



Figure similar

SIPLUS S7-1500 AO 4xU/I ST -40 °C ... +70°C with conformal coating based on 6ES7532-5HD00-0AB0 . Analog output module 16 bit resolution, Accuracy 0.3%. 4 channels in groups of 4, "diagnostics; substitute value" incl. infeed element, shield bracket and shield terminal

General information	
Product type designation	AQ 4xU/I ST
Product function	
<ul style="list-style-type: none"> I&M data Fast startup 	Yes; I&M0 to I&M3 Yes; 500 ms
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	see entry ID: 109746275
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Power	
Power available from the backplane bus	0.6 W
Power loss	
Power loss, typ.	4 W
Analog outputs	
Number of analog outputs	4; > +60 °C max. 4x ±10 V permissible
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	
<ul style="list-style-type: none"> 0 to 10 V 1 V to 5 V -10 V to +10 V 	Yes Yes Yes
Output ranges, current	
<ul style="list-style-type: none"> 0 to 20 mA -20 mA to +20 mA 4 mA to 20 mA 	Yes Yes Yes
Connection of actuators	
<ul style="list-style-type: none"> for voltage output two-wire connection for voltage output four-wire connection for current output two-wire connection 	Yes Yes Yes
Load impedance (in rated range of output)	
<ul style="list-style-type: none"> with voltage outputs, min. with voltage outputs, capacitive load, max. with current outputs, max. 	1 kΩ; 0.5 kΩhm at 1 to 5 V 1 μF 750 Ω

<ul style="list-style-type: none"> with current outputs, inductive load, max. 	10 mH
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> Resolution with overrange (bit including sign), max. 	16 bit
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 style="list-style-type: none"> Voltage, relative to output range, (+/-) Current, relative to output range, (+/-) 	0.3 %
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> Voltage, relative to output range, (+/-) Current, relative to output range, (+/-) 	0.2 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes
Diagnoses	
<ul style="list-style-type: none"> Monitoring the supply voltage Wire-break Short-circuit Overflow/underflow 	Yes Yes; Only for output type "current" Yes; Only for output type "voltage" Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> RUN LED ERROR LED Monitoring of the supply voltage (PWR-LED) Channel status display for channel diagnostics for module diagnostics 	Yes; green LED Yes; red LED Yes; green LED Yes; green LED Yes; red LED Yes; red LED
Potential separation	
Potential separation channels	
<ul style="list-style-type: none"> between the channels between the channels, in groups of between the channels and backplane bus Between the channels and load voltage L+ 	No 4 Yes Yes
Permissible potential difference	
between MANA and M internally (UISO)	75 V DC/60 V AC (base isolation)
between S- and MANA (UCM)	±8 V
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. 	-40 °C; = Tmin (incl. condensation/frost) 70 °C; = Tmax -40 °C; = Tmin 40 °C; = Tmax
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> Installation altitude above sea level, max. Ambient air temperature-barometric pressure-altitude 	5 000 m Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
<ul style="list-style-type: none"> With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)

Resistance	
Coolants and lubricants	
— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	
— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
<ul style="list-style-type: none"> ● Coatings for printed circuit board assemblies acc. to EN 61086 ● Protection against fouling acc. to EN 60664-3 ● Military testing according to MIL-I-46058C, Amendment 7 ● Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A 	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	310 g

last modified: 11/11/2021 