

Siemens
EcoTech



SIMATIC S7-1500, digital input module DI 16x24 V DC HF, 16 channels in groups of 16; of which 2 inputs as counters can be used; input delay 0.05..20 ms; input type 3 (IEC 61131); diagnostics; hardware interrupts: front connector (screw terminals or push-in) to be ordered separately

General information	
Product type designation	DI 16x24VDC HF
HW functional status	from FS04
Firmware version	V2.2.0
<ul style="list-style-type: none"> FW update possible 	Yes
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> Isochronous mode 	Yes
<ul style="list-style-type: none"> Prioritized startup 	Yes
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated from version 	V13 SP1 / -
<ul style="list-style-type: none"> STEP 7 configurable/integrated from version 	V5.5 SP3 / -
<ul style="list-style-type: none"> PROFIBUS from GSD version/GSD revision 	V1.0 / V5.1
<ul style="list-style-type: none"> PROFINET from GSD version/GSD revision 	V2.3 / -
Operating mode	
<ul style="list-style-type: none"> DI 	Yes
<ul style="list-style-type: none"> Counter 	Yes
<ul style="list-style-type: none"> Oversampling 	No
<ul style="list-style-type: none"> 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.	20 mA
Power	
Power consumption from the backplane bus	1.1 W
Power loss	
Power loss, typ.	2.6 W
Address area	
Address space per module	
<ul style="list-style-type: none"> Inputs 	2 byte
<ul style="list-style-type: none"> Outputs 	0 byte
Digital inputs	
Number of digital inputs	16

Digital inputs, parameterizable	Yes
Sourcing/sinking input	P-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes
Pulse extension	No
Edge evaluation	Yes; Positive edge, negative edge
Signal change flutter	No
Flutter observation window	No
Number of simultaneously controllable inputs	
• Number of simultaneously controllable inputs	16
Digital input functions, parameterizable	
• Gate start/stop	Yes
• Freely usable digital input	Yes
• Counter	
— Number, max.	2
— Counting frequency, max.	6 kHz
— Counting width	32 bit
— Counting direction up/down	Up
• Digital input with oversampling	No
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
Isochronous mode	
Filtering and processing time (TCI), min.	80 µs; At 50 µs filter time
Bus cycle time (TDP), min.	250 µs
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
• Diagnostic alarm	Yes
• Hardware interrupt	Yes
Diagnoses	
• Monitoring the supply voltage	Yes
• Wire break	Yes; to I < 350 µA
• Short-circuit	No
Diagnostics indication LED	
• RUN LED	Yes; green LED
• ERROR LED	Yes; red LED
• Monitoring of the supply voltage (PWR-LED)	Yes; green LED
• Channel status display	Yes; green LED

• for channel diagnostics	Yes; red LED	
• for module diagnostics	Yes; red LED	
Potential separation		
Potential separation channels		
• between the channels	No	
• between the channels, in groups of	16	
• between the channels and backplane bus	Yes	
• Between the channels and load voltage L+	No	
• between the channels and the power supply of the electronics	No	
Isolation		
Isolation tested with	707 V DC (type test)	
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	No	
safely removing data	No	
data integrity	No	
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.	5 000 m; 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.	240 g	
Classifications		
	Version	Classification
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	Test Certificates	other
--------------------------	-------------------	-------

[Miscellaneous](#)



[Confirmation](#)

[Miscellaneous](#)

[Confirmation](#)



Railway	Dangerous goods	Environment
---------	-----------------	-------------

[Special Test Certificate](#)

[Transport Information](#)

[Environmental Confirmations](#)

Siemens EcoTech



[Environmental Confirmations](#)



last modified:

5/7/2026