

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

PRODUCT BRAND

Siemens

PRODUCT MODEL

6ES7521-1BL00-0AB0

Siemens 6ES7521-1BL00-0AB0 is a SIMATIC S7-1500 high-feature digital input module with thirty-two 24 V DC channels arranged in two groups of sixteen. It provides configurable input delays, diagnostics, hardware interrupts and IEC 61131 type 3 input characteristics.

Channels 0 and 1 can be assigned as 32-bit counters at up to 6 kHz while the other inputs remain available for field signals. Installation requires the correct separately ordered front connector and confirmation of both 24 V channel-group supplies.

OFFICIAL SOURCE

DI 32x24VDC HF Digital Input Module Equipment Manual

A5E03485935-AH

[Open current Siemens source](#)

Product overview

2.1 Properties

Article number:

6ES7521-1BL00-0AB0

View of the module

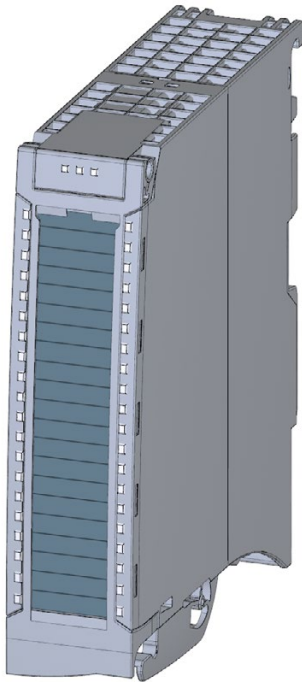


Figure 2-1 View of the DI 32x24VDC HF module

This section contains the block diagram of the module and outlines various wiring options. You will find information on wiring the front connector, establishing a cable shield, etc in the system manual S7-1500/ET 200MP (<http://support.automation.siemens.com/WW/view/en/59191792>) in section Wiring.

Wiring and block diagram

The figure below shows you how to wire the module and the assignment of the channels to the addresses (input byte a to input byte d). You can set parameters so that channels 0 and 1 are used for counting. Channels 2 to 31 can continue to be used as digital inputs.

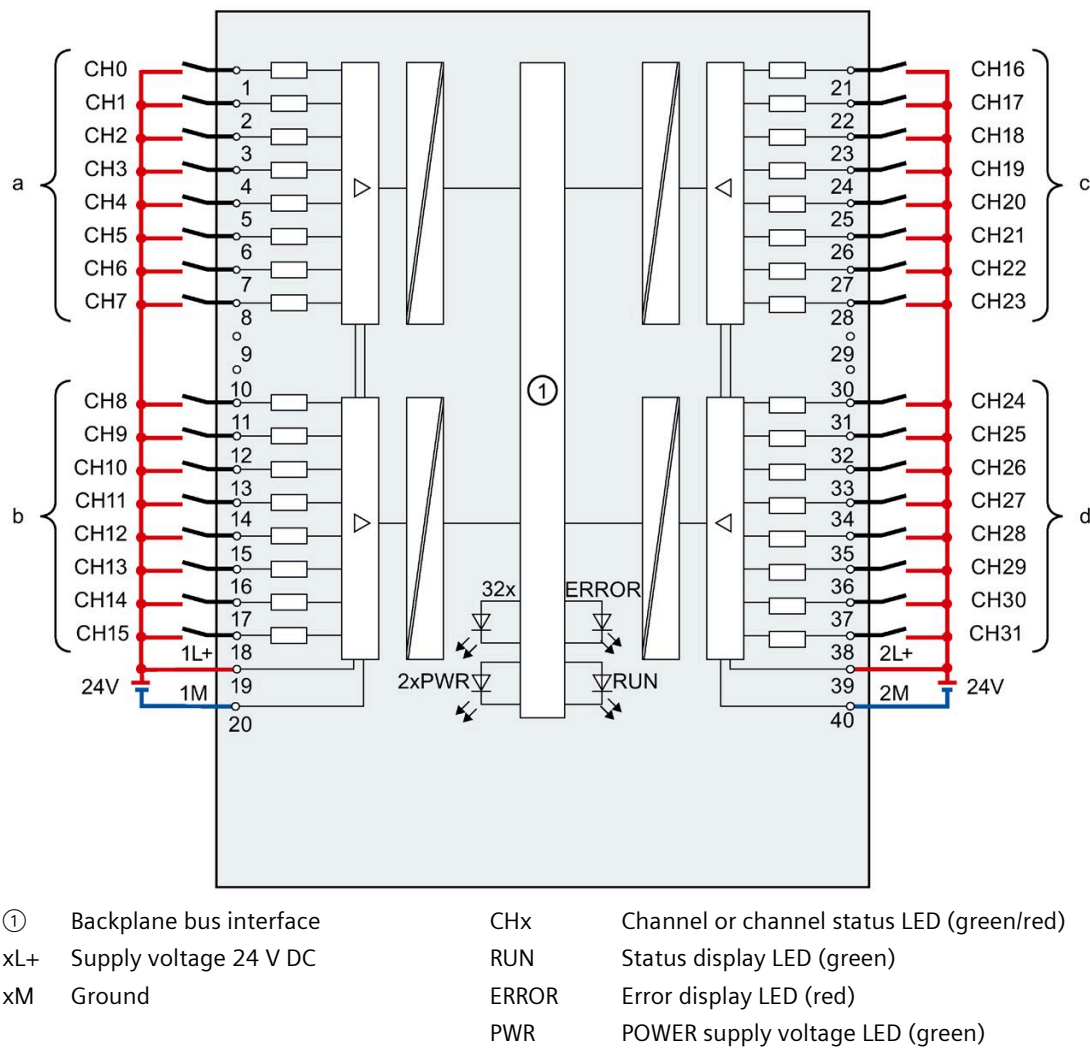


Figure 3-1 Block diagram and terminal assignment

Technical specifications

Technical specifications of the DI 32x24VDC HF

The following table shows the technical specifications as of 05/2022. You will find a data sheet including daily updated technical specifications on the Internet (<https://support.industry.siemens.com/cs/ww/en/pv/6ES7521-1BL00-0AB0/td?dl=en>).

Article number	6ES7521-1BL00-0AB0
General information	
Product type designation	DI 32x24VDC HF
HW functional status	from FS04
Firmware version	V2.2.1
• FW update possible	Yes
Product function	
• I&M data	Yes; I&M0 to I&M3
• Isochronous mode	Yes
• Prioritized startup	Yes
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V13 SP1 / -
• STEP 7 configurable/integrated from version	V5.5 SP3 / -
• PROFIBUS from GSD version/GSD revision	V1.0 / V5.1
• PROFINET from GSD version/GSD revision	V2.3 / -
Operating mode	
• DI	Yes
• Counter	Yes
• Oversampling	No
• MSI	Yes
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Input current	
Current consumption, max.	40 mA; 20 mA per group with 24 V DC supply
Power	
Power available from the backplane bus	1.1 W
Power loss	
Power loss, typ.	4.2 W

Article number	6ES7521-1BL00-0AB0
Digital inputs	
Number of digital inputs	32
Digital inputs, parameterizable	Yes
Source/sink input	P-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Digital input functions, parameterizable	
• Gate start/stop	Yes
• Freely usable digital input	Yes
• Counter	
– Number, max.	2
– Counting frequency, max.	6 kHz; FS04 and FW V2.2.1 or higher
– Counting width	32 bit
– Counting direction up/down	Up
Input voltage	
• Rated value (DC)	24 V
• for signal "0"	-30 to +5 V
• for signal "1"	+11 to +30V
Input current	
• for signal "1", typ.	2.5 mA
Input delay (for rated value of input voltage) for standard inputs	
– parameterizable	Yes; 0.05 / 0.1 / 0.4 / 1.6 / 3.2 / 12.8 / 20 ms
– at "0" to "1", min.	0.05 ms
– at "0" to "1", max.	20 ms
– at "1" to "0", min.	0.05 ms
– at "1" to "0", max.	20 ms
for interrupt inputs	
– parameterizable	Yes
for technological functions	
– parameterizable	Yes
Cable length	
• shielded, max.	1 000 m
• unshielded, max.	600 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
– permissible quiescent current (2-wire sensor), max.	1.5 mA