MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7288-1ST40-0AA0

CPU ST40 COMPACT CONTROLLER

Used with the applicable SIMATIC S7-200 SMART configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens technical documentation for 6ES7288-1ST40-0AA0

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Data sheet 6ES7288-1ST40-0AA0

SIMATIC S7-200 SMART, CPU ST40, CPU, DC/DC/DC, onboard I/O: 24 DI 24 V DC; 16 DO 24 V DC; Power supply: DC 20.4-28.8V DC, Program/data memory 40 KB



General information	
Product type designation	CPU ST40 DC/DC/DC
Engineering with	
• Programming package	STEP 7 Micro/WIN SMART
Installation type/mounting	
Rail mounting	Yes; Standard - DIN rail
Supply voltage	
Type of supply voltage	24 V DC
Rated value (DC)	
• 24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Rated value (AC)	
• 120 V AC	No
• 230 V AC	No
Input current	
Current consumption, max.	680 mA; 24 V DC
Inrush current, max.	11.7 A; at 28.8 V

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Output current	
Current output, max.	300 mA; 24 V DC Sensor Power
for backplane bus (5 V DC), max.	1.4 A; max. 5 V DC for EM bus
Power loss	
Power loss, max.	18 W
Memory	
Type of memory	DDR
Flash	Yes
RAM	Yes
Memory available for user data	16 kbyte
Memory size	24 kbyte; Program memory
Micro Memory Card	Yes; microSDHC Card (optional)
CPU processing times	
for bit operations, typ.	150 ns; / instruction
for word operations, typ.	1.2 µs; / instruction
for floating point arithmetic, typ.	3.6 µs; / instruction
Address area	
I/O address area	
• Inputs	144 byte; 256 bit of digital inputs & 56 words of analog inputs
• Outputs	144 byte; 256 bit of digital outputs & 56 words of analog outputs
Time of day	
Clock	
• Type	Hardware clock, no battery backup
• Hardware clock (real-time)	Yes
• Backup time	7 d
• Deviation per day, max.	4 s; within 120s/month at 25 °C
Digital inputs	
Number of digital inputs	24
Input voltage	
• Type of input voltage	DC
• Rated value (DC)	24 V
• for signal "0"	I0.0 to I0.3 < 1 V DC; I0.4 to I2.7 < 5 V DC
• for signal "1"	I0.0 to I0.3 > 4V; I0.4 to I2.7 > 15V
Input current	
• for signal "1", typ.	4 mA
Cable length	
• shielded, max.	500 m; 50m shielded for HSC inputs
• unshielded, max.	300 m
Digital outputs	

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Number of digital outputs	16; Transistor
• of which high-speed outputs	3
Short-circuit protection	No
Switching capacity of the outputs	
• with resistive load, max.	0.5 A
• on lamp load, max.	5 W
Cable length	
• shielded, max.	500 m
• unshielded, max.	150 m
Interfaces	
Number of industrial Ethernet interfaces	1
Number of RS 485 interfaces	1
1. Interface	
Interface type	Ethernet
Physics	RJ45
Isolated	Yes; Transformer isolated, 1,500V AC
automatic detection of transmission rate	Yes; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes
Protocols	
• PROFINET IO Controller	Yes; Since V2.4
• PROFINET IO Device	No
PROFINET IO Controller	
• Transmission rate, max.	100 Mbit/s
Services	
— Number of connectable IO Devices, max.	8
— Updating time	4 ms; The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.
Address area	
— Inputs, max.	128 byte; Per device
— Outputs, max.	128 byte; Per device
2. Interface	
Interface type	RS 485 (max. 187.5 kbps)
Communication functions	
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
Test commissioning functions	
Forcing	

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