SIEMENS

Data sheet   **6ES7532-5HF00-0AB0**

Siemens
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SIMATIC S7-1500, analog output module AQ8xU/I HS, 16-bit resolution accuracy 0.3%, 8 channels in groups of 8, diagnostics; substitute value 8 channels in 0.125 ms oversampling; 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

Figure similar

General information	
Product type designation	AQ 8xU/I HS
HW functional status	From FS01
Firmware version	V2.1.0
● FW update possible	Yes
Product function	
● I&M data	Yes; I&M0 to I&M3
● Isochronous mode	Yes
● Prioritized startup	No
● Output range scalable	No
Engineering with	
● STEP 7 TIA Portal configurable/integrated from version	V14 / -
● 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	Yes
● 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.	320 mA; with 19.2 V supply
Power	
Power available from the backplane bus	1.15 W
Power loss	
Power loss, typ.	7 W
Analog outputs	
Number of analog outputs	8
Voltage output, short-circuit protection	Yes
Voltage output, short-circuit current, max.	45 mA

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Current output, no-load voltage, max.	20 V
Cycle time (all channels), min.	125 µs; 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
● with voltage outputs, capacitive load, max.	100 nF
● with current outputs, max.	500 Ω
● with current outputs, inductive load, max.	1 mH
Cable length	
● shielded, max.	200 m
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)	50 µs; independent of number of activated channels
Settling time	
● for resistive load	30 µs; see additional description in the manual
● for capacitive load	100 µs; see additional description in the manual
● for inductive load	100 µs; 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), (+/-)	0.15 %
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 %
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	
● 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	8
● 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 FS04
Ecological footprint	
● environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	37.6 kg
— global warming potential, (during production) [CO2 eq]	11.1 kg
— global warming potential, (during operation) [CO2 eq]	26.8 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.364 kg
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
● remark on safety-oriented shutdown	https://support.industry.siemens.com/cs/de/en/view/39198632

product functions / security / header

signed firmware update	No
data integrity	No

Ambient conditions

Ambient temperature during operation	
● horizontal installation, min.	-30 °C; From FS03
● horizontal installation, max.	60 °C
● vertical installation, min.	-30 °C; From FS03
● 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.	325 g

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