

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Reference package for procurement and maintenance review

PRODUCT BRAND

Siemens

PRODUCT MODEL

6ES7521-1FH00-0AA0

Siemens 6ES7521-1FH00-0AA0 is a SIMATIC S7-1500 SM 521 digital input module with sixteen 120/230 V AC inputs arranged in groups of four. It is designed for reading mains-voltage field signals through a separately ordered S7-1500 front connector.

The module uses P-reading inputs and requires suitable conductor routing, circuit protection, isolation practices, and channel wiring for the applied AC voltage. The configured rack slot, front connector, field voltage, input delay, and operating orientation must be verified before commissioning.

OFFICIAL SOURCE

SIMATIC S7-1500 SM 521 Technical Data

6ES7521-1FH00-0AA0

[Open current Siemens source](#)

Siemens
EcoTech



Figure similar.

SIMATIC S7-1500, digital input module DI 16x230 V AC BA, 16 channels in groups of 4; input delay 20 ms; Input type 1 (IEC 61131); Front connector (screw terminals or push-in) to be ordered separately

General information	
Product type designation	DI 16x230VAC BA
HW functional status	FS01
Firmware version	V2.0.0
• FW update possible	Yes
Product function	
• I&M data	Yes; i&M0 to i&M3
• Isochronous mode	No
• Prioritized startup	Yes
Engineering with	
• STEP 7 TIA Portal configurable/integrated from version	V12 / V12
• 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	No
• MSI	Yes
Supply voltage	
Reverse polarity protection	Yes
Power	
Power consumption from the backplane bus	1 W
Power loss	
Power loss, typ.	4.9 W
Address area	
Address space per module	
• Inputs	2 byte; typical, maximum 16 bytes; see manual for details
• Outputs	0 byte
Digital inputs	
Number of digital inputs	16
Digital inputs, parameterizable	No
Sourcing/sinking input	P-reading
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Pulse extension	No
Edge evaluation	No

Signal change flutter	No
Flutter observation window	No
Number of simultaneously controllable inputs	
• Number of simultaneously controllable inputs	16
Digital input functions, parameterizable	
• Freely usable digital input	Yes
• Counter	No
• Digital input with oversampling	No
Input voltage	
• Rated value (AC)	230 V; 120/230 V AC, 50/60 Hz
• for signal "0"	0V AC to 40V AC
• for signal "1"	79V AC to 264V AC
Input current	
• for signal "1", typ.	11 mA; At 230 V AC and 5.5 mA at 120 V AC
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	No
— at "0" to "1", max.	25 ms
— at "1" to "0", max.	25 ms
for interrupt inputs	
— parameterizable	No
for technological functions	
— parameterizable	No
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.	2 mA
Interrupts/diagnostics/status information	
Diagnostics function	No
Alarms	
• Diagnostic alarm	No
• Hardware interrupt	No
Diagnoses	
• Monitoring the supply voltage	No
• Wire break	No
• Short-circuit	No
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• Monitoring of the supply voltage (PWR-LED)	No
• Channel status display	Yes; green LED
• for channel diagnostics	No
• for module diagnostics	Yes; red LED
Potential separation	
Potential separation channels	
• between the channels	No
• between the channels, in groups of	4
• between the channels and backplane bus	Yes
Permissible potential difference	
between different circuits	250 V AC between the channels and the backplane bus; 500 V AC between the channels
Isolation	
Isolation tested with	3 100 V DC
Standards, approvals, certificates	
Siemens Eco Profile (SEP)	Siemens EcoTech
Suitable for safety functions	No

Ecological footprint	
• environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	18.9 kg
— global warming potential, (during production) [CO2 eq]	12.1 kg
— global warming potential, (during operation) [CO2 eq]	7.66 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-1.02 kg
Security	
signed firmware update	Yes; Firmware V3.0.0 or higher
safely removing data	No
data integrity	Yes; Firmware V3.0.0 or higher
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	-30 °C; From FS05
• horizontal installation, max.	60 °C
• vertical installation, min.	-30 °C; From FS05
• vertical installation, max.	40 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	Restrictions for installation altitudes > 2 000 m, see manual
Absolute humidity	
• dew point, min.	-60 °C; suitable for dry room applications
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	300 g
Other:	
Note:	please order front connectors (screw-in/push-in) separately
Classifications	

	Version	Classification
eClass	16	27-24-22-04
eClass	14	27-24-22-04
eClass	12	27-24-22-04
eClass	9.1	27-24-22-04
eClass	9	27-24-22-04
eClass	8	27-24-22-04
eClass	7.1	27-24-22-04
eClass	6	27-24-22-04
ETIM	10	EC001419
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates	
General Product Approval	

[Miscellaneous](#)

[Manufacturer Declaration](#)



General Product Approval

For use in hazardous locations