AC500
Technical data

PROFINET IO RT device modules

Type		CI501-PNIO	CI502-PNIO	CI504-PNIO	CI506-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	CAN / CANopen Master + 2 x RS232 / RS422 / RS485 ASCII serial interfaces
Fieldbus Protocol used		–	–	–	CAN 2A/2B Master - CANopen Master (1)
CAN physical interface		–	–	–	1 x 10 poles pluggable spring connector
Baudrate		–	–	–	Baudrate up to 1 MBit/s, Support for up to 126 CANopen Slaves
Serial interface		–	–	3 x RS232 / RS422 or RS485	2 x RS232 / RS422 or RS485
Protocol used		–	–	ASCII	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 IO modules can be also used.		Valid for CI501, 502, 504 and 506. 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		–	–

(1) Not simultaneously.

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Type			CI501-PNIO	CI502-PNIO	CI504-PNIO	CI506-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 238 or www.abb.com/plc			

(1) Not simultaneously.