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		
 I&M data 	Yes; I&M0 to I&M3	
 Isochronous mode 	No	
Output range scalable	No	
Engineering with		
 STEP 7 TIA Portal configurable/integrated from version 	V11 SP2 / V13	
 STEP 7 configurable/integrated from version 	V5.5 SP3 / -	
 PCS 7 configurable/integrated from version 	V8.1 SP1	
 PROFIBUS from GSD version/GSD revision 	One GSD file each, Revision 3 and 5 and higher	
PROFINET from GSD version/GSD revision	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		
Address space per module, max.	8 byte; + 1 byte for QI information	
Hardware configuration		
Automatic encoding		
Type of mechanical coding element	Type A	
Analog outputs		
Number of analog outputs	4	
Tanada or arraing outpate		

Voltage output, short-circuit current, max.	45 mA
Cycle time (all channels), min.	5 ms
Analog output with oversampling	No
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 cur	rrents
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	
for resistive load	0.1 ms
for capacitive load	1 ms
for inductive load	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), (+/-)	
output range), (+/-)	0.5 %
output range), (+/-) Operational error limit in overall temperature range	0.5 % 0.5 %
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-)	
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-)	
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C)	0.5 %
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-)	0.5 %
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-)	0.5 %
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information	0.5 % 0.3 % 0.3 %
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function	0.5 % 0.3 % 0.3 % Yes
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable	0.5 % 0.3 % 0.3 % Yes
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms	0.5 % 0.3 % 0.3 % Yes Yes
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm	0.5 % 0.3 % 0.3 % Yes Yes
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses	0.5 % 0.3 % 0.3 % Yes Yes
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage	0.5 % 0.3 % 0.3 % Yes Yes Yes
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit	0.5 % 0.3 % 0.3 % Yes Yes Yes Yes
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit • Group error	0.5 % 0.3 % 0.3 % Yes Yes Yes Yes Yes Yes
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit • Group error • Overflow/underflow	0.5 % 0.3 % 0.3 % Yes Yes Yes Yes Yes Yes Yes Ye
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit • Group error • Overflow/underflow Diagnostics indication LED	0.5 % 0.3 % 0.3 % Yes Yes Yes Yes Yes Yes Yes Ye
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit • Group error • Overflow/underflow Diagnostics indication LED • Monitoring of the supply voltage (PWR-LED)	O.5 % O.3 % O.3 % Yes Yes Yes Yes Yes Yes Yes Ye
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit • Group error • Overflow/underflow Diagnostics indication LED • Monitoring of the supply voltage (PWR-LED) • Channel status display	0.5 % 0.3 % 0.3 % Yes Yes Yes Yes Yes Yes Yes Ye
output range), (+/-) Operational error limit in overall temperature range • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to output range, (+/-) • Current, relative to output range, (+/-) Interrupts/diagnostics/status information Diagnostics function Substitute values connectable Alarms • Diagnostic alarm Diagnoses • Monitoring the supply voltage • Wire-break • Short-circuit • Group error • Overflow/underflow Diagnostics indication LED • Monitoring of the supply voltage (PWR-LED)	O.5 % O.3 % O.3 % Yes Yes Yes Yes Yes Yes Yes Ye

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 FS07
 horizontal installation, max. 	60 °C; Observe derating
 vertical installation, min. 	-30 °C; < 0 °C as of FS07
 vertical installation, max. 	50 °C; Observe derating
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	
Weight, approx.	31 g

1/16/2021 🗗

last modified: