

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

SIEMENS

6ES7151-2AA00-0AB0

INTRINSICALLY SAFE PROFIBUS INTERFACE MODULE

Used with the applicable SIMATIC ET 200iS IM151-2 configuration.

REFERENCE PACKAGE

OFFICIAL DOCUMENT

Selected official manufacturer pages follow this cover.

Source: Siemens SIMATIC ET 200iS IM151-2 manufacturer documentation; applicable pages 189, 190, 191, 385, 386, 387, 388

Interface Module

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12.1 Interface module IM 151-2

Order Number

6ES7 151-2AA00-0AB0

Features

The IM 151-2 interface module has the following characteristics:

- Connects the ET 200iS to PROFIBUS-DP Ex i
- Prepares the data for the inserted electronics modules
- The PROFIBUS address of the ET 200iS can be set at a switch
- Turning off the DC 24V supply voltage at the terminal module TM-PS also turns off the IM 151-2 interface module.
- The maximum area for addresses is 128 bytes for inputs and 128 bytes for outputs.

Block Diagram

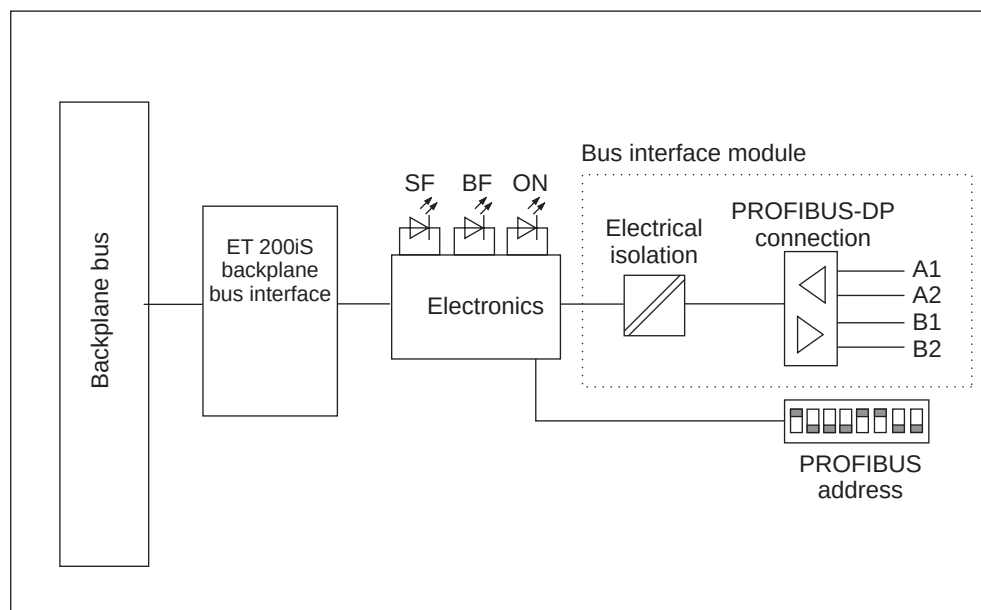


Figure 12-1 Block Diagram of the IM 151-2

Technical Specifications

Table 12-1 Technical Specifications

Dimensions and Weights	
Dimensions	
W x H x D (mm)	30 x 81 x 76
Weight	approx. 80 g
Data Specific to the Module	
Transmission rate	9.6; 19.2; 45.45; 93.75; 187.5; 500 Kbps; 1.5 Mbps
Bus protocol	PROFIBUS-DP Ex i
Interface	RS-485 (intrinsically safe)
SYNC capability	yes
FREEZE capability	yes
Vendor ID	806 _{EH}
PROFIBUS addresses	1 to 125 permitted
Direct Data Exchange	yes, slave to slave as publisher
Constant scan time mode	No

Dimensions and Weights	
Time stamping	yes (STEP 7 only)
• Accuracy class	10 ms
• Time resolution	1 ms
• Number of digital input signals	max. 128
• Message buffer	15 message buffers each for a maximum of 20 messages
• Time interval for sending the message buffers when a message is pending	1 s
• Time stamp	• per digital input
	• per digital input module
	• entire ET 200iS
• Time stamp for	rising/falling change as signal entering or leaving state
• Time-of-day format	RFC 1119 Internet (ISP)
Acyclic function	
• Interrupts	yes
• Diagnostics	yes
• Parameters	yes
• Data records	yes
Type of protection of the module	
• CENELEC	Ex II 2G EEx ib 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
Voltage, Currents, Potentials	
Electrical isolation	
• between backplane bus and electronics	No
• between PROFIBUS-DP Ex i and electronics	yes
Permitted potential difference	
• Insulation tested with	DC 500 V
Power loss of the module	typ. 0.5 W
Status, Interrupts, Diagnostics	
Interrupts	yes
Diagnostic Functions	yes
• Group error	red LED "SF"
• Bus monitoring	red LED "B" F
• Monitoring of the supply voltage of the electronics	green LED "ON"

5 **Technical data of the electronic modules: see Chapters 13, 14 and 15 of the ET 200iS manual**

Maximum current consumption of the electronic modules

Valid for the maximum current consumption is a simultaneity factor of 100 %, that is, all channels of the ET 200iS station are active simultaneously under maximum power consumption.

Table 3 Maximum current consumption of the electronic modules

Electronic module	Maximum current consumption in mA
4DI NAMUR	90 mA
2DO 25VDC/25mA ¹	270 mA
2DO 25VDC/25mA ²	170 mA
2AI I 2WIRE	250 mA
2AI I 4WIRE	50 mA
2AI RTD	50 mA
2AI TC	50 mA
2AO I	250 mA
2AI I 2WIRE HART	250 mA
2AI I 4WIRE HART	50 mA
2AO I HART	250 mA

¹ The maximum current consumption of the connected valves is 25 mA.

² The maximum current consumption of the connected valves is 12 mA.

6 Standards and certifications for the power supply module

The power supply module itemised in Table 4 fulfills the following standards and certifications.

Table 4 Power supply module

Power supply module	Order no.
Power supply module	6ES7138-5EA00-0AA0

ATEX certification



PTB 01 ATEX 2121
according to EN 1127-1:1997, EN 50014:1997+A1+A2, EN 50018:1994,
EN 50019:1994 and EN 50020:1994

 II 2 G EEx de [ib/ia] IIC/IIB 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

UL/CSA certification



HAZ. LOC.

See **Control Drawing A5E00158421-01**

FM certification



See **Control Drawing A5E00158421-01**

7 Standards and certifications for the interface module

The interface module itemised in Table 5 fulfills the following standards and certifications.

Table 5 Interface module

Interface module	Order no.
Interface module	6ES7151-2AA00-0AB0

ATEX certification



PTB 01 ATEX 2122
according to EN 50014:1997+A1+A2 and EN 50020:1994
 II 2 G EEx ib IIB/IIC T4

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

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UL/CSA certification



HAZ. LOC.

See *Control Drawing* A5E00158421-01

FM certification



See *Control Drawing* A5E00158421-01

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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.