SIEMENS

## Data sheet 6ES7532-5HD00-0AB0

SIMATIC S7-1500, analog output module AQ 4xU/I ST, 16-bit resolution accuracy 0.3%. 4 channels in groups of 4, diagnostics; substitute value; the module supports the safety-oriented shutdown of load groups up to SIL2 according to EN IEC 62061:2021 and Category 2 / PL c 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 ST |
| HW functional status | from FS04 |
| Firmware version | V2.2.0 |
| ● FW update possible | Yes |
| Product function | |
| ● 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 | V12 / V12 |
| ● 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 |
| **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. | 190 mA; with 24 V DC supply |
| **Power** | |
| Power available from the backplane bus | 0.6 W |
| **Power loss** | |
| Power loss, typ. | 4 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. | 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 |
| ● -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 |
| ● for current output two-wire connection | Yes |
| Load impedance (in rated range of output) | |
| ● with voltage outputs, min. | 1 kΩ; 0.5 kOhm at 1 to 5 V |
| ● with voltage outputs, capacitive load, max. | 1 µF |
| ● with current outputs, max. | 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 | |
| ● Resolution with overrange (bit including sign), max. | 16 bit |
| ● Conversion time (per channel) | 0.5 ms |
| Settling time | |
| ● for resistive load | 1.5 ms |
| ● for capacitive load | 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 % |
| 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 | |
| ● Voltage, relative to output range, (+/-) | 0.3 % |
| ● Current, relative to output range, (+/-) | 0.3 % |
| Basic error limit (operational limit at 25 °C) | |
| ● Voltage, relative to output range, (+/-) | 0.2 % |
| ● Current, relative to output range, (+/-) | 0.2 % |
| **Interrupts/diagnostics/status information** | |
| Diagnostics function | Yes |
| Substitute values connectable | Yes |
| Alarms | |
| ● Diagnostic alarm | Yes |
| Diagnoses | |
| ● 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 |
| ● Monitoring of the supply voltage (PWR-LED) | Yes; green LED |
| ● Channel status display | Yes; green LED |
| ● for channel diagnostics | Yes; red LED |
| ● for module diagnostics | Yes; red LED |
| **Potential separation** | |
| Potential separation channels | |
| ● between the channels | No |

| | |
|---|---|
| ● between the channels, in groups of | 4 |
| ● between the channels and backplane bus | Yes |
| ● Between the channels and load voltage L+ | 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 FS05 |
| Highest safety class achievable for safety-related tripping of standard modules | |
| ● Performance level according to ISO 13849-1 | PL d |
| ● Category according to ISO 13849-1 | Cat. 3 |
| ● SIL acc. to IEC 62061 | SIL 2 |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● horizontal installation, min. | -30 °C; From FS06 |
| ● horizontal installation, max. | 60 °C |
| ● vertical installation, min. | -30 °C; From FS06 |
| ● vertical installation, max. | 40 °C |
| 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 | 35 mm |
| Height | 147 mm |
| Depth | 129 mm |
| **Weights** | |
| Weight, approx. | 310 g |

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