SIEMENS

Data sheet

6ES7134-6FB00-0BA1



SIMATIC ET 200SP, Analog input module, AI 2xU Standard Pack quantity: 1 unit, suitable for BU type A0, A1, Color code CC00, Module diagnostics, 16 bit

Draduat true decimation		
Product type designation Al 2xU ST		
HW functional status from FS21		
Firmware version V1.0.1		
• FW update possible Yes		
usable BaseUnits BU type A0, A	1	
Color code for module-specific color identification plate CC00		
Product function		
• I&M data Yes; I&M0 to	&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 SP3 / -		
PROFIBUS from GSD version/GSD revision One GSD file	each, Revision 3 and 5 and higher	
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. 37 mA		
Encoder supply		
24 V encoder supply		
• 24 V		
Additional 24 V encoder supply		
• 24 V No		
Power loss		
Power loss, typ. 0.9 W		
Address area		
Address space per module		
Address space per module, max. 4 byte; + 1 byte; +	e for QI information	
Hardware configuration		

Automatic encoding	Yes
Mechanical coding element	Yes
Type of mechanical coding element	Type A
Selection of BaseUnit for connection variants	
• 1-wire connection	BU type A0, A1
2-wire connection	BU type A0, A1
Analog inputs	
Number of analog inputs	2
For voltage measurement	2
permissible input voltage for voltage input (destruction limit), max.	30 V
Cycle time (all channels), min.	500 μs
Input ranges (rated values), voltages	
• 0 to +10 V	Yes; 15 bit
— Input resistance (0 to 10 V)	180 kΩ
• 1 V to 5 V	Yes; 15 bit
— Input resistance (1 V to 5 V)	180 kΩ
• -10 V to +10 V	Yes; 16 bit incl. sign
— Input resistance (-10 V to +10 V)	180 kΩ
• -5 V to +5 V	Yes; 16 bit incl. sign
— Input resistance (-5 V to +5 V)	180 kΩ
Cable length	
• shielded, max.	200 m
Analog value generation for the inputs	
Measurement principle	Sigma Delta
Integration and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	16 bit
Integration time, parameterizable	Yes
Interference voltage suppression for interference frequency f1 in Hz	16.6 / 50 / 60 Hz / off
 Conversion time (per channel) 	50 ms @ 60 Hz, 60 ms @ 50 Hz, 180 ms @ 16.6 Hz, 250 μs without filter
Smoothing of measured values	
 Number of smoothing levels 	4
parameterizable	Yes
Step: None	Yes
Step: low	Yes; 4x smoothing
Step: Medium	Yes; 8x smoothing
Step: High	Yes; 16x smoothing
Encoder	
Connection of signal encoders	
Connection of signal encoders • for voltage measurement	Yes
<u> </u>	Yes
for voltage measurement Errors/accuracies	
• for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-)	0.01 %
• for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-)	0.01 % 0.005 %/K
for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input	0.01 %
for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) **Temperature error (relative to input range), (+/-)	0.01 % 0.005 %/K -50 dB
• for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range	0.01 % 0.005 %/K -50 dB
for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range Voltage, relative to input range, (+/-)	0.01 % 0.005 %/K -50 dB 0.05 %
● for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range ● Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C)	0.01 % 0.005 %/K -50 dB 0.05 %
● for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range ● Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) ● Voltage, relative to input range, (+/-)	0.01 % 0.005 %/K -50 dB 0.05 % 0.5 %
 for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference Series mode interference (peak value of interference 	0.01 % 0.005 %/K -50 dB 0.05 % 0.5 %
 for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference of the properties o	0.01 % 0.005 %/K -50 dB 0.05 % 0.5 % 0.3 % erence frequency 70 dB
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for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range • Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) • Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference value of input range), min. • Series mode interference (peak value of interference < rated value of input range), min. • Common mode voltage, max. • Common mode interference, min. Interrupts/diagnostics/status information Diagnostics function	0.01 % 0.005 %/K -50 dB 0.05 % 0.5 % 0.3 % erence frequency 70 dB 10 V
 for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference value of input range), min. Common mode voltage, max. Common mode voltage, max. Common mode interference, min. Interrupts/diagnostics/status information Diagnostics function Alarms	0.01 % 0.005 %/K -50 dB 0.05 % 0.5 % 0.3 % erence frequency 70 dB 10 V 90 dB Yes
 for voltage measurement Errors/accuracies Linearity error (relative to input range), (+/-) Temperature error (relative to input range), (+/-) Crosstalk between the inputs, min. Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) Operational error limit in overall temperature range Voltage, relative to input range, (+/-) Basic error limit (operational limit at 25 °C) Voltage, relative to input range, (+/-) Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference value of input range), min. Series mode interference (peak value of interference < rated value of input range), min. Common mode voltage, max. Common mode interference, min. Interrupts/diagnostics/status information Diagnostics function Alarms Diagnostic alarm 	0.01 % 0.005 %/K -50 dB 0.05 % 0.5 % 0.3 % erence frequency 70 dB 10 V 90 dB Yes Yes
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Monitoring the supply voltage Wire-break No Short-circuit Yes; at 1 to 5 V Group error Yes Overflow/underflow Ves; Module-wise Diagnostics indication LED Monitoring of the supply voltage (PWR-LED) Channel status display For channel diagnostics No for module diagnostics Yes; green LED Potential separation Potential separation channels between the channels and backplane bus between the channels and the power supply of the electronics Permissible potential difference between the inputs (UCM) Isolation Isolation tested with 707 V DC (type test) Ambient conditions		
Short-circuit Group error Overflow/underflow Piagnostics indication LED Monitoring of the supply voltage (PWR-LED) Channel status display For channel diagnostics For module diagnostics For module diagnostics Obetween the channels Determined the channels and backplane bus Determined the channels and the power supply of the electronics Permissible potential difference Detween the inputs (UCM) Short Ves; green PWR LED Yes; green LED No Yes; green/red DIAG LED Potential separation Yes Yes Yes Obetween the channels Yes Obetween the channels and the power supply of the electronics Permissible potential difference Detween the inputs (UCM) Solation Isolation Isolation tested with	oring the supply voltage	Yes
Group error Overflow/underflow Pages; Module-wise Diagnostics indication LED Monitoring of the supply voltage (PWR-LED) Channel status display For channel diagnostics For module diagnostics For module diagnostics No Potential separation Potential separation channels between the channels and backplane bus between the channels and the power supply of the electronics Permissible potential difference between the inputs (UCM) Isolation Isolation Yes; Module-wise Yes; green PWR LED Yes; green LED No Yes; green/red DIAG LED Permissible potential difference 10 Vpp Isolation Yes Yes 10 Vpc (type test)	break	No
Overflow/underflow Diagnostics indication LED Monitoring of the supply voltage (PWR-LED) Channel status display For channel diagnostics For module diagnostics Ves; green LED No Potential separation Potential separation channels between the channels between the channels and backplane bus between the channels and the power supply of the electronics Permissible potential difference between the inputs (UCM) Isolation Isolation Isolation tested with Yes; green PWR LED Yes; green PWR LED Yes; green LED No Yes; green/red DIAG LED Yes Yes; green/red DIAG LED Yes Yes 10 Vop 10 Vpp	-circuit	Yes; at 1 to 5 V
Diagnostics indication LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics • for module diagnostics • for module diagnostics Potential separation Potential separation channels • between the channels and backplane bus • between the channels and the power supply of the electronics Permissible potential difference between the inputs (UCM) Isolation Isolation tested with	p error	Yes
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Channel status display for channel diagnostics for module diagnostics Yes; green/red DIAG LED Potential separation Potential separation channels between the channels and backplane bus between the channels and the power supply of the electronics Permissible potential difference between the inputs (UCM) Isolation Isolation tested with Yes; green LED No Yes; green/red DIAG LED Yes Yes Yes 10 Vop	indication LED	
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• for module diagnostics Potential separation Potential separation channels • between the channels • between the channels and backplane bus • between the channels and the power supply of the electronics Permissible potential difference between the inputs (UCM) Isolation Isolation tested with Yes; green/red DIAG LED No Yes 10 Vo Yes 10 Vpp	nel status display	Yes; green LED
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Potential separation channels • between the channels • between the channels and backplane bus • between the channels and the power supply of the electronics Permissible potential difference between the inputs (UCM) Isolation Isolation tested with No Yes Yes 10 Vpp 10 Vpp	odule diagnostics	Yes; green/red DIAG LED
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between the channels and the power supply of the electronics Permissible potential difference between the inputs (UCM) 10 Vpp Isolation Isolation tested with 707 V DC (type test)	een the channels	No
electronics Permissible potential difference between the inputs (UCM) Isolation Isolation tested with 707 V DC (type test)	een the channels and backplane bus	Yes
between the inputs (UCM) Isolation Isolation tested with 707 V DC (type test)		Yes
Isolation Isolation tested with 707 V DC (type test)	potential difference	
Isolation tested with 707 V DC (type test)	inputs (UCM)	10 Vpp
(3)		
Ambient conditions	ited with	707 V DC (type test)
	ditions	
Ambient temperature during operation	nperature during operation	
 ◆ horizontal installation, min. -30 °C; < 0 °C as of FS04 	ontal installation, min.	-30 °C; < 0 °C as of FS04
• horizontal installation, max. 60 °C	ontal installation, max.	60 °C
• vertical installation, min30 °C; < 0 °C as of FS04	al installation, min.	-30 °C; < 0 °C as of FS04
• vertical installation, max. 50 °C	al installation, max.	50 °C
Altitude during operation relating to sea level	ng operation relating to sea level	
• Installation altitude above sea level, max. 5 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP systemanual	lation altitude above sea level, max.	5 000 m; restrictions for installation altitudes > 2 000 m, see ET 200SP system manual
Dimensions		
Width 15 mm		15 mm
Height 73 mm		73 mm
Depth 58 mm		58 mm
Weights		
Weight, approx. 31 g	arov.	31 a
Weight, approx. 31 g	arov.	31 a

last modified:

7/13/2024