



Figure similar

SIPLUS ET 200SP AQ 4xU/I Standard based on 6ES7135-6HD00-0BA1 with conformal coating, -40...+70 °C, analog output module, suitable for BU type A0, A1, color code CC00, channel diagnostics, 16-bit, +/-0.3%

General information	
Product type designation	AQ 4xU/I ST
based on	6ES7135-6HD00-0BA1
usable BaseUnits	BU type A0, A1
Color code for module-specific color identification plate	CC00
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	No
• Output range scalable	No
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	see entry ID: 109746275
Operating mode	
• Oversampling	No
• MSO	No
CIR - Configuration in RUN	
Reparameterization possible in RUN	Yes
Calibration possible in RUN	No
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.	150 mA
Power loss	
Power loss, typ.	1.5 W
Address area	
Address space per module	
• Address space per module, max.	8 byte; + 1 byte for QI information
Analog outputs	
Number of analog outputs	4; > +60 °C max. 2x ±10 V permissible
Voltage output, short-circuit current, max.	45 mA
Cycle time (all channels), min.	5 ms
Analog output with oversampling	No
Output ranges, voltage	
• 0 to 10 V	Yes; 15 bit
• 1 V to 5 V	Yes; 13 bit
• -5 V to +5 V	Yes; 15 bit incl. sign
• -10 V to +10 V	Yes; 16 bit incl. sign

Output ranges, current	
• 0 to 20 mA	Yes; 15 bit
• -20 mA to +20 mA	Yes; 16 bit incl. sign
• 4 mA to 20 mA	Yes; 14 bit
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.	2 kΩ
• with voltage outputs, capacitive load, max.	1 μF
• with current outputs, max.	500 Ω
• with current outputs, inductive load, max.	1 mH
Destruction limits against externally applied voltages and currents	
• Voltages at the outputs	30 V
Cable length	
• shielded, max.	1 000 m; 200 m for voltage output
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
Settling time	
• for resistive load	0.1 ms
• for capacitive load	1 ms
• for inductive load	0.5 ms
Errors/accuracies	
Linearity error (relative to output range), (+/-)	0.03 %
Temperature error (relative to output range), (+/-)	0.005 %/K
Crosstalk between the outputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.05 %
Operational error limit in overall temperature range	
• Voltage, relative to output range, (+/-)	1 %
• Current, relative to output range, (+/-)	1 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to output range, (+/-)	0.3 %
• Current, relative to output range, (+/-)	0.3 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Substitute values connectable	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire-break	Yes
• Short-circuit	Yes
• Group error	Yes
Diagnostics indication LED	
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
• Channel status display	Yes; green LED
• for channel diagnostics	No
• for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
• between the channels	No
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	Yes
Permissible potential difference	
between different circuits	75 V DC/60 V AC
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; > +60 °C max. 2x ±10 V permissible -40 °C; = Tmin 50 °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 in bedewed state), horizontal installation		
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, *		
— Against mechanical environmental conditions acc. to EN 60721-3-3		Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)		
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; *		
— Against mechanical environmental conditions acc. to EN 60721-3-6		Yes; Class 6M4 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-0AA0)		
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 61086Protection against fouling acc. to EN 60664-3Military testing according to MIL-I-46058C, Amendment 7Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A		Yes; Class 2 for high reliability Yes; Type 1 protection Yes; Discoloration of coating possible during service life Yes; Conformal coating, Class A		
Dimensions				
Width		15 mm		
Height		73 mm		
Depth		58 mm		
Weights				
Weight, approx.		31 g		
Classifications				
			Version	Classification
		eClass	14	27-24-26-01
		eClass	12	27-24-26-01
		eClass	9.1	27-24-26-01

eClass	9	27-24-26-01
eClass	8	27-24-26-01
eClass	7.1	27-24-26-01
eClass	6	27-24-26-01
ETIM	9	EC001596
ETIM	8	EC001596
ETIM	7	EC001596
IDEA	4	3562
UNSPSC	15	32-15-17-05

Approvals / Certificates	
General Product Approval	EMV

[Miscellaneous](#)

[Manufacturer Declaration](#)



For use in hazardous locations	Marine / Shipping
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[CCC-Ex](#)



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