

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for installation, programming and maintenance

SIEMENS SIMATIC

6ES7288-1SR30-0AA1

S7-200 SMART CPU SR30 AC/DC/RELAY

Selected official Siemens system manual pages follow this Amikon cover with original Siemens pagination retained.

REFERENCE PACKAGE

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OFFICIAL DOCUMENT

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SIMATIC

S7 S7-200 SMART

System Manual

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A.2.2 CPU ST30, CPU SR30, and CPU CR30s

A.2.2.1 General specifications and features

General specifications and features of the CPU ST30, CPU SR30 and CPU CR30s

Table A-24 General specifications

Technical data	CPU ST30 DC/DC/DC	CPU SR30 AC/DC/Relay	CPU CR30s AC/DC/Relay
Article number	6ES7288-1ST30-0AA1	6ES7288-1SR30-0AA1	6ES7288-1CR30-0AA1
Dimensions W x H x D (mm)	110 x 100 x 81	110 x 100 x 81	110 x 100 x 81
Weight	375 g	435 g	424 g
Power dissipation	12 W	14 W	7 w
Current available (EM bus)	1400 mA max. (5 V DC)	1400 mA max. (5 V DC)	Not available
Current available (24 V DC)	300 mA max. (sensor power)	300 mA max. (sensor power)	300 mA max. (sensor power)
Digital input current consumption (24 V DC)	4 mA/ input used	4 mA/ input used	4 mA/ input used

Table A-25 CPU features

Technical data	CPU ST30 DC/DC/DC	CPU SR30 AC/DC/Relay	CPU CR30s AC/DC/Relay
User memory ¹	Program	18 Kbytes	12 Kbytes
	User data (V)	16 Kbytes	8 Kbytes
	Retentive	12 Kbytes max. ¹	2 Kbytes max. ¹
On-board digital I/O	18 inputs/12 outputs	18 inputs/12 outputs	18 inputs/12 outputs
Process image	256 bits of inputs (I) / 256 bits of outputs (Q)	256 bits of inputs (I) / 256 bits of outputs (Q)	256 bits of inputs (I) / 256 bits of outputs (Q)
Analog image	56 words of inputs (AI) / 56 words of outputs (AQ)	56 words of inputs (AI) / 56 words of outputs (AQ)	Not available
Bit memory (M)	256 bits	256 bits	256 bits
Temporary (local) memory (L)	64 bytes in the main program and 64 bytes in each subroutine and interrupt routine 60 bytes when programming in LAD or FBD (STEP 7-Micro/WIN reserves 4 bytes)	64 bytes in the main program and 64 bytes in each subroutine and interrupt routine 60 bytes when programming in LAD or FBD (STEP 7-Micro/WIN reserves 4 bytes)	64 bytes in the main program and 64 bytes in each subroutine and interrupt routine 60 bytes when programming in LAD or FBD (STEP 7-Micro/WIN reserves 4 bytes)
Sequential control relays (S)	256 bits	256 bits	256 bits
Expansion modules expansion	6	6	Not available
Signal board expansion	1 max.	1 max.	Not available

Technical data		CPU ST30 DC/DC/DC	CPU SR30 AC/DC/Relay	CPU CR30s AC/DC/Relay
High-speed counters	Total	6	6	4
	Single phase	5 at 200 kHz 1 at 30 kHz	5 at 200 kHz 1 at 30 kHz	4 at 100 kHz
	A/B phase	3 at 100 kHz 1 at 20 kHz	3 at 100 kHz 1 at 20 kHz	2 at 50 kHz
Pulse outputs ²		3 at 100 kHz	--	Not available
Pulse catch inputs		12	12	Not available
Cyclic interrupts		2 at 1 ms resolution	2 at 1 ms resolution	2 at 1 ms resolution
Edge interrupts		4 rising and 4 falling (6 and 6 with optional signal board)	4 rising and 4 falling (6 and 6 with optional signal board)	4 rising and 4 falling
Memory card		microSDHC Card (optional)	microSDHC Card (optional)	Not available
Real time clock accuracy		+/- 120 seconds/month	+/- 120 seconds/month	Not available
Real time clock retention time		7 days typ./6 days min. at 25 °C (maintenance-free Super Capacitor)	7 days typ./6 days min. at 25 °C (maintenance-free Super Capacitor)	Not available

- ¹ You can configure areas of V memory, M memory, C memory (current values), and portions of T memory (current values on retentive times) to be retentive, up to the specified maximum amount.
- ² The specified maximum pulse frequency is possible only for CPU models with transistor outputs. Pulse output operation is not recommended for CPU models with relay outputs.

Table A-26 PROFINET features

Description	CPU ST30 DC/DC/DC	CPU SR30 AC/DC/Relay
Support Controller function for PROFINET communication	Yes	
Support I-Device function for PROFINET communication	Yes	
Maximum number of PROFINET device	8	
Device number of PROFINET device	1 to 8	
Maximum input size of each PROFINET device	128 Bytes	
Maximum output size of each PROFINET device	128 Bytes	
Maximum input size of PROFINET I-Device	128 Bytes	
Maximum output size of PROFINET I-Device	128 Bytes	
Maximum number of modules	64	
Minimum cyclic update time of PROFINET device	The minimum value of the update time also depends on the communication component set for PROFINET, on the number of PROFINET devices, and the quantity of configured user data.	
CPU address range of PROFINET process image input register	I128.0 to I1279.7	
CPU address range of PROFINET process image output register	Q128.0 to Q1279.7	
CPU address of PROFINET process image input and output register for device #1	I128.0 to I255.7 Q128.0 to Q255.7	
CPU address of PROFINET process image input and output register for device #2	I256.0 to I383.7 Q256.0 to Q383.7	

Table A-29 Communication

Technical data	CPU ST30 DC/DC/DC	CPU SR30 AC/DC/Relay	CPU CR30s AC/DC/Relay
Number of ports	PROFINET (LAN): 1 Serial ports: 1 (RS485) Add-on serial ports: 1 (with optional RS232/485 signal board)	PROFINET (LAN): 1 Serial ports: 1 (RS485) Add-on serial ports: 1 (with optional RS232/485 signal board)	PROFINET (LAN): 0 Serial ports: 1 (RS485) Add-on serial ports: 0
HMI device	PROFINET (LAN): 8 connections Serial ports: 4 connections per port	PROFINET (LAN): 8 connections Serial ports: 4 connections per port	PROFINET (LAN): Not available Serial ports: 4 connections per port
Programming device (PG)	PROFINET (LAN): 1 connection Serial ports: 1 connection	PROFINET (LAN): 1 connection Serial ports: 1 connection	PROFINET (LAN): Not available Serial ports: 1 connection
CPUs (PUT/GET)	PROFINET (LAN): 8 client and 8 server connections	PROFINET (LAN): 8 client and 8 server connections	PROFINET (LAN): Not available
Open user communication	PROFINET (LAN): 8 active and 8 passive connections	PROFINET (LAN): 8 active and 8 passive connections	PROFINET (LAN): Not available
Data rates	PROFINET (LAN): 10/100 Mb/s RS485 system protocols: 9600, 19200, and 187500 b/s RS485 freeport: 1200 to 115200 b/s	PROFINET (LAN): 10/100 Mb/s RS485 system protocols: 9600, 19200, and 187500 b/s RS485 freeport: 1200 to 115200 b/s	PROFINET (LAN): Not available RS485 system protocols: 9600, 19200, and 187500 b/s RS485 freeport: 1200 to 115200 b/s
Isolation (external signal to PLC logic)	PROFINET (LAN): Transformer isolated, 1500 V AC RS485: RS485 signal to chassis ground, 500 V AC/ 707 V DC; RS485 signal to CPU logic common, 500 V AC/ 707V DC;	PROFINET (LAN): Transformer isolated, 1500 V AC RS485: RS485 signal to chassis ground, 500 V AC/ 707 V DC; RS485 signal to CPU logic common, 500 V AC/ 707V DC;	PROFINET (LAN): Not available RS485: RS485 signal to chassis ground, 500 V AC/ 707 V DC; RS485 signal to CPU logic common, 500 V AC/ 707V DC;
Cable type	PROFINET (LAN): CAT5e shielded RS485: PROFIBUS network cable	PROFINET (LAN): CAT5e shielded RS485: PROFIBUS network cable	PROFINET (LAN): Not available RS485: PROFIBUS network cable
PROFINET Communication			
PROFINET controller	Yes	Yes	No
PROFINET device	Yes	Yes	No
PROFINET controller			
Services			
PG/OP communication	Yes	Yes	No
S7 routing	Yes	Yes	No
Isochronous mode	No	No	No
Open IE communication	Yes	Yes	No
IRT	No	No	No
MRP	No	No	No
PROFenergy	No	No	No