

# SIEMENS

## Product data sheet

**6ES7135-6HD00-0BA1**


SIMATIC ET 200SP, ANALOG OUTPUT MODULE,  
AQ 4XU/I STANDARD, FITS TO BU-TYPE A0,  
A1, COLOR CODE CC00, MODULE DIAGNOSIS,  
16BIT, +/-0,3%

### CiR - Configuration in RUN

Reparameterization possible in RUN	Yes
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### Supply voltage

24 V DC	Yes
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
External protection for supply cables (recommendation)	24 V DC/10 A miniature circuit breaker with type B or C tripping characteristic

### Input current

Current consumption, max.	150 mA ; 4 channels current output 20 mA
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### Power losses

Power loss, typ.	1.5 W
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### Address area

Address space per module	
Address space per module, max.	32 byte

Analog outputs	
Number of analog outputs	4
Cycle time (all channels) max.	5 ms
Output ranges, voltage	
0 to 10 V	Yes
1 to 5 V	Yes
-10 to +10 V	Yes
Output ranges, current	
0 to 20 mA	Yes
-20 to +20 mA	Yes
4 to 20 mA	Yes
Connection of actuators	
for voltage output 2-conductor connection	Yes
for voltage output 4-conductor connection	Yes
for current output 2-conductor connection	Yes
Load impedance (in rated range of output)	
with voltage outputs, min.	2 k $\Omega$
with voltage outputs, capacitive load, max.	1 $\mu$ F
with current outputs, max.	500 $\Omega$
with current outputs, inductive load, max.	1 mH
Destruction limits against externally applied voltages and currents	
Voltages at the outputs towards MANA	30 V
Analog value creation	
Integrations and conversion time/ resolution per channel	
Resolution with overrange (bit including sign), max.	16 bit
Errors/accuracies	
Crosstalk between the outputs, min.	-50 dB
Interrupts/diagnostics/status information	
Diagnostic messages	
Diagnostic functions	Yes ; Module-wise
Monitoring the supply voltage	Yes
Wire break	Yes
Short circuit	Yes

Group error	Yes
Diagnostics indication LED	
For status of the outputs	Yes
For voltage monitoring	Yes
for short-circuit	Yes ; Group error (red)
Galvanic isolation	
Galvanic isolation analog outputs	
between the channels	No
between the channels and the backplane bus	Yes
between the channels and the power supply of the electronics	Yes
EMC	
Interference immunity against discharge of static electricity	
Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	Yes
Degree of sharpness	3
Test voltage at air discharge	8 kV
Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	
on the supply lines acc. to IEC 61000-4-4	Yes
Interference immunity on signal lines acc. to IEC 61000-4-4	Yes
Interference immunity on supply cables	
Degree of sharpness	3
Test voltage	2 kV
Interference immunity on signal cables >30m	
Degree of sharpness	3
Test voltage	2 kV
Interference immunity on signal cables < 30m	
Degree of sharpness	3
Test voltage	1 kV
Surge immunity	
on the supply lines acc. to IEC 61000-4-5	Yes ; With upstream protective element
Asymmetric interference	

Degree of sharpness	3
Test voltage on supply cables	2 kV
Test voltage on signal cables >30m	2 kV
Immunity against high-frequency electromagnetic fields	
Interference immunity against high-frequency radiation acc. to IEC 61000-4-3	Yes
Degree of sharpness	3
Frequency range of the HF irradiation	80 to 1000 MHz and 1.4 to 2 GHz with 10 Vm; 2.0 GHz to 2.7 GHz with 1 Vm
Electrical field strength at 80% amplitude modulation with 1kHz in the range of 80 MHz to 1000 MHz	10 V/m
Immunity against conducted interference induced by high-frequency fields	
Interference immunity against high frequency current feed acc. to IEC 61000-4-6	Yes
Interference immunity against high-frequency radiation acc. to IEC 61000-4-6	Yes
Degree of sharpness	3
Field strength at 80% amplitude modulation with 1kHz in the range 9 kHz to 80 MHz	10 V
Emission of radio interference acc. to EN 55 011	
Emission of radio interferences acc. to EN 55 011 (limit class A)	Yes
Limit class A, for use in industrial areas	Yes
Emission of radio interference acc. to EN 55 022	
Interference emission acc. to EN 55022, class A	Yes
Emission of conducted and non-conducted interference	
Interference emission from electromagnetic fields	
Limit value in the frequency range 29 MHz to 230 MHz	40 dB (µV/m)
Limit value in the frequency range 230 MHz to 1000 MHz	47 dB (µV/m)
Degree and class of protection	
IP20	Yes
Standards, approvals, certificates	
CE mark	Yes

CSA approval	Yes ; Included in cULus
C-TICK	Yes
FM approval	Yes
Marine approval	Yes
Climatic and mechanical conditions for storage and transport	
Conditions of use in storage and transport	
Compliance with requirements for storage and transport conditions according to IEC 61131-2	Yes
Climatic conditions for storage and transport	
Free fall	
Drop height, max. (in packaging)	1 m
Temperature	
Permissible temperature range	-40 °C to +70 °C
Min.	-40 °C
max.	70 °C
Air pressure acc. to IEC 60068-2-13	
Min.	660 hPa
max.	1080 hPa
Min.	-1000 m
max.	3500 m
Mechanical conditions for storage and transport	
Constant amplitude at 5 Hz to 9 Hz, max.	3.5 mm
Constant acceleration at 9 Hz to 150 Hz, max	9.8 m/s <sup>2</sup>
Shock (acc. to IEC 60068-2-29)	
Acceleration at a duration of 6 ms per shock (tested with 1000 shocks)	250 m/s <sup>2</sup>
Mechanical and climatic conditions during operation	
Climatic conditions in operation	
Temperature	
Min.	0 °C
max.	60 °C
Permissible temperature change	10 °C/h
Air pressure acc. to IEC 60068-2-13	
Min.	795 hPa

max.	1080 hPa
Min.	-1000 m
max.	2000 m
Relative humidity	
Relative humidity at 25 °C, max. (without condensation)	95 %
Pollutant concentrations	
SO2 at RH < 60% without condensation	0.00005 % ; SO2: < 0.5 ppm; RH < 60% condensation-free
H2S at RH < 60% without condensation	0.00001 % ; H2S: < 0.1 ppm; RH < 60% condensation-free
Mechanical conditions in operation	
Vibration (acc. to IEC 60068-2-6)	
Constant amplitude at 10 Hz to 58 Hz, max.	0.35 mm
Dimensions	
Width	15 mm
Weight	
Weight, approx.	31 g
Status	May 26, 2012