

14.4 Analog Electronics Module 2AI | 2WIRE

Order Number

6ES7 134-5RB00-0AB0

Features

- 2 inputs for connecting 2-wire transducers
- Selectable input range: 4 to 20 mA
- Resolution 12 bits + sign

Terminal Assignment

Table 14-75 Terminal Assignment of the 2AI | 2WIRE

Terminal Assignment and View	Remarks																								
2DMU on Channel 0 <table><tr><th colspan="4">Channel</th></tr><tr><th>0</th><th>1</th><th>2</th><th>3</th></tr><tr><td>M0+</td><td>M1+</td><td>-</td><td>-</td></tr><tr><td>M0-</td><td>M1-</td><td>-</td><td>-</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td></tr><tr><td>-</td><td>-</td><td>-</td><td>-</td></tr></table> 01 23 15 913 26 1014 37 1115 48 1216 1 2 mA	Channel				0	1	2	3	M0+	M1+	-	-	M0-	M1-	-	-	-	-	-	-	-	-	-	-	2-wire transducer 1 Channel 0: Terminals 1 and 2 2-wire transducer 2 Channel 1: Terminals 5 and 6 M +: Input signal "+" M -: Input signal "-" The 2-wire transducers are supplied over the measurement leads.
Channel																									
0	1	2	3																						
M0+	M1+	-	-																						
M0-	M1-	-	-																						
-	-	-	-																						
-	-	-	-																						

Block Diagram

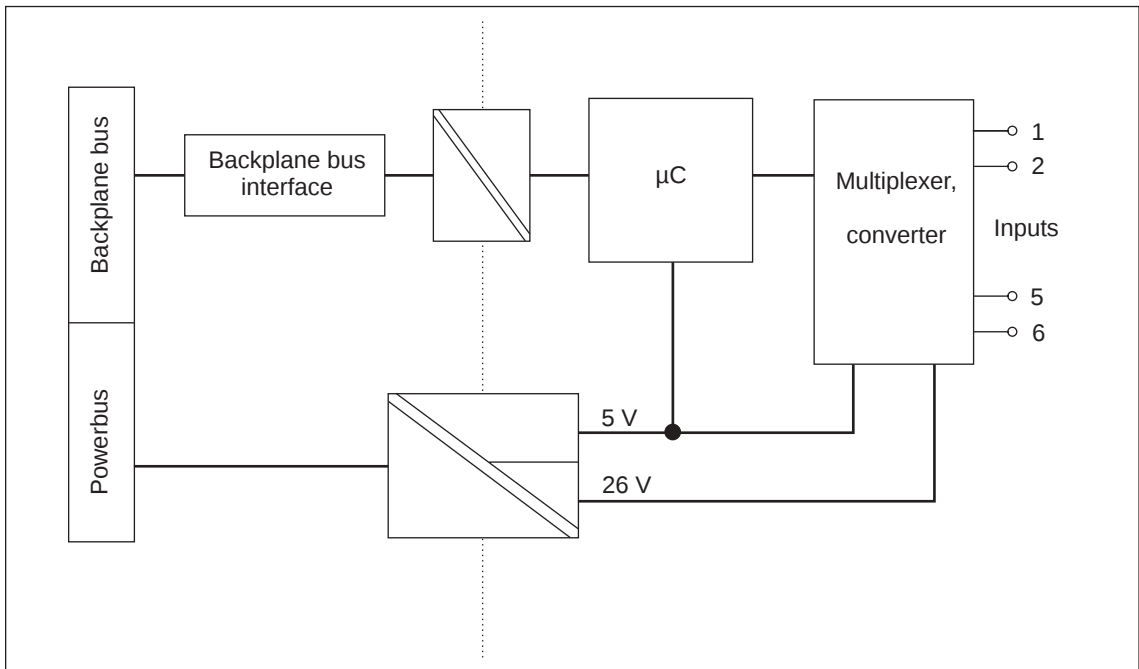


Figure 14-3 Block Diagram of the 2AI I 2WIRE

Technical Specifications

Table 14-76 Technical Specifications

Dimensions and Weight	
Dimensions W x H x D (mm)	30 x 81 x 76
Weight	approx. 120 g
Data Specific to the Module	
Number of inputs	2
Cable length	
• shielded	max. 200m

Data Specific to the Module												
Type of Protection												
• CENELEC		Ex II2(1)G EEx ib[ia] IIC T4 CE ₀₃₄₄										
• FM (applied for)		Class Number 3611: Class I, Division 2, Group A, B, C, D, Class I, Zone 2 Class Number 3610: Class I, Zone 1										
Voltages, Currents, Potentials												
Power supply of the transducers		yes										
• Supply current		max. 23mA (per channel)										
• Short-circuit proof		yes										
Electrical isolation												
• Between channels and backplane bus		yes										
• Between the channels		No										
• Between channels and load voltage (powerbus)		yes										
• Between load voltage (powerbus) and backplane bus		yes										
Insulation tested with		AC 500 V										
Current consumption												
• from load voltage L+ (powerbus)		max. 280 mA										
Power loss of the module		typ. 3.36 W										
Analog Value Formation												
Measurement principle		integrating (Sigma-Delta)										
Integration / conversion time / resolution (per channel)												
• Integration time selectable		No										
• Interference frequency suppression in Hz		60; 50										
• Basic conversion time including integration time (per channel) in ms		30										
• Cycle time in ms		Number of active channels per module x basic conversion time										
• Resolution (incl. over-range)		12 bits + sign										
Smoothing of measured values		yes, selectable in 4 levels:										
		<table><tr><td>Level</td><td>Time constant</td></tr><tr><td>none</td><td>1 x cycle time</td></tr><tr><td>weak</td><td>4 x cycle time</td></tr><tr><td>medium</td><td>32 x cycle time</td></tr><tr><td>strong</td><td>64 x cycle time</td></tr></table>	Level	Time constant	none	1 x cycle time	weak	4 x cycle time	medium	32 x cycle time	strong	64 x cycle time
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none	1 x cycle time											
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Interference Suppression, Error Limits	
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$, (f_1 = interference frequency)	
Normal-mode interference (peak value of the interference < nominal value of the input range)	min. 70 dB
Crosstalk between the inputs	min. -50 dB
Operational limits (in the entire temperature range, relative to the input range)	$\pm 0.15 \%$
Basic error limit (operational limit at 25°C, related to the input range)	$\pm 0.1 \%$
Temperature error (relative to the input range)	$\pm 0.03 \%$
Linearity error (relative to the input range)	$\pm 0.0015 \%$
Repeatability (in the settled state at 25°C, relative to the input range)	$\pm 0.01 \%$
Status, Interrupts, Diagnostic Information	
Interrupts	
Limit value interrupt	yes, selectable
Diagnostic interrupt	yes, selectable
Diagnostic Functions	
Group error display	red LED "SF"
Diagnostic information readable	yes
Monitoring for	
Short circuit	$I < 23.8 \text{ mA}^*$
Wire break	$I < 3.6 \text{ mA}$
Data Relevant to Safety	
See EU Prototype Test Certificate: KEMA 01 ATEX 1152 X	
Data for Selecting a Sensor	
Input ranges (nominal values) / input resistance	
Current	4 to 20 mA
Permitted input current for current input (destruction limit)	90 mA
Connection of transducers	
For current measurement	
As 2-wire transducer	possible
Load impedance of the 2-wire transducer	max. 750 Ω

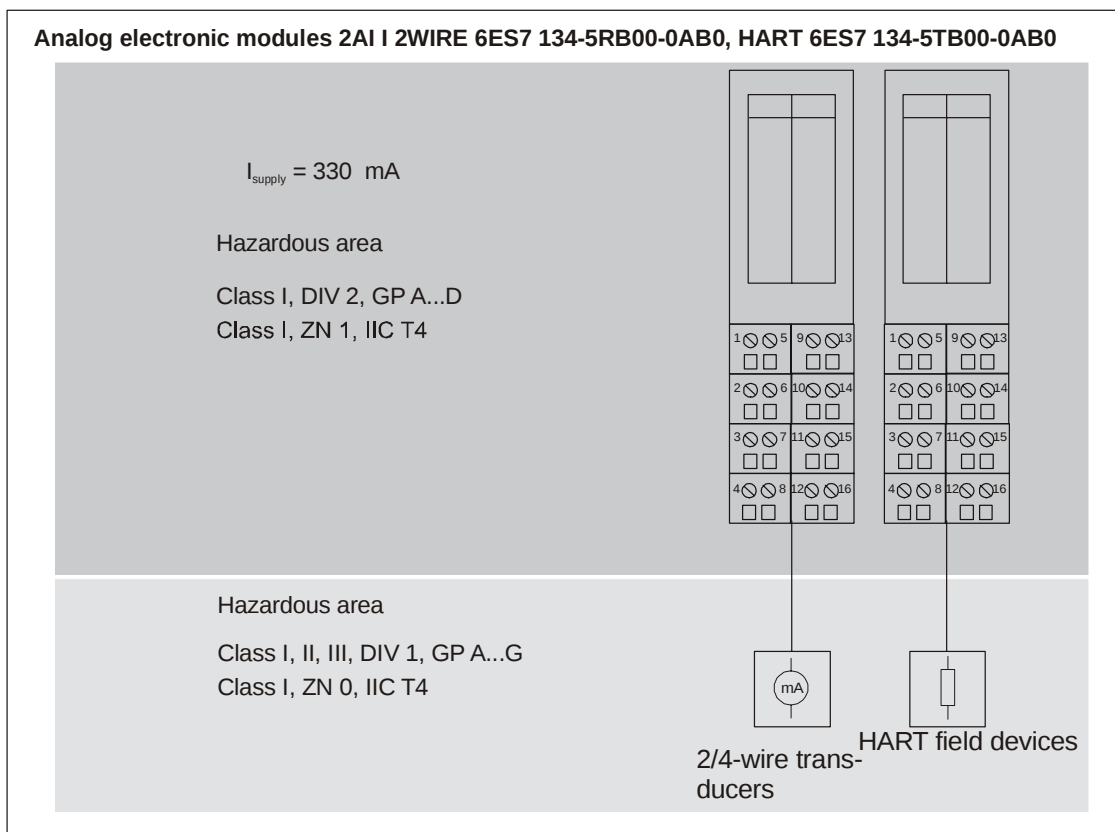
* I is the current limitation. The current limitation cuts in at 27.2 mA. Short circuit at load impedance < 370 Ω .

Intrinsic Safety Control Drawing A5E00158421-01

ET 200iS

6ES7 134-5RB00-0AB0

6ES7 134-5TB00-0AB0



You can find the pin configuration in the manual „SIMATIC ET 200iS Distributed I/O Station“, chapter 14.4 and 15.5 . Also see notes under „system in total“.

Use with TM-E P/N 6ES7 193-5CB*0-0AA0.

The following parameters for the input circuit are applicable for the electronic modules:

	input	
$U_o, V_{oc} [V_{dc}]$	28	
$I_o, I_{sc} [mA]$	85	
$P_o [mW]$	595	
	A,B/IIC	C-G/IIB
$C_o, C_a [nF]$	80	650
$L_o, L_a [mH]$	4	15