MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7134-5RB00-0AB0

TWO-CHANNEL TWO-WIRE CURRENT INPUT

Used with the applicable SIMATIC ET 200iS 2AI I 2WIRE configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens ET 200iS Distributed I/O Station Manual A5E00087831-02, section 14.4, pages 14-45 to 14-48; applicable product information

SIEMENS

SIMATIC

ET 200iS Distributed I/O Station

Manual



The following supplements are part of this documentation:

No.	Designation	Drawing number	Edition
1	Product information	A5E00163808-02	06/2004
2	Product information	A5E00207628-02	02/2004
2	Product information	A5E00158421-01	06/2004

This manual has the order number:
6ES7151-2AA00-8BA0

Edition 10/2001
A5E00087831-02

Contents

Preface 1
Product Overview 2
Brief Instructions on Commissioning 3
Configuration Options 4
Installation 5
Wiring 6
Commissioning and Diagnostics 7
Maintenance 8
General Technical Specifications 9
Terminal Modules 10
Power Supply Module 11
Interface Module 12
Digital Electronics Modules 13
Analog Electronics Modules 14
Analog Electronics Modules with HART 15

Appendix

Order Numbers 16
Dimension Drawings 17
Reaction Times 18
Address Space of the Inputs and Outputs 19
Certifications 20
Marking 21
Glossary 22
Index

14.4 Analog Electronics Module 2AI I 2WIRE

Order Number

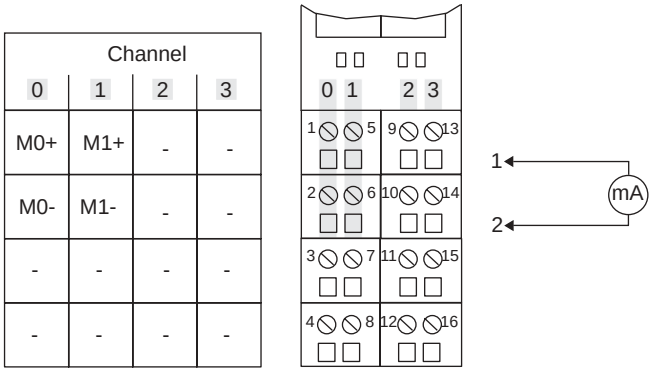
6ES7 134-5RB00-0AB0

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 I 2WIRE

Terminal Assignment and View	Remarks
2DMU on Channel 0  	**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.

Block Diagram

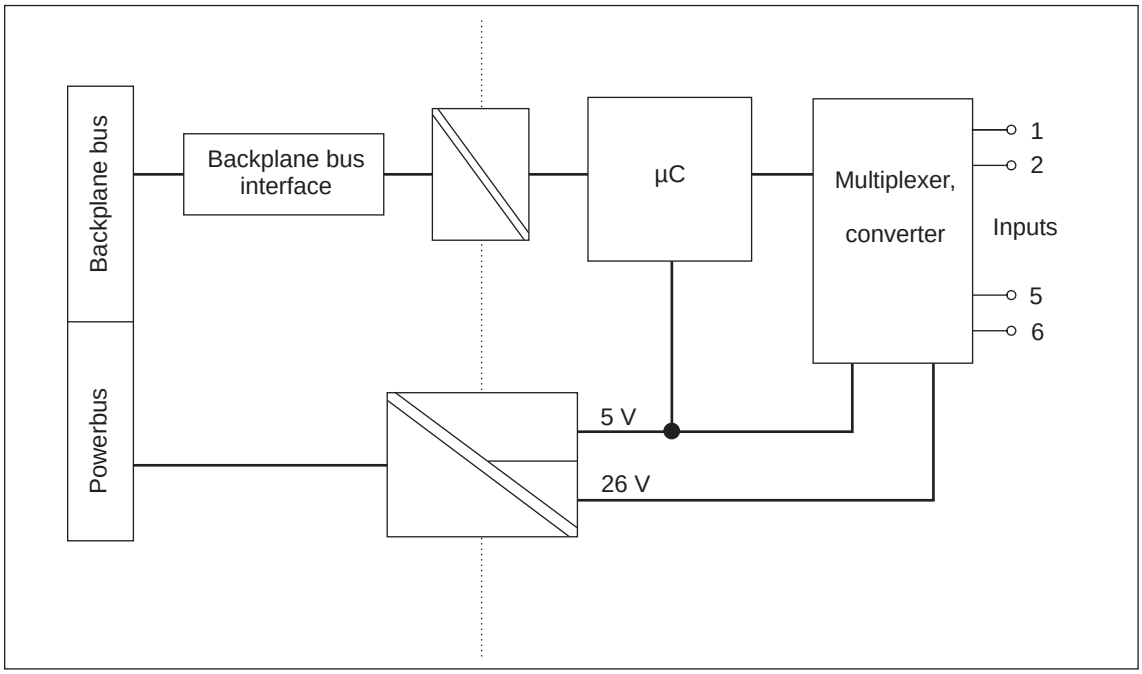


Figure 14-3 Block Diagram of the 2AI I 2WIRE

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:	
	Level	Time constant
	none	1 x cycle time
	weak	4 x cycle time
	medium	32 x cycle time
	strong	64 x cycle time

Interference Suppression, Error Limits	
Interference voltage suppression for f = n x (f1 ± 1 %), (f1 = 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)	± 0.15 %
Basic error limit (operational limit at 25°C, related to the input range)	± 0.1 %
Temperature error (relative to the input range)	± 0.03 %
Linearity error (relative to the input range)	± 0.0015 %
Repeatability (in the settled state at 25°C, relative to the input range)	± 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 mA*
• Wire break	I < 3.6 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 in the current limitation. The current limitation cuts in at 27.2 mA. Short circuit at load impedance < 370 Ω.

8 Standards and certifications of the electronics modules

The electronics modules itemised in Table 6 fulfill the following standards and certifications.

Table 6 Electronics modules

Electronics modules	Order no.
4DI NAMUR	6ES7131-5RD00-0AB0
2DO DC25V/25mA	6ES7132-5SB00-0AB0
2AI I 2WIRE	6ES7134-5RB00-0AB0
2AI I 4WIRE	6ES7134-5RB50-0AB0
2AI RTD	6ES7134-5SB50-0AB0
2AI TC	6ES7134-5SB00-0AB0
2AI I 2WIRE HART	6ES7134-5TB00-0AB0
2AI I 4WIRE HART	6ES7134-5TB50-0AB0
2AO I	6ES7135-5RB00-0AB0
2AO I HART	6ES7135-5TB00-0AB0

ATEX certification



KEMA 01 ATEX 1150, 1151, 1152, 1153, 1154, 1155, 1156 X
according to EN 50014:1997, EN 50020:1994 and EN 50284:1999


II 2 G (1) GD EEx ib [ia] IIC T4

The EC declarations of conformity are kept on file at the following address for the authorities in charge:

Siemens Aktiengesellschaft
Automation and Drives Division
A&D AS RD ST Type Test
Postfach 1963
D-92209 Amberg

Note

Electronics modules of device category 2G may be used in zone 1 hazardous areas. Sensors of device categories 1G, 2G and 3G may be connected to the intrinsically safe inputs of the electronics modules for zones 0, 1 and 2; sensors of device categories 1D, 2D and 3D may be used for zones 20, 21 and 22.