## SIEMENS

## Data sheet

## 6ES7135-6HD00-0BA1



SIMATIC ET 200SP, Analog output module, AQ 4XU/I Standard, suitable for BU type A0, A1, Color code CC00, Module diagnostics, 16 bit, +/-0.3%

General information		
Product type designation	AQ 4xU/I ST	
HW functional status	From FS07	
usable BaseUnits	BU type A0, A1	
Color code for module-specific color identification plate	CC00	
Product function		
<ul> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3	
<ul> <li>Isochronous mode</li> </ul>	No	
Output range scalable	No	
Engineering with		
<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V11 SP2 / V13	
<ul> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP3 / -	
<ul> <li>PCS 7 configurable/integrated from version</li> </ul>	V8.1 SP1	
<ul> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	One GSD file each, Revision 3 and 5 and higher	
<ul> <li>PROFINET from GSD version/GSD revision</li> </ul>	GSDML V2.3	
Operating mode		
Oversampling	No	
• MSO	No	
CiR - Configuration in RUN		
Reparameterization possible in RUN	Yes	
Calibration possible in RUN	No	
Supply voltage		
Rated value (DC)	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, max.	150 mA	
Power loss		
Power loss, typ.	1.5 W	
Address area		
Address space per module		
<ul> <li>Address space per module, max.</li> </ul>	8 byte; + 1 byte for QI information	
Hardware configuration		
Automatic encoding		
<ul> <li>Type of mechanical coding element</li> </ul>	Туре А	
Analog outputs		
Number of analog outputs	4	

Voltage output, short-circuit current, max.	45 mA
Cycle time (all channels), min.	45 mA 5 ms
Analog output with oversampling	No
Output ranges, voltage	NO
• 0 to 10 V	Yes; 15 bit
• 1 V to 5 V	Yes; 13 bit
• -5 V to +5 V	
• -5 V to +5 V • -10 V to +10 V	Yes; 15 bit incl. sign
	Yes; 16 bit incl. sign
Output ranges, current	Yes; 15 bit
<ul> <li>0 to 20 mA</li> <li>-20 mA to +20 mA</li> </ul>	
	Yes; 16 bit incl. sign
• 4 mA to 20 mA	Yes; 14 bit
Connection of actuators	Vee
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 cur	
Voltages at the outputs	30 V
Cable length	
<ul> <li>shielded, max.</li> </ul>	1 000 m; 200 m for voltage output
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
<ul> <li>Resolution with overrange (bit including sign), max.</li> </ul>	16 bit
Settling time	
<ul> <li>for resistive load</li> </ul>	0.1 ms
<ul> <li>for capacitive load</li> </ul>	1 ms
<ul> <li>for inductive load</li> </ul>	0.5 ms
Errors/accuracies	
Linearity error (relative to output range), (+/-)	0.03 %
Temperature error (relative to output range), (+/-)	0.005 %/K
Crosstalk between the outputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to	0.05 %
output range), (+/-)	
Operational error limit in overall temperature range	
<ul> <li>Voltage, relative to output range, (+/-)</li> </ul>	0.5 %
<ul> <li>Current, relative to output range, (+/-)</li> </ul>	0.5 %
Basic error limit (operational limit at 25 °C)	
<ul> <li>Voltage, relative to output range, (+/-)</li> </ul>	0.3 %
<ul> <li>Current, relative to output range, (+/-)</li> </ul>	0.3 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
Diagnostic alarm	Yes
Diagnoses	
<ul> <li>Monitoring the supply voltage</li> </ul>	Yes
Wire-break	Yes
Short-circuit	Yes
Group error	Yes
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	No
for module diagnostics	Yes; green/red DIAG LED

Potential separation	
Potential separation channels	
<ul> <li>between the channels</li> </ul>	No
<ul> <li>between the channels and backplane bus</li> </ul>	Yes
<ul> <li>between the channels and the power supply of the electronics</li> </ul>	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
<ul> <li>horizontal installation, min.</li> </ul>	-30 °C; < 0 °C as of FS07
<ul> <li>horizontal installation, max.</li> </ul>	60 °C; Observe derating
<ul> <li>vertical installation, min.</li> </ul>	-30 °C; < 0 °C as of FS07
<ul> <li>vertical installation, max.</li> </ul>	50 °C; Observe derating
Altitude during operation relating to sea level	
<ul> <li>Installation altitude above sea level, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	31 g
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