## 6ES7532-5ND00-0AB0

**Data sheet** 



SIMATIC S7-1500, analog output module AQ 4xU/I HF, 16-bit resolution accuracy 0.1%, 4 channels in groups of 1, common mode voltage: 30 V AC/60 V DC, diagnostics; substitute value, isochronous mode; the module supports the safety-oriented shutdown of load groups up to SIL2 according to EN IEC 62061:2021 and Category 3 / PL d according to EN ISO 13849-1:2015. delivery including infeed element, shielding bracket and shield terminal: front connector (screw terminals or push-in) to be ordered separately

General information		
Product type designation	AQ 4xU/I HF	
HW functional status	From FS01	
Firmware version	V1.1.0	
<ul> <li>FW update possible</li> </ul>	Yes	
Product function		
I&M data	Yes; I&M0 to I&M3	
<ul> <li>Isochronous mode</li> </ul>	Yes	
Prioritized startup	Yes	
Engineering with		
<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V14 / -	
<ul> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP3 / -	
<ul> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	V1.0 / V5.1	
<ul> <li>PROFINET from GSD version/GSD revision</li> </ul>	V2.3 / -	
Operating mode		
<ul> <li>Oversampling</li> </ul>	No	
• MSO	Yes	
CiR - Configuration in RUN		
Reparameterization possible in RUN	Yes	
Calibration possible in RUN	Yes	
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.	160 mA	
Power		
Power available from the backplane bus	0.95 W	
Power loss		
Power loss, typ.	5 W	
Analog outputs		
Number of analog outputs	4	
Voltage output, short-circuit protection	Yes	
Voltage output, short-circuit current, max.	24 mA	
Current output, no-load voltage, max.	22 V	
Cycle time (all channels), min.	125 μs; independent of number of activated channels	
Output ranges, voltage		
• 0 to 10 V	Yes	

- 4 V to 5 V	Voc
● 1 V to 5 V ● -5 V to +5 V	Yes No
• -10 V to +10 V	Yes
Output ranges, current	163
• 0 to 20 mA	Yes
• -20 mA to +20 mA	Yes
• 4 mA to 20 mA	Yes
Connection of actuators	
for voltage output two-wire connection	Yes
for voltage output four-wire connection	Yes
<ul> <li>for current output two-wire connection</li> </ul>	Yes
Load impedance (in rated range of output)	
<ul> <li>with voltage outputs, min.</li> </ul>	1 kΩ; 0.5 kOhm at 1 to 5 V
<ul> <li>with voltage outputs, capacitive load, max.</li> </ul>	1 μF
<ul><li>with current outputs, max.</li></ul>	750 Ω
with current outputs, inductive load, max.	10 mH
Cable length	
shielded, max.	800 m; for current, 200 m for voltage
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
Conversion time (per channel)	125 μs; independent of number of activated channels
Settling time	
• for resistive load	0.2 ms; see additional description in the manual
for capacitive load	1.8 ms; see additional description in the manual
for inductive load	2 ms; see additional description in the manual
Errors/accuracies	
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Linearity error (relative to output range), (+/-)	0.015 %
Temperature error (relative to output range), (+/-)	0.002 %/K
Crosstalk between the outputs, max.	-100 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.005 %
note regarding accuracy	at temperatures below 0 °C, the figures for operating error and temperature error are doubled
Operational error limit in overall temperature range	
<ul> <li>Voltage, relative to output range, (+/-)</li> </ul>	±10 V; 0 V to 10 V: ±0.12%; 1 V to 5 V: ±0.1%
Current, relative to output range, (+/-)	±20 mA; 0 mA to 20 mA: ±0.2%; 4 mA to 20 mA: ±0.12%
Basic error limit (operational limit at 25 °C)	
<ul> <li>Voltage, relative to output range, (+/-)</li> </ul>	0.06 %
Current, relative to output range, (+/-)	0.1 %
Isochronous mode	
Execution and activation time (TCO), min.	100 μs
Bus cycle time (TDP), min.	250 μs
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; Only for output type "current"
Short-circuit	Yes; Only for output type "voltage"
Overflow/underflow	Yes
Diagnostics indication LED	Van man I ED
RUN LED	Yes; green LED
ERROR LED      Manifesing of the guardy violating (DM/D LED)	Yes; red LED
Monitoring of the supply voltage (PWR-LED)	Yes; green LED
Channel status display     for channel displaying	Yes; green LED
for channel diagnostics     for module diagnostics	Yes; red LED Yes; red LED
for module diagnostics	1 co, 1cu LED
Potential separation	

Potential separation channels		
<ul> <li>between the channels</li> </ul>	Yes	
<ul> <li>between the channels, in groups of</li> </ul>	1	
<ul> <li>between the channels and backplane bus</li> </ul>	Yes	
Between the channels and load voltage L+	Yes	
Permissible potential difference		
between different circuits	60 V DC/30 V AC; insulation rated for 120 V AC basic insulation: between the channels and the supply voltage L+; between the channels and the backplane bus; between the channels	
Isolation		
Isolation tested with	2 000 V DC between the channels and the supply voltage L+; 2 000 V DC between the channels and the backplane bus; 2 000 V DC between the channels; 707 V DC (type test) between the supply voltage L+ and the backplane bus	
Standards, approvals, certificates		
Suitable for safety-related tripping of standard modules	Yes; From FS03	
Highest safety class achievable for safety-related tripping of standard modules		
<ul> <li>Performance level according to ISO 13849-1</li> </ul>	PL d	
<ul> <li>Category according to ISO 13849-1</li> </ul>	Cat. 3	
<ul> <li>SIL acc. to IEC 62061</li> </ul>	SIL 2	
<ul><li>remark on safety-oriented shutdown</li></ul>	https://support.industry.siemens.com/cs/de/de/view/39198632	
Ambient conditions		
Ambient temperature during operation		
<ul> <li>horizontal installation, min.</li> </ul>	-25 °C; From FS02	
<ul> <li>horizontal installation, max.</li> </ul>	60 °C	
<ul> <li>vertical installation, min.</li> </ul>	-25 °C; From FS02	
<ul> <li>vertical installation, max.</li> </ul>	40 °C	
Dimensions		
Width	35 mm	
Height	147 mm	
Depth	129 mm	
Weights		
Weight, approx.	300 g	

4/27/2022

last modified: