

Technical specifications (continued)

Article number	6ES7134-4GB11-0AB0 ET200S, EL-MOD., 2AI STD I-4DMU, 0-20MA,	6ES7134-4MB02-0AB0 ET200S, EL-MOD., 2AI HF I, +/-20MA	6ES7134-4GD00-0AB0 ET200S, EL-MOD., 4AI STANDARD I 2-WIRE	6ES7134-4FB52-0AB0 ET200S, EL-MOD., 2AI HS U, +/-10V, 15BIT	6ES7134-4GB62-0AB0 ET200S, EL-MOD., 2AI HS I-4WIRE, 0-20MA
Product type designation					
Supply voltage					
Load voltage L+					
• Rated value (DC)	24 V; From power module	24 V	24 V; From power module	24 V	24 V
• short-circuit protection		Yes	Yes	Yes	Yes
• Reverse polarity protection		Yes	Yes	Yes	Yes
Input current					
from load voltage L+ (without load), max.	30 mA	48 mA	125 mA	80 mA	80 mA; without load
from backplane bus 3.3 V DC, max.	10 mA	10 mA	10 mA	10 mA	10 mA
Output voltage					
Power supply to the transmitters					
• present		Yes	Yes		Yes
• short-circuit proof		Yes	Yes; approx. 200 mA for module		Yes
Encoder supply					
Number of outputs					2
Type of output voltage					24 V
short-circuit protection					Yes
Output current					
• nominal					80 mA; Per channel
• permissible range					0 to 90 mA
Power losses					
Power loss, typ.	0.6 W	1.2 W	0.6 W	1.9 W	1.9 W
Address area					
Address space per module					
• Address space per module, max.	4 byte	4 byte	8 byte	4 byte	4 byte
Analog inputs					
Number of analog inputs	2	2	4	2	2
permissible input voltage for voltage input (destruction limit), max.				35 V; Permanent	
permissible input current for current input (destruction limit), max.	40 mA	50 mA	30 mA; limited electronically		30 mA
Cycle time (all channels) max.	Number of active channels per module x basic conversion time	0.5 ms; 0.5 ms for 2 channels without noise suppression, 18 / 21 ms per channel with noise suppression	40 ms; 33 to 40 ms	250 µs	250 µs
Input ranges					
• Voltage	No	No	No	Yes	No
• Current	Yes	Yes	Yes	No	Yes
• Thermocouple	No	No	No	No	No
• Resistance thermometer	No	No	No	No	No
• Resistance	No	No	No	No	No

I/O systems

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ET 200S - I/O modules

Analog electronic modules

Technical specifications (continued)

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Input ranges (rated values), voltages					
• 1 V to 5 V				Yes	
• Input resistance (1 V to 5 V)				120 kΩ	
• -10 V to +10 V				Yes	
• Input resistance (-10 V to +10 V)				120 kΩ	
• -2.5 V to +2.5 V				Yes	
• Input resistance (-2.5 V to +2.5 V)				120 kΩ	
• -5 V to +5 V				Yes	
• Input resistance (-5 V to +5 V)				120 kΩ	
Input ranges (rated values), currents					
• 0 to 20 mA					Yes
• Input resistance (0 to 20 mA)					106 Ω
• -20 mA to +20 mA	Yes; 50 Ohm	Yes			Yes
• 4 mA to 20 mA	Yes; 50 Ohm	Yes	Yes; Into 25 Ohm		Yes
Cable length					
• shielded, max.	200 m	200 m	200 m	200 m	200 m
Analog value creation					
Measurement principle	integrating	Sigma Delta	integrating		
Integration and conversion time/ resolution per channel					
• Resolution with overrange (bit including sign), max.	14 bit; +/-20 mA: 14 bits, 4 to 20 mA: 13 bits	16 bit; as required	13 bit; 4 to 20 mA: 13 bits	16 bit; 15 bits: 1 to 5 V; +/-2.5 V; 16 bits: +/-10 V; +/-5 V	16 bit
• Integration time, parameterizable		Yes	Yes		
• Integration time (ms)	16,7 / 20 ms		16,67 / 20 ms		
• Interference voltage suppression for interference frequency f1 in Hz		60 / 50 Hz / no			
• Conversion time (per channel)	65 ms; 55 / 65 ms	0.04 ms; Without noise suppression 17/20 ms per channel with error			
Smoothing of measured values					
• Parameterizable	Yes; In four stages by means of digital filtering	Yes; In 4 stages: 1 x, 4 x, 16 x, 32 x cycle time	Yes; in 4 stages	Yes	Yes
• Step: None	Yes; 1 x cycle time	Yes; 1 x	Yes; 1 x cycle time	Yes; 1 x cycle time	Yes; 1 x cycle time
• Step: low	Yes; 4 x cycle time	Yes; 4 x	Yes; 4 x cycle time	Yes; 4 x cycle time	Yes; 4 x cycle time
• Step: Medium	Yes; 32 x cycle time	Yes; 16 x	Yes; 16 x cycle time	Yes; 16 x cycle time	Yes; 16 x cycle time
• Step: High	Yes; 64 x cycle time	Yes; 32 x	Yes; 32 x cycle time	Yes; 32 x cycle time	Yes; 32 x cycle time
Encoder					
Connection of signal encoders					
• for voltage measurement				Yes	
• for current measurement as 2-wire transducer					No
- Burden of 2-wire transmitter, max.	750 Ω	750 Ω	750 Ω		

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Errors/accuracies					
Linearity error (relative to input range), (+/-)	0.01 %	0.03 %	0.01 %	0.03 %	0.03 %
Temperature error (relative to input range), (+/-)	0.005 %/K	0.003 %/K	0.003 %/K	0.01 %/K	0.01 %/K
Crosstalk between the inputs, min.	-50 dB	-100 dB	-50 dB	-50 dB	-50 dB
Repeat accuracy in steady state at 25 °C (relative to input area), (+/-)	0.05 %	0.01 %	0.05 %	0.1 %	0.1 %
Operational limit in overall temperature range					
• Voltage, relative to input area, (+/-)				0.3 %	
• Current, relative to input area, (+/-)	0.6 %	0.1 %; 0.2% without interference frequency suppression	0.4 %		0.3 %
Basic error limit (operational limit at 25 °C)					
• Voltage, relative to input area, (+/-)				0.2 %	
• Current, relative to input area, (+/-)	0.4 %	0.05 %; 0.1% without interference frequency suppression	0.3 %		0.2 %
Interference voltage suppression for $f = n \times (f1 \pm 1 \%)$, $f1 =$ interference frequency					
• Series mode interference (peak value of interference < rated value of input range), min.	70 dB	90 dB	70 dB		
• common mode voltage (USS < 2.5 V), min.		100 dB			
Isochronous mode					
Isochronous operation (application synchronized up to terminal)	No	Yes	No	Yes	Yes
Interrupts/diagnostics/status information					
Alarms					
• Hardware interrupt		Yes		Yes	Yes
Diagnostic messages					
• Diagnostic functions		Yes	Yes; Can be read out	Yes	Yes
• Diagnostic information readable				Yes	Yes
• Wire break	Yes; Measuring range 4 to 20 mA only	Yes; Measuring range 4 to 20 mA only	Yes; Measuring range 1 to 5 V only	Yes; at 1 to 5 V	Yes; Measuring range 4 to 20 mA only
• Group error	Yes	Yes	Yes	Yes	Yes
• Overflow/underflow	Yes	Yes	Yes	Yes	Yes
Diagnostics indication LED					
• Group error SF (red)	Yes	Yes	Yes	Yes	Yes
Parameter					
Remark	4 byte	12 bytes, 4 bytes in compatibility mode	7 byte	12 bytes, 4 bytes in compatibility mode	
Diagnosis: wire break	Disable / enable (only in measuring range 4 to 20 mA)	Disable / enable	1		At 4 to 20 mA
Measurement type/range	deactivated / +/-20 mA / 4 to 20 mA	deactivated / +/-20 mA / 4 to 20 mA	1	Deactivated / +/-5 V / 1 to 5 V / +/-10 V / +/-2.5 V	4 to 20 mA, 0 to 20 mA, +/-20 mA
Group diagnostics	Disable / enable	Disable / enable	1	Disable / enable	Yes
Overflow/underflow	Disable / enable	Disable / enable	1	Disable / enable	Yes

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ET 200S - I/O modules

Analog electronic modules

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Galvanic isolation					
Galvanic isolation analog inputs					
• between the channels	No	No; however, increased permissible potential difference between the inputs.	No	No	No
• between the channels and the backplane bus	Yes	Yes	Yes	Yes	Yes
• between the channels and the load voltage L+	No	Yes	No	Yes	Yes
Permissible potential difference					
between MANA and M internally (UISO)					75V DC/60V AC
Isolation					
Isolation checked with	500 V DC		500 V DC	500 V DC	
Dimensions					
Width	15 mm	15 mm	15 mm	15 mm	15 mm
Height	81 mm	81 mm	81 mm	81 mm	81 mm
Depth	52 mm	52 mm	52 mm	52 mm	52 mm
Weights					
Weight, approx.	40 g	45 g	40 g	45 g	45 g
Article number	6ES7134-4JB01-0AB0 ET200S, EL-MOD., 2AI TC, +/-80MV, 15BIT	6ES7134-4JB51-0AB0 ET200S, EL-MOD., 2/4 AI RTD STANDARD	6ES7134-4JD00-0AB0 ET200S, EL-MOD., 4AI TC, +/-80MV, 15BIT	6ES7134-4NB01-0AB0 ET200S, EL-MOD., 2AI TC HF, 15BIT	6ES7134-4NB51-0AB0 ET200S, EL-MOD., 2AI RTD HF, 15BIT
Product type designation					
Supply voltage					
Load voltage L+					
• Rated value (DC)	24 V; From power module	24 V; From power module	24 V; From power module	24 V; From power module	24 V; From power module
• Reverse polarity protection	Yes	Yes	Yes	Yes	Yes
Input current					
from load voltage L+ (without load), max.	30 mA	30 mA	30 mA	30 mA	30 mA
from backplane bus 3.3 V DC, max.	10 mA	10 mA	10 mA	10 mA	10 mA
Output voltage					
Power supply to the transmitters					
• present		Yes			
• short-circuit proof		Yes			
Power losses					
Power loss, typ.	0.6 W	0.6 W	0.6 W	0.6 W	0.6 W
Address area					
Address space per module					
• Address space per module, max.	4 byte	8 byte	8 byte	4 byte	4 byte

Ordering data	Article No.		Article No.
Analog input modules		Accessories for labeling	
Ordering unit 1 item		Label sheets DIN A4 (10 pieces)	
• 2 AI U High Speed	6ES7134-4FB52-0AB0	Each sheet contains 60 labeling strips for I/O modules and 20 labeling strips for interface modules	
• 2 AI U Standard	6ES7134-4FB01-0AB0	• petrol	6ES7193-4BH00-0AA0
• 2 AI U High Feature	6ES7134-4LB02-0AB0	• red	6ES7193-4BD00-0AA0
• 2 AI I Standard 2-wire	6ES7134-4GB01-0AB0	• yellow	6ES7193-4BB00-0AA0
• 2 AI I High Speed 2-wire	6ES7134-4GB52-0AB0	• light beige	6ES7193-4BA00-0AA0
• 2 AI High Speed 4-wire	6ES7134-4GB62-0AB0		
• 2 AI I Standard 4-wire	6ES7134-4GB11-0AB0	Accessories for system-integrated shield connection	
• 2 AI I High Feature 2-wire/4-wire (15 bits + sign)	6ES7134-4MB02-0AB0	Shield connection element	6ES7193-4GA00-0AA0
• 2 AI RTD standard	6ES7134-4JB51-0AB0	Ordering unit 5 items	
• 2 AI TC Standard	6ES7134-4JB01-0AB0	For plugging into TM-E and TM-P	
• 2 AI RTD High Feature	6ES7134-4NB51-0AB0	Shield clamps	6ES7193-4GB00-0AA0
• 2 AI TC High Feature	6ES7134-4NB01-0AB0	Ordering unit 5 items	
• 4 AI Standard 2-wire	6ES7134-4GD00-0AB0	For 3 × 10 mm busbars	
• 4 AI TC Standard	6ES7134-4JD00-0AB0	Grounding terminal	8WA2868
		Ordering unit 1 item	
Analog output modules		For cable cross-sections up to 25 mm²	
Ordering unit 1 item		3 × 10 mm busbars	8WA2842
• 2 AO U Standard	6ES7135-4FB01-0AB0	Ordering unit 1 item	
• 2 AO U High Speed	6ES7135-4FB52-0AB0		
• 2 AO U High Feature	6ES7135-4LB02-0AB0		
• 2 AO I Standard	6ES7135-4GB01-0AB0		
• 2 AO I High Speed	6ES7135-4GB52-0AB0		
• 2 AO I High Feature	6ES7135-4MB02-0AB0		