SIEMENS

Data sheet

6ES7135-6HB00-0DA1



SIMATIC ET 200SP, Analog output module, AQ 2x U/I High Speed, suitable for BU type A0, A1, Color code CC00, channel diagnostics, 16 bit, +/-0.2%

Product type designation Product Spread (Product Spread (Produ	General information	
HW functional status From FS06 usable BaseUnits BU type A0, A1 Color code for module-specific color identification plate CC00 Product function • Isochronous mode • Isochronous mode Yes Engineering with V13 SP1 • STEP 7 TA Portal configurable/integrated from version V13 SP1 • STEP 7 TA Portal configurable/integrated from version V5 S SP3 / - • PROFIBUS from GSD version/GSD revision GSD Revision 5 Operating mode • • Oversampling Yes; 2 channels per module • MSO No Calibration possible in RUN Yes Reparameterization possible in RUN Yes Reted value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 19.2 V permissible range, upper limit (DC) 24.8 V Reverse polanty protection Yes Current consumption, max. 90 mA; 2 channels current output 20 mA Power loss, typ. 0.9 W Address space per module, max. 4 byte; + 1 byte for QI information (32 bytes in the oversampling operating mode) Hardware configuration Yes Address space per module, max. 4 byte; + 1 byte for QI information (32 bytes in the oversampling operating mode)		
usable BaseUnits BU type A0, A1 Color code for module-specific color identification plate CC00 Product function CC00 • I&M data Yes; I&M0 to I&M3 • Ischronous mode Yes Engineering with V13 SP1 • STEP 7 TA Portal configurable/integrated from version V15 S SP3 / - • PROFIBUS from GSD version/GSD revision GSD Revision 5 • PROFIBUS from GSD version/GSD revision GSD Revision 5 • Oversampling Yes; 2 channels per module • MSO No Calibration possible in RUN Yes Calibration possible in RUN Yes Calibration possible in RUN Yes Permissible range, lower limit (DC) 24 V permissible range, upper limit (DC) 28.8 V Rever consumption (rated value) 45 mA; without load Current consumption, max. 90 mA; 2 channels current output 20 mA Power loss - Power loss, typ. 0.9 W Address pace per module 4 byte; + 1 byte for QI information (32 bytes in the oversampling operating mode) • Mechanical coding element		
Color code for module-specific color identification plate CC00 Product function • I&M data Yes; I&M0 to I&M3 • IsAM data Yes; I&M0 to I&M3 • IsAM data Yes; I&M0 to I&M3 • IsAM data Yes; I&M0 to I&M3 • STEP 7 TIA Portal configurable/integrated from version V13 SP1 • STEP 7 ronfigurable/integrated from version V13 SP1 • PROFIBUS from GSD version/GSD revision GSD Revision 5 • PROFINET from CSD version/GSD revision GSD Revision 5 • Oversampling Yes; 2 channels per module • MSO No Citra Configuration in RUN Yes Reparameterization possible in RUN Yes Calibration possible in RUN Yes Calibration possible in RUN Yes Permissible range, lower limit (DC) 19.2 V permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption (rated value) 45 mA; without load Current consumption, max. 90 mA; 2 channels current output 20 mA Power loss, typ. 0.9 W Address space per module, max. • Address space per m		
Product function Yes; I&M0 to I&M3 • Isochronous mode Yes Engineering with Yes • STEP 7 TA Portal configurable/integrated from version V13 SP1 • STEP 7 To configurable/integrated from version V5 S SP3 / - • PROFIBUS from GSD version/GSD revision GSD Revision 5 • PROFINET from GSD version/GSD revision GSDML V2.3 Operating mode • • Oversampling Yes; 2 channels per module • MSO No Cill - Configuration in RUN Reparameterization possible in RUN Reparameterization possible in RUN No Supply voltage 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current Current consumption (rated value) Current consumption, max. 90 mA; 2 channels current output 20 mA Power loss Power loss, typ. Power loss, typ. 0.9 W Address space per module, max. 4 byte; + 1 byte for QI information (32 bytes in the oversampling operating mode) Hardware configuration Yes Automatic encoding Yes • Address space per module, max. 4 byte; + 1 byte for QI information (32 bytes in the oversampling operating mode) <td></td> <td></td>		
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• Isochronous mode Yes Engineering with		
Engineering with V13 SP1 • STEP 7 TA Portal configurable/integrated from version V13 SP1 • STEP 7 configurable/integrated from version V55 SP3 / - • PROFIBUS from GSD version/GSD revision GSD Revision 5 • PROFINET from GSD version/GSD revision GSDML V2.3 Operating mode - • NSO No CiR - Configuration in RUN Yes; 2 channels per module • KSO No Calibration possible in RUN Yes Calibration possible in RUN Yes Calibration possible in RUN Yes Permissible range, lower limit (DC) 24 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Input current - Current consumption (rated value) 45 mA; without load Current consumption, max. 90 mA; 2 channels current output 20 mA Power loss, typ. 0.9 W Address space per module - • Address space per module 4 byte; + 1 byte for QI information (32 bytes in the oversampling operating mode) Hardware configuration Yes • Type of mechanical coding element Yes		
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Type of mechanical coding element Type A Analog outputs Number of analog outputs 2	Mechanical coding element	Yes
Analog outputs Number of analog outputs 2		Туре А
Number of analog outputs 2		
		2

Voltage output, short-circuit current, max.	45 mA
Cycle time (all channels), min.	125 µs
Analog output with oversampling	Yes
 Values per cycle, max. 	16
Resolution, min.	45 μs; (2 channels), 35 μs (1 channel)
Output ranges, voltage	
• 0 to 10 V	Yes; 15 bit
• 1 V to 5 V	Yes; 13 bit
• -5 V to +5 V	Yes; 15 bit incl. sign
• -10 V to +10 V	Yes; 16 bit incl. sign
Output ranges, current	
• 0 to 20 mA	Yes; 15 bit
• -20 mA to +20 mA	Yes; 16 bit incl. sign
• 4 mA to 20 mA	Yes; 14 bit
Connection of actuators	
 for voltage output two-wire connection 	Yes
 for voltage output four-wire connection 	Yes
for current output two-wire connection	Yes
Load impedance (in rated range of output)	
with voltage outputs, min.	2 kΩ
with voltage outputs, capacitive load, max.	- ···· 1 μF
with current outputs, max.	500 Ω
with current outputs, inductive load, max.	1 mH
Destruction limits against externally applied voltages and currents	
Voltages at the outputs	30 V
Cable length	
shielded, max.	1 000 m; 200 m for voltage output
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	16 bit
Settling time	
	0.05 mg
 for resistive load 	0.05 ms
for resistive loadfor capacitive load	0.05 ms; Max. 47 nF and 20 m cable length
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for resistive load for capacitive load for inductive load For inductive load Errors/accuracies	0.05 ms; Max. 47 nF and 20 m cable length 0.05 ms
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 for resistive load for capacitive load for inductive load for inductive load Errors/accuracies Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) Operational error limit in overall temperature range Voltage, relative to output range, (+/-) Current, relative to output range, (+/-) Sochronous mode Execution and activation time (TCO), min. Bus cycle time (TDP), min. Interrupts/diagnostics/status information	0.05 ms; Max. 47 nF and 20 m cable length 0.05 ms 0.02 % 0.03 % 0.003 %/K -50 dB 0.03 % 0.2 % 0.2 % 0.2 % 0.1 % 0.1 % 125 μs
 for resistive load for capacitive load for inductive load Errors/accuracies Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) Linearity error (relative to output range), (+/-) Temperature error (relative to output range), (+/-) Crosstalk between the outputs, max. Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) Operational error limit in overall temperature range Voltage, relative to output range, (+/-) Current, relative to output range, (+/-) Substitute values to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms	0.05 ms; Max. 47 nF and 20 m cable length 0.05 ms 0.02 % 0.03 % 0.003 %/K -50 dB 0.03 % 0.2 % 0.2 % 0.1 % 0.1 % 70 μs 125 μs Yes Yes
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Overflow/underflow	Yes
Diagnostics indication LED	
 Monitoring of the supply voltage (PWR-LED) 	Yes; green PWR LED
 Channel status display 	Yes; green LED
 for channel diagnostics 	Yes; red LED
 for module diagnostics 	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
 between the channels 	No
 between the channels and backplane bus 	Yes
 between the channels and the power supply of the electronics 	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	-30 °C; < 0 °C as of FS06
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-30 °C; < 0 °C as of FS06
 vertical installation, max. 	50 °C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
NA/ 1 1/	
Weight, approx.	31 g