



Figure similar

SIPLUS ET 200SP AI 2xU/I 2-, 4-wire HS based on 6ES7134-6HB00-0DA1 with conformal coating, -40...+60 °C, analog input module, suitable for BU type A0, A1, color code CC00, channel diagnostics, 16-bit, +/-0.3%

General information	
Product type designation	AI 2xU/I 2-/4-wire HS
Firmware version	
• FW update possible	Yes
based on	6ES7134-6HB00-0DA1
usable BaseUnits	BU type A0, A1
Color code for module-specific color-coded label	CC00
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	Yes; 125 µs
• Measuring range scalable	No
• Scalable measured values	No
• Adjustment of measuring range	No
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	see entry ID: 109746275
Operating mode	
• Oversampling	Yes; 2 channels per module
• MSI	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 (rated value)	39 mA; without sensor supply
Encoder supply	
24 V encoder supply	
• 24 V	Yes; For current measurement
• Short-circuit protection	Yes
• Output current, max.	20 mA; max. 50 mA per channel for a duration < 10 s
Power loss	
Power loss, typ.	0.95 W; without sensor supply
Address area	
Address space per module	
• Address space per module, max.	4 byte; + 1 byte for QI information (32 bytes in the oversampling operating

mode)

Hardware configuration

Automatic encoding	Yes
• Mechanical coding element	Yes
• Type of mechanical coding element	Type A

Selection of BaseUnit for connection variants

• 2-wire connection	BU type A0, A1
• 4-wire connection	BU type A0, A1

Analog inputs

Number of analog inputs	2; Differential inputs
• For current measurement	2
• For voltage measurement	2
permissible input voltage for voltage input (destruction limit), max.	30 V
permissible input current for current input (destruction limit), max.	50 mA
Cycle time (all channels), min.	125 µs
Analog input with oversampling	Yes
• Values per cycle, max.	16
• Resolution, min.	50 µs

Input ranges (rated values), voltages

• 0 to +10 V	Yes; 15 bit
— Input resistance (0 to 10 V)	75 kΩ
• 1 V to 5 V	Yes; 13 bit
— Input resistance (1 V to 5 V)	75 kΩ
• -10 V to +10 V	Yes; 16 bit incl. sign
— Input resistance (-10 V to +10 V)	75 kΩ
• -5 V to +5 V	Yes; 15 bit incl. sign
— Input resistance (-5 V to +5 V)	75 kΩ

Input ranges (rated values), currents

• 0 to 20 mA	Yes; 15 bit
— Input resistance (0 to 20 mA)	130 Ω
• -20 mA to +20 mA	Yes; 16 bit incl. sign
— Input resistance (-20 mA to +20 mA)	130 Ω
• 4 mA to 20 mA	Yes; 14 bit
— Input resistance (4 mA to 20 mA)	130 Ω

Cable length

• shielded, max.	1 000 m; 200 m for voltage measurement
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Analog value generation for the inputs

Measurement principle	Actual value encryption (successive approximation)
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit
• Interference voltage suppression for interference frequency f1 in Hz	No
• Conversion time (per channel)	10 µs

Smoothing of measured values

• Number of smoothing levels	7; none; 2-/4-/8-/16-/32-/64-fold
• Parameterizable	Yes

Encoder**Connection of signal encoders**

• for voltage measurement	Yes
• for current measurement as 2-wire transducer	Yes
— Burden of 2-wire transmitter, max.	650 Ω
• for current measurement as 4-wire transducer	Yes

Errors/accuracies

Linearity error (relative to input range), (+/-)	0.03 %
Temperature error (relative to input range), (+/-)	0.01 %/K
Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.1 %

Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	0.5 %
• Current, relative to input range, (+/-)	0.5 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.2 %
• Current, relative to input range, (+/-)	0.2 %
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, f_1 = interference frequency	
• Common mode voltage, max.	35 V
• Common mode interference, min.	90 dB
Isochronous mode	
Filtering and processing time (TCI), min.	80 µs
Bus cycle time (TDP), min.	125 µs; Starting from firmware Version V2.0.1
Interrupts/diagnostics/status information	
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	Yes; two upper and two lower limit values in each case
Diagnoses	
• Wire break	Yes; channel-by-channel, at 4 to 20 mA only
• Short-circuit	Yes; channel-by-channel, at 1 to 5 V or for current measuring ranges short-circuit in encoder supply
• Group error	Yes
• Overflow/Underflow	Yes; channel by channel
Diagnostics indication LED	
• Monitoring of the supply voltage (PWR-LED)	Yes; green PWR LED
• Channel status display	Yes; green LED
• for channel diagnostics	Yes; red LED
• for module diagnostics	Yes; green/red DIAG LED
Potential separation	
Potential separation channels	
• between the channels	Yes
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	Yes
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-40 °C; = Tmin (incl. condensation/frost)
• horizontal installation, max.	60 °C; = Tmax; +70 °C with spacing modules (6AG1193-6BN00-7BA0) or configured slots to the left and right of the module
• vertical installation, min.	-40 °C; = Tmin
• vertical installation, max.	50 °C; = Tmax
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m
• Ambient air temperature-barometric pressure-altitude	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	
• 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.	Yes; Class 3M8 using the SIPLUS Mounting Kit ET 200SP (6AG1193-6AA00-

to EN 60721-3-3	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	
• Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life
• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A

Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm

Weights	
Weight, approx.	32 g

Classifications			
		Version	Classification
	eClass	16	27-24-26-01
	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	10	EC001596
	ETIM	9	EC001596
	ETIM	8	EC001596
	ETIM	7	EC001596
	IDEA	4	3562
	UNSPSC	15	32-15-17-05

Approvals / Certificates	
General Product Approval	

[Manufacturer Declaration](#)



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General Product Approval	EMV	For use in hazardous locations	Maritime application
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