Scalable PLC AC500
Overview of digital S500 I/O modules

Digital S500 I/O modules



Type	DI524	DC522	DC523	DC532	DX522	DX531
Order code	1SAP240000R0001	1SAP240600R0001	1SAP240500R0001	1SAP240100R0001	1SAP245200R0001	1SAP245000R0001
Version available for Extreme Conditions (-XC)	1SAP440000R0001	1SAP440600R0001	1SAP440500R0001	1SAP440100R0001	1SAP445200R0001	no
Number of channels per module						
Digital inputs DI	32	–	–	16	8	
Digital outputs DO	–	–	–	–	8 relays	8 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 36					–
Occupies max. 1 DO or DC when used as counter	–	✔	✔	✔	–	–
Connection via terminal unit	✔	✔	✔	✔	✔	✔
Digital inputs						
Input signal voltage	24 V DC					230 V AC or 120 V AC
Frequency range	–					47 ... 63 Hz
Input characteristic acc. to EN 61132-2	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			–	–
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	–	✔	✔	✔	–	–

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Type	DI524	DC522	DC523	DC532	DX522	DX531
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					
Maximum ripple	5 %					
Current consumption on UP						
Min. typ. (module alone)	0.150 A	0.100 A	0.150 A		0.050 A	0.150 A
Max. typ. (min. + loads)	0.150 A	0.100 A + load	0.150 A + load		0.050 A + load	0.150 A + load
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	1000 m					
Unshielded cable	600 m					
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 all communication interface modules					
Address setting	automatically (internal)					

Scalable PLC AC500
Ordering data



CM574-RCOM

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
- Plug in terminal block included.

Interface	Type	Order code	Price	Weight (1 pce) kg
Serial 2x RS-232/485 (1x RCOM / 1x Console)	CM574-RCOM	1SAP170401R0201		0.115

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.



DO572 and terminal blocks

Digital input/output modules

- For central expansion of the AC500 or AC500-eCo CPUs
- For decentralized expansion in combination with interface module DC551-CS31, PROFINET CI50x modules, or DC505-FBP for S500 I/Os
- DC: Channels can be configured individually as inputs or outputs
- S500-eCo digital I/O modules:
  - Not usable with DC505-FBP module
  - Usable with all CI5xx modules except CI590-CS31-HA.

Number of DI/DO/DC	Input signal	Output type	Output signal	Terminal block 9 poles	Terminal block 11 poles	Type	Order code	Price	Weight (1 pce) kg
8 / – / –	24 V DC	–	–	1	–	DI561	1TNE968902R2101		
16 / – / –	24 V DC	–	–	1	1	DI562	1TNE968902R2102		
8 / – / –	100-240 V AC	–	–	1	1	DI571	1TNE968902R2103		
– / 8 / –	–	Transistor	24 V DC, 0.5 A	–	1	DO561	1TNE968902R2201		
– / 8 / –	–	Relay	24 V DC, 120/ 240 V AC, 2 A	–	1	DO571	1TNE968902R2202		
– / 8 / –	–	Triac	100-240 V AC, 0.3 A	1	1	DO572	1TNE968902R2203		
8 / 8/ –	24 V DC	Transistor	24 V DC, 0.5 A	1	1	DX561	1TNE968902R2301		
8 / 8/ –	24 V DC	Relay	24 V DC, 120/ 240 V AC, 2 A	1	1	DX571	1TNE968902R2302		
– / – / 16	24 V DC	Transistor	24 V DC, 0.1A	HE10-20	–	DC561	1TNE968902R2001		

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



DC532

- S500 digital input modules:
  - Plug-in electronic modules, terminal unit required (refer to table below)
  - Usable with DC505-FBP and all CI5xx modules

Number of DI/DO/DC	Input signal	Output type	Output signal	Terminal units	Type	Order code	Price	Weight (1 pce) kg
32/–/–	24 V DC	–	–	TU515 / TU516	DI524	1SAP240000R0001		0.200
–/–/16	24 V DC	Transistor	24 V DC, 0.5 A	TU515 / TU516	DC522	1SAP240600R0001		0.200
–/–/24	24 V DC	Transistor	24 V DC, 0.5 A	TU515 / TU516	DC523	1SAP240500R0001		0.200
16/–/16	24 V DC	Transistor	24 V DC, 0.5 A	TU515 / TU516	DC532	1SAP240100R0001		0.200
8/8/–	24 V DC	Relay	230 V AC, 3 A (1)	TU531 / TU532	DX522	1SAP245200R0001		0.300
8/4/–	230 V AC	Relay	230 V AC, 3 A (1)	TU531 / TU532	DX531	1SAP245000R0001		0.300
Product for Extreme Conditions								
32/-/-	24 V DC	-	-	TU516-XC	DI524-XC	1SAP440000R0001		0.200
-/-/16	24 V DC	Transistor	24 V DC, 0.5 A	TU516-XC	DC522-XC	1SAP440600R0001		0.200
-/-/24	24 V DC	Transistor	24 V DC, 0.5 A	TU516-XC	DC523-XC	1SAP440500R0001		0.200
16/-/16	24 V DC	Transistor	24 V DC, 0.5 A	TU516-XC	DC532-XC	1SAP440100R0001		0.200
8/8/-	24 V DC	Relay	230 V AC, 3 A (1)	TU532-XC	DX522-XC	1SAP445200R0001		0.200

(1) Relay outputs, changeover contacts

Scope of delivery	Terminal units	Type	Order code	Price	Weight (1 pce) kg
CD522, encoder & PWM module, 2 encoder inputs, 2 PWM outputs, 2 digital inputs 24 V DC, 8 digital configurable inputs/outputs 24 V DC	TU515 / TU516	CD522	1SAP260300R0001		0.125
Product for Extreme Conditions					
CD522, encoder & PWM module, 2 encoder inputs, 2 PWM outputs, 2 digital inputs 24 V DC, 8 digital outputs 24 V DC	TU516-XC	CD522-XC	1SAP460300R0001		0.125