



Figure similar

SIPLUS ET 200SP AI 2xU/I 2/4-W HF based on 6ES7134-6HB00-0CA1 with conformal coating, -40...+60 °C, analog input module, suitable for BU type A0, A1, color code CC05, channel diagnostics, 16-bit, +/-0.1%

General information	
Product type designation	AI 2xU/I 2-/4-wire HF
Firmware version	V1.0
<ul style="list-style-type: none"> FW update possible 	Yes
based on	6ES7134-6HB00-0CA1
usable BaseUnits	BU type A0, A1
Color code for module-specific color-coded label	CC03
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> Isochronous mode 	Yes
<ul style="list-style-type: none"> Measuring range scalable 	No
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	see entry ID: 109746275
Operating mode	
<ul style="list-style-type: none"> Oversampling 	No
<ul style="list-style-type: none"> MSI 	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 (rated value)	39 mA; without sensor supply
Encoder supply	
24 V encoder supply	
<ul style="list-style-type: none"> 24 V 	Yes
<ul style="list-style-type: none"> Short-circuit protection 	Yes
<ul style="list-style-type: none"> Output current, max. 	20 mA; max. 50 mA per channel for a duration < 10 s (two-wire)
Additional 24 V encoder supply	
<ul style="list-style-type: none"> Short-circuit protection 	Yes; channel by channel
<ul style="list-style-type: none"> Output current, max. 	100 mA; max. 150 mA for a duration of < 10 s (four-wire)
Power loss	
Power loss, typ.	0.95 W; without sensor supply
Address area	
Address space per module	

<ul style="list-style-type: none"> Address space per module, max. 	4 byte; + 1 byte for QI information
Hardware configuration	
Automatic encoding	Yes
<ul style="list-style-type: none"> Mechanical coding element Type of mechanical coding element 	Yes Type A
Selection of BaseUnit for connection variants	
<ul style="list-style-type: none"> 2-wire connection 4-wire connection 	BU type A0, A1 BU type A0, A1
Analog inputs	
Number of analog inputs	2; Differential inputs
<ul style="list-style-type: none"> For current measurement For voltage measurement 	2 2
permissible input voltage for voltage input (destruction limit), max.	30 V
permissible input current for current input (destruction limit), max.	50 mA
Analog input with oversampling	No
Standardization of measured values	Yes
Input ranges (rated values), voltages	
<ul style="list-style-type: none"> 0 to +10 V <ul style="list-style-type: none"> — Input resistance (0 to 10 V) 1 V to 5 V <ul style="list-style-type: none"> — Input resistance (1 V to 5 V) -10 V to +10 V <ul style="list-style-type: none"> — Input resistance (-10 V to +10 V) -5 V to +5 V <ul style="list-style-type: none"> — Input resistance (-5 V to +5 V) 	Yes; 15 bit 75 k Ω Yes; 15 bit 75 k Ω Yes; 16 bit incl. sign 75 k Ω Yes; 16 bit incl. sign 75 k Ω
Input ranges (rated values), currents	
<ul style="list-style-type: none"> 0 to 20 mA <ul style="list-style-type: none"> — Input resistance (0 to 20 mA) -20 mA to +20 mA <ul style="list-style-type: none"> — Input resistance (-20 mA to +20 mA) 4 mA to 20 mA <ul style="list-style-type: none"> — Input resistance (4 mA to 20 mA) 	Yes; 15 bit 130 Ω Yes; 16 bit incl. sign 130 Ω Yes; 15 bit 130 Ω
Cable length	
<ul style="list-style-type: none"> shielded, max. 	1 000 m; 200 m for voltage measurement
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> Resolution with overrange (bit including sign), max. Integration time, parameterizable Integration time (ms) Basic conversion time, including integration time (ms) Interference voltage suppression for interference frequency f1 in Hz Conversion time (per channel) Basic execution time of the module (all channels released) 	16 bit Yes 67.5 / 22.5 / 18.75 / 10 / 5 / 2.5 / 1.25 / 0.625 ms 68.03 / 22.83 / 19.03 / 10.28 / 5.23 / 2.68 / 1.43 / 0.730 ms 16.6 / 50 / 60 / 300 / 600 / 1 200 / 2 400 / 4 800 68.2 / 23 / 19.2 / 10.45 / 5.40 / 2.85 / 1.6 / 0.9 ms 1 ms
Smoothing of measured values	
<ul style="list-style-type: none"> Number of smoothing levels parameterizable 	6; none; 2-/4-/8-/16-/32-fold Yes
Encoder	
Connection of signal encoders	
<ul style="list-style-type: none"> for voltage measurement for current measurement as 2-wire transducer <ul style="list-style-type: none"> — Burden of 2-wire transmitter, max. for current measurement as 4-wire transducer 	Yes Yes 650 Ω Yes
Errors/accuracies	
Linearity error (relative to input range), (+/-)	0.01 %
Temperature error (relative to input range), (+/-)	0.003 %/K

Crosstalk between the inputs, min.	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.01 %
Operational error limit in overall temperature range	
• Voltage, relative to input range, (+/-)	0.2 %
• Current, relative to input range, (+/-)	0.2 %
Basic error limit (operational limit at 25 °C)	
• Voltage, relative to input range, (+/-)	0.05 %; 0.1 % at SFU 4.8 kHz
• Current, relative to input range, (+/-)	0.05 %; 0.1 % at SFU 4.8 kHz
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.	800 μ s
Bus cycle time (TDP), min.	1 ms
Jitter, max.	5 μ s
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Limit value alarm	Yes; two upper and two lower limit values in each case
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire break	Yes; Measuring range 4 to 20 mA only
• Short-circuit	Yes; channel-by-channel, at 1 to 5 V or for short-circuit in encoder supply
• Group error	Yes
• Overflow/Underflow	Yes
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 including derating of the encoder supply to max. 50 mA per channel
• vertical installation, min.	-40 °C; = Tmin (incl. condensation/frost); start-up @ -30 °C
• 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. 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		
• 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	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](#)



[China RoHS](#)



General Product Approval	EMV	For use in hazardous locations			Maritime application
China RoHS	 RCM	 IECEX	 ATEX	CCC-Ex	 DNV

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