Overview

- 2-, 4- and 8-channel analog input modules for the ET 200SP
- Can be plugged into type A0 or A1 BaseUnits (BU) with automatic coding
- LED display for error, operation, supply voltage and status
- Clear labeling on front of module
  - Plain text identification of the module type and function class
  - 2D matrix code (order and serial number)
  - Connection diagram
  - Color coding of the module type AI: Light blue
  - Hardware and firmware version
  - Color code CC for module-specific color coding of the potentials at the terminals of the BU
  - Complete Article No.
- Optional labeling accessories
  - Labeling strips
  - Reference identification label
- Optional module-specific color identification of the terminals according to the color code CC
- Optional system-integrated shield connection

Technical specifications

	6ES7134-6HD00-0BA1 AI 4xU/I 2-wire ST	**6ES7134-6GD00-0BA1** AI 4xI 2-/4-wire ST	**6ES7134-6JD00-0CA1** AI 4xRTD/TC 2-/3-/4-wire HF
General information			
Product function			
• I&M data	Yes	Yes	Yes; I&M0 to I&M3
Engineering with			
• STEP 7 TIA Portal can be configured/integrated as of version			V12 SP1 / V13
• STEP 7 can be configured/integrated as of version	V5.5 SP3 / -	V5.5 SP3 / -	V5.5 SP3 / V5.5 SP4
• PROFIBUS as of GSD version/GSD revision	GSD Revision 5	GSD Revision 5	GSD Revision 5
• PROFINET as of GSD version/GSD revision	V2.3 / -	V2.3 / -	GSDML V2.3
CiR - Configuration in RUN			
Reparameterization possible in RUN			Yes
Calibration possible in RUN			Yes
Supply voltage			
Rated value (DC)	24 V	24 V	24 V
Reverse polarity protection	Yes	Yes	Yes
Analog inputs			
Number of analog inputs	4	4	4
permissible input voltage for voltage input (destruction limit), max.	30 V		30 V
Constant measurement current for resistance-type transmitter, typ.			2 mA
Cycle time (all channels), min.	Sum of the basic conversion times and additional processing times (depending on the parameterization of the active channels)	Sum of the basic conversion times and additional processing times (depending on the parameterization of the active channels)	Sum of the basic conversion times and additional processing times (depending on the parameterization of the active channels); for line compensation in case of a three-wire connection, an additional cycle is necessary
Technical unit for temperature measurement adjustable			Yes

Technical specifications (continued)

	6ES7134-6HD00-0BA1 AI 4xU/I 2-wire ST	6ES7134-6GD00-0BA1 AI 4xI 2-/4-wire ST	6ES7134-6JD00-0CA1 AI 4xRTD/TC 2-/3-/4-wire HF
Input ranges (rated values), voltages			
• 0 to +10 V	Yes; 15 bit		
• 1 to 5 V	Yes; 15 bit		
• -1 V to +1 V			Yes; 16 bit incl. sign
• -10 V to +10 V	Yes; 16 bit incl. sign		
• -250 mV to +250 mV			Yes; 16 bit incl. sign
• -5 V to +5 V	Yes; 16 bit incl. sign		
• -50 mV to +50 mV			Yes; 16 bit incl. sign
• -80 mV to +80 mV			Yes; 16 bit incl. sign
Input ranges (rated values), currents			
• 0 to 20 mA	Yes; 15 bit	Yes; 15 bit	
• -20 to +20 mA		Yes; 16 bit incl. sign	
• 4 to 20 mA	Yes; 15 bit	Yes; 15 bit	
Input ranges (rated values), thermoelements			
• Type B			Yes; 16 bit incl. sign
• Type C			Yes; 16 bit incl. sign
• Type E			Yes; 16 bit incl. sign
• Type J			Yes; 16 bit incl. sign
• Type K			Yes; 16 bit incl. sign
• Type L			Yes; 16 bit incl. sign
• Type N			Yes; 16 bit incl. sign
• Type R			Yes; 16 bit incl. sign
• Type S			Yes; 16 bit incl. sign
• Type T			Yes; 16 bit incl. sign
• Type U			Yes; 16 bit incl. sign
• Type TXK/TXK(L) to GOST			Yes; 16 bit incl. sign
Input ranges (rated values), resistance thermometers			
• Cu 10			Yes; 16 bit incl. sign
• Ni 100			Yes; 16 bit incl. sign
• Ni 1000			Yes; 16 bit incl. sign
• LG-Ni 1000			Yes; 16 bit incl. sign
• Ni 120			Yes; 16 bit incl. sign
• Ni 200			Yes; 16 bit incl. sign
• Ni 500			Yes; 16 bit incl. sign
• Pt 100			Yes; 16 bit incl. sign
• Pt 1000			Yes; 16 bit incl. sign
• Pt 200			Yes; 16 bit incl. sign
• Pt 500			Yes; 16 bit incl. sign
Input ranges (rated values), resistors			
• 0 to 150 ohms			Yes; 15 bit
• 0 to 300 ohms			Yes; 15 bit
• 0 to 600 ohms			Yes; 15 bit
• 0 to 3000 ohms			Yes; 15 bit
• 0 to 6000 ohms			Yes; 15 bit
• PTC			Yes; 15 bit
Thermocouple (TC)			
• Temperature compensation			
- Parameterizable			Yes
Resistance thermometer (RTD)			
• permissible input voltage for voltage input (destruction limit), max.			30 V
Cable length			
• Cable length, shielded, max.	1 000 m	1 000 m	200 m; 50 m with thermocouples

Technical specifications (continued)

	6ES7134-6HD00-0BA1 AI 4xU/I 2-wire ST	6ES7134-6GD00-0BA1 AI 4xI 2-/4-wire ST	6ES7134-6JD00-0CA1 AI 4xRTD/TC 2-/3-/4-wire HF
Analog value creation			
Integrations and conversion time/resolution per channel			
• Resolution with overrange (bit including sign), max.	16 bit	16 bit	16 bit
• Integration time, parameterizable	Yes	Yes	Yes
• Basic conversion time, including integration time, ms			
- Additional processing time for wire-break check			2 ms; In the ranges resistance thermometers, resistors and thermocouples
- Additional power line wire-break check			2 ms; for 3/4 wire transducer (resistance thermometer and resistor)
• Interference voltage suppression for interference frequency f1 in Hz	16.6 / 50 / 60 Hz	16.6 / 50 / 60 Hz	16.6 / 50 / 60 Hz
• Conversion time (per channel)	180 / 60 / 50 ms	180 / 60 / 50 ms	180 / 60 / 50 ms
Smoothing of measured values			
• Parameterizable	Yes	Yes	Yes
Encoder			
Connection of signal encoders			
• for voltage measurement	Yes		Yes
• for current measurement as 2-wire transducer	Yes	Yes	
• Burden of 2-wire transmitter, max.	650 Ω	650 Ω	
• for current measurement as 4-wire transducer		Yes	
• for resistance measurement with 2-conductor connection			Yes
• for resistance measurement with 3-conductor connection			Yes
• for resistance measurement with 4-conductor connection			Yes
Errors/accuracies			
Basic error limit (operational limit at 25 °C)			
• Voltage, relative to input area, (+/-)	0.3 %		0.05 %
• Current, relative to input area, (+/-)	0.3 %	0.3 %	
• Resistance, relative to input area, (+/-)			0.05 %
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency			
• Series mode interference (peak value of interference < rated value of input range), min.	70 dB	70 dB	70 dB
• common mode voltage, max.	10 V	10 V	10 V
• Common mode interference, min.	90 dB	90 dB	90 dB
Interrupts/diagnostics/ status information			
Alarms			
• Diagnostic alarm	Yes	Yes	Yes
• Limit value alarm			Yes; two upper and two lower limit values in each case
Diagnostic messages			
• Diagnostics	Yes	Yes	Yes
• Monitoring the supply voltage	Yes	Yes	Yes
• Wire break	Yes; at 4 to 20 mA	Yes; at 4 to 20 mA	Yes; channel by channel
• Short circuit	Yes; with 1 to 5 V or 2-wire mode: Short-circuit of the encoder supply to ground or of an input to the encoder supply	Yes; 2-wire mode: Short-circuit of the encoder supply to ground or of an input to the encoder supply	
• Overflow/underflow	Yes	Yes	Yes; channel by channel

Technical specifications (continued)

	6ES7134-6HD00-0BA1 AI 4xU/I 2-wire ST	6ES7134-6GD00-0BA1 AI 4xI 2-/4-wire ST	6ES7134-6JD00-0CA1 AI 4xRTD/TC 2-/3-/4-wire HF
Diagnostics indication LED			
• Monitoring the supply voltage	Yes; Green LED	Yes; Green LED	Yes; green PWR LED
• Channel status display	Yes; Green LED	Yes; Green LED	Yes; Green LED
• for channel diagnostics			Yes; Red LED
• for module diagnostics	Yes; Green/red LED	Yes; Green/red LED	Yes; green/red DIAG LED
Galvanic isolation			
Electrical isolation channels			
• between the channels and the backplane bus	Yes	Yes	Yes
Isolation			
Isolation checked with	707 V DC (type test)	707 V DC (type test)	707 V DC (type test)
Ambient conditions			
Operating temperature			
• horizontal installation, min.	0 °C	0 °C	
• horizontal installation, max.	60 °C	60 °C	
• vertical installation, min.	0 °C	0 °C	
• vertical installation, max.	50 °C	50 °C	
Dimensions			
Width	15 mm	15 mm	15 mm
Weights			
Weight, approx.	31 g	31 g	30 g

	6ES7134-6HB00-0DA1 AI 2xU/I 2-/4-wire HS	6ES7134-6HB00-0CA1 AI 2xU/I 2-/4-wire HF	6ES7134-6JF00-0CA1 AI 8xRTD/TC 2-wire HF
General information			
Product function			
• I&M data	Yes; I&M0 to I&M3	Yes; I&M0 to I&M3	Yes
Engineering with			
• STEP 7 TIA Portal can be configured/integrated as of version	V12 SP1 / V13	V13	V13
• STEP 7 can be configured/integrated as of version	V5.5 SP3 / -	V5.5 SP3 / -	V5.5 / -
• PROFIBUS as of GSD version/GSD revision	GSD Revision 5	GSD Revision 5	GSD Revision 5
• PROFINET as of GSD version/GSD revision	GSDML V2.3	GSDML V2.3	V2.3
Operating mode			
• Oversampling	Yes		
- Values per cycle max.	16		
- Resolution min.	50 µs		
CiR - Configuration in RUN			
Reparameterization possible in RUN	Yes	Yes	Yes
Calibration possible in RUN		Yes	Yes
Supply voltage			
Type of supply voltage	DC	DC	
Rated value (DC)	24 V	24 V	24 V
Reverse polarity protection	Yes	Yes	Yes
Analog inputs			
Number of analog inputs	2	2	8
permissible input voltage for voltage input (destruction limit), max.	30 V	30 V	30 V
Constant measurement current for resistance-type transmitter, typ.			2 mA

Ordering data

	Article No.
Analog input modules	
Analog input module AI 4xU/I 2-wire Standard, BU type A0 or A1, color code CC03, 16 bit, ± 0.3%	**6ES7134-6HD00-0BA1**
Analog input module AI 4xI 2-/4-wire Standard, BU type A0 or A1, color code CC03, 16 bit, ± 0.3%	**6ES7134-6GD00-0BA1**
Analog input module AI 4xRTD/TC 2-, 3-, 4-wire High Feature, BU type A0 or A1, color code CC00, 16 bit, ± 0.1%, scalable measuring range	**6ES7134-6JD00-0CA1**
Analog input module AI 2xU/I 2-/4-wire High Speed, BU type A0 or A1, color code CC00, 16 bit, ± 0.3%, isochronous mode above 250 µs, oversampling above 50 µs	**6ES7134-6HB00-0DA1**
Analog input module AI 8xRTD/TC 2-wire High Feature, BU type A0 or A1, color code CC00, 16 bit, ± 0.1%, scalable measuring range	**6ES7134-6JF00-0CA1**
Analog input module AI 2xU/I 2-/4-wire High Feature, BU type A0 or A1, color code CC05, 16 bit, ± 0.1%, independent channel isolation, isochronous mode above 1 ms	**6ES7134-6HB00-0CA1**
Analog input module AI Energy Meter Standard, BU type D0, color code CC00	**6ES7134-6PA00-0BD0**
Usable type A0 BaseUnits	
BU15-P16+A0+2D BU type A0; BaseUnit (light) with 16 process terminals to the module; for starting a new load group (max. 10 A)	**6ES7193-6BP00-0DA0**
BU15-P16+A0+2B BU type A0; BaseUnit (dark) with 16 process terminals to the module; for continuing the load group	**6ES7193-6BP00-0BA0**
BU15-P16+A10+2D BU type A0; BaseUnit (light) with 16 process terminals (1...16) to the module and an additional 10 internally jumpered AUX terminals (1 A to 10 A); for starting a new load group (max. 10 A)	**6ES7193-6BP20-0DA0**
BU15-P16+A10+2B BU type A0; BaseUnit (dark) with 16 process terminals (1...16) to the module and an additional 10 internally jumpered AUX terminals (1 A to 10 A); for continuing the load group	**6ES7193-6BP20-0BA0**
Usable type A1 BaseUnits (temperature detection)	
BU15-P16+A0+2D/T BU type A1; BaseUnit (light) with 16 process terminals to the module; for starting a new load group (max. 10 A)	**6ES7193-6BP00-0DA1**
BU15-P16+A0+2B/T BU type A1; BaseUnit (dark) with 16 process terminals to the module; for continuing the load group	**6ES7193-6BP00-0BA1**
BU15-P16+A0+12D/T BU type A1; BaseUnit (light) with 16 process terminals (1...16) to the module and an additional 2x5 internally jumpered additional terminals (1 B to 5 B and 1 C to 5 C); for starting a new load group (max. 10 A)	**6ES7193-6BP40-0DA1**
BU15-P16+A0+12B/T BU type A1; BaseUnit (dark) with 16 process terminals (1...16) to the module and an additional 2x5 internally jumpered additional terminals (1 B to 5 B and 1 C to 5 C); for continuing the load group	**6ES7193-6BP40-0BA1**
Usable type D0 BaseUnits	
BU20-P12+A0+0B BU type D0; BaseUnit with 12 push-in terminals, without AUX terminals, bridged to the left	**6ES7193-6BP00-0BD0**
Accessories	
Reference identification label 10 sheets of 16 labels	**6ES7193-6LF30-0AW0**
Labeling strips	
500 labeling strips on roll, light gray, for inscription with thermal transfer roll printer	**6ES7193-6LR10-0AA0**
500 labeling strips on roll, yellow, for inscription with thermal transfer roll printer	**6ES7193-6LR10-0AG0**
1000 labeling strips DIN A4, light gray, card, for inscription with laser printer	**6ES7193-6LA10-0AA0**
1000 labeling strips DIN A4, yellow, card, for inscription with laser printer	**6ES7193-6LA10-0AG0**
BU cover For covering empty slots (gaps); 5 units	
• 15 mm wide	**6ES7133-6CV15-1AM0**
• 20 mm wide	**6ES7133-6CV20-1AM0**
Shield connection 5 shield supports and 5 shield terminals	**6ES7193-6SC00-1AM0**
Color-coded labels	
• Color code CC03, module-specific, for 16 push-in terminals; for BaseUnit type A0, A1; 10 units	**6ES7193-6CP03-2MA0**
• Color code CC71, for 10 AUX terminals 1 A to 10 A, for BU type A0, yellow/green, with push-in terminals; 10 units	**6ES7193-6CP71-2AA0**
• Color code CC72, for 10 AUX terminals 1 A to 10 A, for BU type A0, red, with push-in terminals; 10 units	**6ES7193-6CP72-2AA0**
• Color code CC73, for 10 AUX terminals 1 A to 10 A, for BU type A0, blue, with push-in terminals; 10 units	**6ES7193-6CP73-2AA0**
• Color code CC74, for 2x5 additional terminals, 5 x red, 5 x blue, for BU type A1, with push-in terminals; 10 units	**6ES7193-6CP74-2AA0**