

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
• 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.	20 mA
Power	
Power available from the backplane bus	1.1 W
Power loss	
Power loss, typ.	2.6 W
Digital inputs	
Number of digital inputs	16
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 • Counter — Number, max. — Counting frequency, max. — Counting width — Counting direction up/down	Yes 2 6 kHz 32 bit Up
Input voltage	
• Rated value (DC) • for signal "0" • for signal "1"	24 V -30 to +5 V +11 to +30V
Input current	
• for signal "1", typ.	2.5 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable — at "0" to "1", min. — at "0" to "1", max. — at "1" to "0", min. — at "1" to "0", max.	Yes; 0.05 / 0.1 / 0.4 / 1.6 / 3.2 / 12.8 / 20 ms 0.05 ms 20 ms 0.05 ms 20 ms
for interrupt inputs	
— parameterizable	Yes
for technological functions	
— parameterizable	Yes
Cable length	
• shielded, max. • unshielded, max.	1 000 m 600 m
Encoder	
Connectable encoders	
• 2-wire sensor — permissible quiescent current (2-wire sensor), max.	Yes 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 • Hardware interrupt	Yes Yes
Diagnoses	
• Monitoring the supply voltage • Wire-break • Short-circuit	Yes Yes; to I < 350 µA No
Diagnostics indication LED	
• RUN LED • ERROR LED • Monitoring of the supply voltage (PWR-LED) • Channel status display • for channel diagnostics • for module diagnostics	Yes; green LED Yes; red LED Yes; green LED Yes; green LED Yes; red LED Yes; red LED
Potential separation	
Potential separation channels	
• between the channels • between the channels, in groups of • between the channels and backplane bus • between the channels and the power supply of the electronics	No 16 Yes 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				
product functions / security / header					
signed firmware update	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				
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	9	EC001419		
	ETIM	8	EC001419		
	ETIM	7	EC001419		
	IDEA	4	3566		
	UNSPSC	15	32-15-17-05		
Approvals / Certificates					
General Product Approval					
Manufacturer Declaration	 EG-Konf.		 UL	KC	 RCM
For use in hazardous locations					
 IECEX	FM	 UL	FM	CCC-Ex	 ATEX
For use in hazardous locations			Marine / Shipping		

[Type Examination Certificate](#)



[Miscellaneous](#)



Marine / Shipping



[NK / Nippon Kaiji Kyokai](#)



[CCS \(China Classification Society\)](#)



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