SIEMENS

Data sheet

6ES7134-6TD00-0CA1



SIMATIC ET 200SP, analog HART input module, AI 4XI 2-wire HART High Feature suitable for BU type A0, A1, color code CC03, channel diagnostics, 16-bit, +/-0.3%,

Figure similar

General information		
Product type designation	AI 4xI 2-wire HART	
Firmware version	V1.0	
 FW update possible 	Yes	
usable BaseUnits	BU type A0, A1	
Color code for module-specific color identification plate	CC03	
Product function		
• I&M data	Yes; I&M0 to I&M3	
 Isochronous mode 	No	
Measuring range scalable	No	
Engineering with		
 STEP 7 TIA Portal configurable/integrated from version 	V13 SP1	
 STEP 7 configurable/integrated from version 	V5.5 SP4 and higher	
 PCS 7 configurable/integrated from version 	V8.1 SP1	
 PROFIBUS from GSD version/GSD revision 	GSD Revision 5	
 PROFINET from GSD version/GSD revision 	GSDML V2.3	
Operating mode		
Oversampling	No	
• 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, max.	25 mA; without sensor supply	
Encoder supply		
24 V encoder supply		
• 24 V	Yes	
 Short-circuit protection 	Yes	
• Output current, max.	20 mA; max. 50 mA per channel for a duration < 10 s	
Power loss		

Address space per module (max. 26 byte; + 1 byte for QI Information 24 byte; + 1 byte	Power loss, typ.	0.65 W; without sensor supply
Address space per module B bpte +1 bpte for OL information • Address space per module with HART, max. B bpte +1 bpte for OL information Automate configuration Yes • Address expect per module with HART, max. 28 byte +1 bpte for OL information Automate conding Yes • Tope of mechanical coding element Type A Analog inputs 4. Differential inputs • For current measurement 4 permissible input current for current input (destruction inni), max. 50 nA • O to 20 nA No • 0 to 20 nA No • 4 nAt 0 20 nA No • 4 nAt 0 20 nA No • 4 natio 20 nA No • Malog value generation for the Inputs 4 Analog value generation for the Inputs 16 bit • Integration interpression for interference 16 bit • For outlage measurement No • for outlage measurement <td></td> <td></td>		
• Address space per module, max. B byte, + 1 byte for QL information Address space per module, with HART, max. B byte, + 1 byte for QL information Automatic encoding Yes Automatic encoding Yes Mechanical coding element Yes For current measurement 4 For current measurement 4 0 to 20 mA No 0 to 20 mA No 0 to 30 mA 20 mA No 0 to 10 mA		
• Address space per module with HART, max. 28 byte, + 1 byte for QL information Hardware configuration Automatic encoding • Automatic encoding element Yes • Type of mechanical coding element Type A Analog inputs 4, Differential inputs • For carrent measurement 4 • O to 20 mA No • Analog value generation for the Inputs Heaterstein • Analog value generation for the Inputs Heaterstein Measurement principle Integrating (Sigma-Delta) Integration and conversion inneriesolution per channel 10 for /6 Hz Integration with overnage (bit including sign), max 16 bit • Integration time conversion for inference frequency 11 in Hz Yes • Integration and conversion for inference frequency 11 in Hz Yes • For outcage measurement as 2-wite transduce Yes • for outcage measurement as 2-wite transduce Yes • for outc		
Hardware configuration Yes Automatic encoding Yes • Mechanical coding element Type A Analog inputs 4. Differential inputs • For current measurement 4 • Differential inputs 50 mA • Did 20 mA No • 10 to 20 mA No • 0 to 20 mA No • 10 to 20 mA No • shelded, max 600 m Analog value generation for the inputs integrating (Sigm-Deita) Integration action with overange (bit including sign), max. 16 bit • Interference values suppression for intefference frequency if in Hz Yes • Number of singal encoders Yes • for valtage measurement as 2-with transducer Yes • Number of singal encoders Yes • None of singal encoders Yes • Or valtage measurement as 2-with transducer Yes • Norther or indexity to input range, (+/-) 0.005 %k • Connection of singal encoders		
Autonatic encoding Yes • Mechanical coding element Type A Analog inputs Type A Analog inputs 4: Differential inputs • Drac current measurement 4 • O to 20 mA No • 20 m k 0: *20 m A No • 20 m k 0: *20 m A No • 4 m Ato 20 m A Yes: 15 bit + sign - Input resistence (4 m A to 20 m A) Yes: 15 bit + sign - Input resistence (4 m A to 20 m A) Yes: 15 bit + sign - Input resistence (4 m A to 20 m A) Yes: 15 bit + sign - Input resistence (4 m A to 20 m A) Yes: 15 bit + sign - Input resistence (4 m A to 20 m A) Yes: 15 bit + sign - Input resistence (4 m A to 20 m A) Yes: 15 bit + sign - Integration since/resolution per channel Integration time/resolution per channel - Resolution with overange bit including sign), max. 16 bit - Integration time/resolution per channel Yes: Stannel by channel - Integration insolversition for interference 10 / 50 / 60 Hz - Smoothing d inseasurement Yes - For ourset measurement 0.01 % - For ours	· · ·	28 byte; + 1 byte for QI information
• Mechanical coding element Type A Analog imputs 4: Differential inputs • Procurrent measurement 4 • O to 20 mA 90 mA • O to 20 mA No • Instruct enstance (4 mA to 20 mA) 280 (2) + approx 0.35 V diode forward voltage Cibic length • sheledet, max. • sheledet, max. 800 m Analog value generation for the inputs Integrating (Sigma-Detta) Integration and conversion time/resolution per channel Integrating (Sigma-Detta) • Interference voltage suppression for interference frequency of in htz Yes, channel by channel • Interference voltage suppression for interference frequency of in htz Yes • Number of smoothing levels 4: None; 4/8/16 times • for voltage measurement s2-wire transducer Yes • Connection of signal encoders No • for voltage measurement s2 - Vire transducer Yes • Tord voltage measurement s2 - Vire transducer Yes • Tord voltage measurement s2 - Vire transducer Yes • Connection of	Hardware configuration	
Type A Type A Analog inputs 4 Number of nanos input current for current input (destruction limit, max. 4 Diput carges (rated values), currents 50 mA • 0 to 20 mA No • 20 mA to 20 mA No • 4 mA to 20 mA No • - Input resistance (4 mA to 20 mA) 280 0; + approx. 0.35 V diode forward voltage Cobbe length - • shelded, max. 800 m Analog value generation for the inputs 400 hz Messurement principle integration (50 km A) • Integration time, parameterizable integration time, parameterizable • Integration time, parameterizable Yes; the time by channel • Integration time, parameterizable Yes • Nomber of smoothing levels 4; None; 4B/16 times • parameterizable Yes • for ordinge messurement No • for ourset messure status 0.05 %/k Consection of signal encoders 0.05 %/k • for ourset messurement 0.05 %/k Consection of signal encoders 0.05 % • for ourset messurement	Automatic encoding	Yes
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	 -20 mA to +20 mA 	No
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• shielded, max. 800 m Analog value generation for the inputs integrating (Sigma-Delta) Measurement principle integrating (Sigma-Delta) Integration and conversion time/resolution per channel 16 bit • Resolution with overrange (bit including sign), max. 16 bit • Integration time, parameterizable Yes: channel by channel • Interference voltage suppression for interference frequency f1 in f12. 10 / 50 / 60 Hz • Number of smoothing dressured values 4: None; 4/8/16 times • bit or urrent measured values 4: None; 4/8/16 times • for voltage measurement as 2-wire transducer Yes Encoder Yes Encotic error (relative to input range), (+/-) 0.01 % Consection of signal encoders 0.01 % Encoder trent measurement as 2-wire transducer Yes Encoder trent measurement input, min. 60 dB Constalk between the input, min. 60 dB Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) 0.05 % Generational inmit at 25 °C) 0.05 % • Current, relative to input range, (+/-) 0.3 % Interference voltage suppression for 1	— Input resistance (4 mA to 20 mA)	280 Ω ; + approx. 0.35 V diode forward voltage
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Measurement principle integration and conversion time/resolution per channel Integration and conversion time/resolution per channel 16 bit • Resolution with overrange (bit including sign), max. 16 bit • Interference voltage suppression for interference frequency 11 in Hz Yes; channel by channel • Number of smoothing levels 4: None; 4/8/16 times • parameterizable Yes Encoder Connection of signal encoders • for voltage measurement No • for voltage measurement as 2-wire transducer Yes Encoder Yes Encoder 0.01 % Constatil between the inputs, min. 60 dB Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) 0.05 % Operational error limit in overall temperature range 0.05 % • Current, relative to input range, (+/-) 0.3 % Interference voltage suppression for f = n x (f1 +/-1 %), f1 = interference frequency 60 dB • Series mode interference (pak value of input range), min. 60 dB Interference voltage suppression for f = n x (f1 +/-1 %), f1 = interference frequency 60 dB Interference voltage suppression for f = n x (f1 +/-1 %), f1 = interference	Analog value generation for the inputs	
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		16 bit
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• Number of smoothing levels 4; None; 4/8/16 times • parameterizable Yes Encodar Connection of signal encoders • for voltage measurement No • for current measurement as 2-wire transducer Yes Errors/accuracies Errors/accuracies Linearity error (relative to input range), (+/-) 0.01 % Temperature error (relative to input range), (+/-) 0.005 %/K Crosstalk between the inputs, min. 60 dB Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) 0.5 % Depertional error limit in overall temperature range • Current, relative to input range, (+/-) • Current, relative to input range, (+/-) 0.5 % Basic error limit (operational limit at 25 °C) • Current, relative to input range, (+/-) • Current, relative to input range, (+/-) 0.3 % Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency • Series mode interference (peak value of interference (peak value of interference (peak value of interference state value of interference value of interference (peak value of interference (peak value of interference state value of interference / Peak value of i		
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Connection of signal encoders • for voltage measurement No • for current measurement as 2-wire transducer Yes Errors/accuracies 0.01 % Linearity error (relative to input range), (+/-) 0.01 % Constalk between the inputs, min. 60 dB Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) 0.05 % Operational error limit in overall temperature range • Current, relative to input range, (+/-) Operational error limit in overall temperature range • Current, relative to input range, (+/-) 0.5 % Basic error limit (operational limit at 25 °C) • Current, relative to input range, (+/-) 0.3 % Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency • Series mode interference (peak value of input range), min. Interrupts/diagnostics/status information 60 dB Diagnostics function Yes Alarms - • Diagnostic sfunction Yes • Limit value alarm Yes • Monitoring the supply voltage Yes; Channel by channel • Wire-break Yes; Channel-by-channel, short-circuit of the encoder supply to ground or of an input to the encoder supply to ground or of an input to the encoder supply	Encoder	
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• for current measurement as 2-wire transducer Yes Errors/accuracies		No
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Wire-break Yes; channel by channel Short-circuit Yes; Channel-by-channel, short-circuit of the encoder supply to ground or of an input to the encoder supply	5	
• Short-circuit Yes; Channel-by-channel, short-circuit of the encoder supply to ground or of an input to the encoder supply		
or of an input to the encoder supply	• Wire-break	
	Short-circuit	
Group error Yes		
	• Group error	res

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 	No
 between the channels and backplane bus 	Yes
 between the channels and the power supply of the electronics 	No
Isolation	
Isolation tested with	707 V DC (type test)
Ambient conditions	
Ambient temperature during operation	
 horizontal installation, min. 	-30 °C
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-30 °C
 vertical installation, max. 	50 °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 ET 200SP system manual
Dimensions	
Width	15 mm
Height	73 mm
Depth	58 mm
Weights	
Weight, approx.	31 g
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