dimensions mm, inches

Type	Nr communication modules	Length L	
		mm	inches
TB5600-2ETH	0	**67.5**	2.66
TB5610-2ETH	1	**95.5**	3.76
TB5620-2ETH	2	**123.5**	4.86
TB5640-2ETH	4	**179.5**	7.07
TB5660-2ETH	6	**235.5**	10.5