## SIEMENS

## Data sheet

## 6ES7532-5NB00-0AB0



SIMATIC S7-1500, analog output module AQ 2x U/I ST, 16-bit resolution accuracy 0.3%. 2 channels in groups of 2, diagnostics; substitute value; the module supports the safety-oriented shutdown of load groups up to SILCL1 according to EN 62061:2005 + A2:2015, and Category 2 / PL c according to EN ISO 13849-1:2015. delivery including front connector push-in, infeed element, shield bracket and shield terminal

Product type designation     AQ 2xU/I ST       HW functional status     FS01       Firmware version     V1.0.0       • FW update possible     Yes       Product function     Yes       • I&M data     Yes; I&M0 to I&M3       • Is dM data     Yes; I&M0 to I&M3       • I KM data     Yes; I&M0 to I&M3       • Output range scalable     No       • STEP 7 TIA Portal configurable/integrated from version     V13 / V13.0.2       • STEP 7 configurable/integrated from version     V5.5 SP3 / -       • ROFIBUS from GSD version/GSD revision     V1.0 / V5.1       • PROFIBUS from GSD version/GSD revision     V2.3 / -       Operating mode     •       • Oversampling     No       • SSO     Yes       Supply voltage     Reparameterization possible in RUN       Reparameterization possible in RUN     Yes       Supply voltage     Reverse polarity protection       Reverse polarity protection     Yes       Input current     Ino ma; with 24 V DC supply       Power los	General information	
Firmware version     V1.0.0       • FW update possible     Yes       Product function	Product type designation	AQ 2xU/I ST
• FW update possible     Yes       Product function     ************************************	HW functional status	FS01
Product function <ul> <li>I&amp;M data</li> <li>Yes; I&amp;M0 to I&amp;M3</li> <li>Isochronous mode</li> <li>No</li> </ul> <li>Produpt range scatable</li> <li>No</li> <li>Output range scatable</li> <li>No</li> <li>STEP 7 TIA Portal configurable/integrated from version</li> <li>Y13 / V13.0.2</li> <li>Yersion</li> <li>STEP 7 configurable/integrated from version</li> <li>Y5 5 SP3 / -</li> <li>PROFIBUS from GSD version/GSD revision</li> <li>V1.0 / V5.1</li> <li>PROFINET from GSD version/GSD revision</li> <li>V2.3 / -</li> <li>Operating mode         <ul> <li>Oversampling</li> <li>MSO</li> <li>Yes</li> </ul> </li> <li>CIR - Configuration in RUN         <ul> <li>Yes</li> <li>Calibration possible in RUN</li> <li>Yes</li> </ul> </li> <li>Calibration possible in RUN</li> <li>Yes</li> <li>Supply voltage</li> <li>Rated value (DC)</li> <li>Parameterization</li> <li>Yes</li> <li>Current consumption, max.</li> <li>100 mA; with 24 V DC supply</li> <li>Power available from the backplane bus</li> <li>0.65 W</li> <li>Power loss, typ.</li> <li>2.7 W</li> <li>Analog outputs</li> <li>Voltage output, short-circuit protection</li> <li>Yes</li>	Firmware version	V1.0.0
• I&M data       Yes; I&M0 to I&M3         • Isochronous mode       No         • Prioritized startup       No         • Output range scalable       No         Engineering with       •         • STEP 7 TIA Portal configurable/integrated from version       V13 / V13.0.2         • Version       V13 / V13.0.2         • STEP 7 configurable/integrated from version       V5.5 SP3 / -         • PROFIBUS from GSD version/GSD revision       V1.0 / V5.1         • PROFINET from GSD version/GSD revision       V1.0 / V5.1         • Oversampling mode       •         • Oversampling NSO       Yes         CIR - Configuration in RUN       Yes         Supply voltage       Reparameterization possible in RUN         Retard value (DC)       24 V         permissible range, upper limit (DC)       19.2 V         permissible range, upper limit (DC)       28.8 V         Reverse polarity protection       Yes         Input current          Current consumption, max.       110 mA; with 24 V DC supply         Power loss          Power loss          Power loss          Power loss          Power loss          Power loss </td <td><ul> <li>FW update possible</li> </ul></td> <td>Yes</td>	<ul> <li>FW update possible</li> </ul>	Yes
• Isochronous mode     No       • Prioritized startup     No       • Output range scalable     No       Engineering with     No       • STEP 7 TIA Portal configurable/integrated from version     V13 / V13.0.2       • STEP 7 configurable/integrated from version     V5.5 SP3 / -       • PROFIBUS from GSD version/GSD revision     V1.0 / V5.1       • PROFINET from GSD version/GSD revision     V2.3 / -       Operating mode     Versampling       • Oversampling     No       • MSO     Yes       Calibration possible in RUN     Yes       Supply voltage     Z4 V       permissible range, lower limit (DC)     19.2 V       permissible range, lower limit (DC)     28.8 V       Reverse polarity protection     Yes       Input current     Current consumption, max.       Power loss, typ.     2.7 W       Analog outputs     2       Voltage output, short-circuit protection     Yes	Product function	
• Prioritized startup     No       • Output range scalable     No       Engineering with     • STEP 7 TIA Portal configurable/integrated from version       • STEP 7 TIA Portal configurable/integrated from version     V13 / V13.0.2       • STEP 7 configurable/integrated from version     V5.5 SP3 / -       • PROFIBUS from GSD version/GSD revision     V2.3 / -       Operating mode     V2.3 / -       • Oversampling     No       • MSO     Yes       Calibration possible in RUN     Yes       Subpit voltage     Rated value (DC)       Permissible range, lower limit (DC)     19.2 V       permissible range, upper limit (DC)     24.8 V       Reverse polarity protection     Yes       Input current     Current consumption, max.       Power loss, typ.     2.7 W       Atalog outputs     2       Vouer loss     10.65 W	• I&M data	Yes; I&M0 to I&M3
• Output range scalable       No         Engineering with       • STEP 7 TIA Portal configurable/integrated from version       V13 / V13.0.2         • STEP 7 configurable/integrated from version       V5.5 SP3 / -         • PROFIBUS from GSD version/GSD revision       V1.0 / V5.1         • PROFINET from GSD version/GSD revision       V2.3 / -         Operating mode       • Oversampling         • Oversampling       No         • MSO       Yes         Calibration possible in RUN       Yes         Supply voltage       V1.0 / V5.1         Reparameterization possible in RUN       Yes         Supply voltage       Versa         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.         Power loss       0.65 W         Power loss       0.65 W         Power loss       2.7 W         Analog outputs       2         Voltage output, short-circuit protection       Yes	<ul> <li>Isochronous mode</li> </ul>	No
Engineering with       • STEP 7 TIA Portal configurable/integrated from version       V13 / V13.0.2         • STEP 7 configurable/integrated from version       V5.5 SP3 / -         • PROFIBUS from GSD version/GSD revision       V1.0 / V5.1         • PROFINET from GSD version/GSD revision       V2.3 / -         Operating mode       •         • Oversampling       No         • MSO       Yes         Calibration possible in RUN       Yes         Calibration possible in RUN       Yes         Supply voltage       Reparameterization possible in RUN         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.         Power loss       0.65 W         Power loss       0.65 W         Power loss       2.7 W         Analog outputs       2         Voltage output, short-circuit protection       Yes	<ul> <li>Prioritized startup</li> </ul>	No
• STEP 7 TIA Portal configurable/integrated from version       V13 / V13.0.2         • STEP 7 configurable/integrated from version       V5.5 SP3 / -         • PROFIBUS from GSD version/GSD revision       V1.0 / V5.1         • PROFINET from GSD version/GSD revision       V2.3 / -         Operating mode       V2.3 / -         • Oversampling       No         • MSO       Yes         Cilk - Configuration in RUN       Yes         Calibration possible in RUN       Yes         Calibration possible in RUN       Yes         Supply voltage       Rated value (DC)         Permissible range, lower limit (DC)       19.2 V         permissible range, lower limit (DC)       28.8 V         Reverse polarity protection       Yes         Input current       Current consumption, max.         Power loss       0.65 W         Power loss       0.65 W         Power loss       0.75 W         Analog outputs       2         Voltage output, short-circuit protection       Yes	Output range scalable	No
version     Version       • STEP 7 configurable/integrated from version     V5.5 SP3 / -       • PROFIBUS from GSD version/GSD revision     V1.0 / V5.1       • PROFINET from GSD version/GSD revision     V2.3 / -       Operating mode     •       • Oversampling     No       • MSO     Yes       Cilr - Configuration in RUN     Yes       Reparameterization 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.     110 mA; with 24 V DC supply       Power loss        Power loss, typ.     2.7 W       Analog outputs     2       Voltage output, short-circuit protection     Yes	Engineering with	
PROFIBUS from GSD version/GSD revision     V1.0 / V5.1     PROFINET from GSD version/GSD revision     V2.3 /-      Operating mode     Oversampling     No     Ves     Oversampling     No     Ves     Cit - 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)     19.2 V     permissible range, upper limit (DC)     Yes     Input current     Current consumption, max.     110 mA; with 24 V DC supply     Power loss     Power loss     Power loss, typ.     2.7 W Analog outputs     Number of analog outputs     2     Voltage output, short-circuit protection     Yes		V13 / V13.0.2
PROFINET from GSD version/GSD revision     V2.3 / -     Operating mode     Oversampling     No     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.     110 mA; with 24 V DC supply     Power available from the backplane bus     0.65 W     Power loss, typ.     2.7 W Analog outputs     Number of analog outputs     2     Yotage output, short-circuit protection     Yes	<ul> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP3 / -
Operating mode         • Oversampling       No         • MSO       Yes         CiR - Configuration in RUN       Yes         Reparameterization possible in RUN       Yes         Calibration possible in RUN       Yes         Supply voltage       Yes         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.         Power available from the backplane bus       0.65 W         Power loss       2.7 W         Analog outputs       2         Number of analog outputs       2         Voltage output, short-circuit protection       Yes	<ul> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	V1.0 / V5.1
• OversamplingNo• MSOYesCIR - Configuration in RUNReparameterization possible in RUNYesCalibration possible in RUNYesSupply voltageYesRated value (DC)24 Vpermissible range, lower limit (DC)19.2 Vpermissible range, upper limit (DC)28.8 VReverse polarity protectionYesInput currentIto mA; with 24 V DC supplyCurrent consumption, max.110 mA; with 24 V DC supplyPowerPower lossPower loss0.65 WPower loss, typ.2.7 WAnalog outputs2Voltage output, short-circuit protectionYes	<ul> <li>PROFINET from GSD version/GSD revision</li> </ul>	V2.3 / -
• 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       U         Current consumption, max.       110 mA; with 24 V DC supply         Power       0.65 W         Power loss       2.7 W         Analog outputs       2         Voltage output, short-circuit protection       Yes	Operating mode	
CiR - Configuration in RUN       Yes         Reparameterization possible in RUN       Yes         Calibration possible in RUN       Yes         Supply voltage       Image: Comparison of the system of the sys	Oversampling	No
Reparameterization possible in RUN       Yes         Calibration possible in RUN       Yes         Supply voltage       Image: Comparison of the provided state of the provided	• MSO	Yes
Calibration possible in RUN       Yes         Supply voltage       Yes         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       Yes         Current consumption, max.       110 mA; with 24 V DC supply         Power       Power available from the backplane bus       0.65 W         Power loss, typ.       2.7 W         Analog outputs       2         Number of analog outputs       2         Voltage output, short-circuit protection       Yes	CiR - Configuration in RUN	
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.         Current consumption, max.       110 mA; with 24 V DC supply         Power       Power available from the backplane bus         0.65 W       Power loss         Power loss, typ.       2.7 W         Analog outputs       2         Voltage output, short-circuit protection       Yes	Reparameterization possible in RUN	Yes
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       Yes         Current consumption, max.       110 mA; with 24 V DC supply         Power       0.65 W         Power loss       0.65 W         Power loss, typ.       2.7 W         Analog outputs       2         Voltage output, short-circuit protection       Yes	Calibration possible in RUN	Yes
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.         Current consumption, max.       110 mA; with 24 V DC supply         Power       0.65 W         Power loss       0.65 W         Power loss, typ.       2.7 W         Analog outputs       2         Number of analog outputs       2         Voltage output, short-circuit protection       Yes	Supply voltage	
permissible range, upper limit (DC)28.8 VReverse polarity protectionYesInput currentCurrent consumption, max.110 mA; with 24 V DC supplyPowerPower available from the backplane bus0.65 WPower lossPower loss, typ.2.7 WAnalog outputs2Number of analog outputs2Voltage output, short-circuit protectionYes	Rated value (DC)	24 V
Reverse polarity protection       Yes         Input current       Input current         Current consumption, max.       110 mA; with 24 V DC supply         Power       0.65 W         Power loss       0.65 W         Power loss       2.7 W         Analog outputs       2         Number of analog outputs       2         Voltage output, short-circuit protection       Yes	permissible range, lower limit (DC)	19.2 V
Input current         Current consumption, max.       110 mA; with 24 V DC supply         Power         Power available from the backplane bus       0.65 W         Power loss         Power loss, typ.       2.7 W         Analog outputs       2.7 W         Number of analog outputs       2         Voltage output, short-circuit protection       Yes	permissible range, upper limit (DC)	28.8 V
Current consumption, max.       110 mA; with 24 V DC supply         Power       Power available from the backplane bus         Power loss       0.65 W         Power loss       2.7 W         Analog outputs       2.7 W         Number of analog outputs       2         Voltage output, short-circuit protection       Yes	Reverse polarity protection	Yes
Power       0.65 W         Power loss       0.65 W         Power loss       2.7 W         Analog outputs       2.7 W         Number of analog outputs       2         Voltage output, short-circuit protection       Yes	Input current	
Power available from the backplane bus       0.65 W         Power loss       2.7 W         Analog outputs       2.7 W         Number of analog outputs       2         Voltage output, short-circuit protection       Yes	Current consumption, max.	110 mA; with 24 V DC supply
Power loss       2.7 W         Analog outputs       2.7 W         Number of analog outputs       2         Voltage output, short-circuit protection       Yes	Power	
Power loss, typ.     2.7 W       Analog outputs     2       Number of analog outputs     2       Voltage output, short-circuit protection     Yes	Power available from the backplane bus	0.65 W
Analog outputs       Number of analog outputs     2       Voltage output, short-circuit protection     Yes	Power loss	
Number of analog outputs     2       Voltage output, short-circuit protection     Yes	Power loss, typ.	2.7 W
Voltage output, short-circuit protection     Yes	Analog outputs	
Voltage output, short-circuit protection Yes	Number of analog outputs	2
		Yes
		24 mA

Current output, no-load voltage, max.	22 V
Cycle time (all channels), min.	3.2 ms; independent of number of activated channels
Output ranges, voltage	
• 0 to 10 V	Yes
• 1 V to 5 V	Yes
• -5 V to +5 V	No
• -10 V to +10 V	Yes
Output ranges, current	
• 0 to 20 mA	Yes
<ul> <li>-20 mA to +20 mA</li> </ul>	Yes
• 4 mA to 20 mA	Yes
Connection of actuators	
<ul> <li>for voltage output two-wire connection</li> </ul>	Yes
<ul> <li>for voltage output four-wire connection</li> </ul>	Yes
<ul> <li>for current output two-wire connection</li> </ul>	Yes
Load impedance (in rated range of output)	
with voltage outputs, min.	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
<ul> <li>with current outputs, inductive load, max.</li> </ul>	10 mH
Cable length	
• shielded, max.	800 m; for current, 200 m for voltage
	soo m, ior current, 200 m ior voltage
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
Conversion time (per channel)	0.5 ms
Settling time	
<ul> <li>for resistive load</li> </ul>	1.5 ms
<ul> <li>for capacitive load</li> </ul>	2.5 ms
for inductive load	2.5 ms
Errors/accuracies	
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Linearity error (relative to output range), (+/-)	0.15 %
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), (+/-)	0.05 %
Operational error limit in overall temperature range	
<ul> <li>Voltage, relative to output range, (+/-)</li> </ul>	0.3 %
• Current, relative to output range, (+/-)	0.3 %
Basic error limit (operational limit at 25 °C)	
<ul> <li>Voltage, relative to output range, (+/-)</li> </ul>	0.2 %
• Current, relative to output range, (+/-)	0.2 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	100
	Vec
Diagnostic alarm	Yes
Diagnoses	Ver
Monitoring the supply voltage	Yes
• Wire-break	Yes; Only for output type "current"
• Short-circuit	Yes; Only for output type "voltage"
Overflow/underflow	Yes
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
<ul> <li>Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes; green LED

<ul> <li>Channel status display</li> </ul>	Yes; green LED	
<ul> <li>for channel diagnostics</li> </ul>	Yes; red LED	
<ul> <li>for module diagnostics</li> </ul>	Yes; red LED	
Potential separation		
Potential separation channels		
<ul> <li>between the channels</li> </ul>	No	
<ul> <li>between the channels, in groups of</li> </ul>	2	
<ul> <li>between the channels and backplane bus</li> </ul>	Yes	
<ul> <li>Between the channels and load voltage L+</li> </ul>	Yes	
Permissible potential difference		
between S- and MANA (UCM)	8 V DC	
Isolation		
Isolation tested with	707 V DC (type test)	
Standards, approvals, certificates		
Suitable for safety-related tripping of standard modules	Yes; From FS02	
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>SILCL according to IEC 62061</li> </ul>	SILCL 2	
Ambient conditions		
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	25 mm	
Height	147 mm	
Depth	129 mm	
Weights		
Weight, approx.	200 g	
Other		
Note:	Supplied incl. 40-pole push-in front connectors	
last modified:	4/29/2021 🖸	