

SIMATIC S7-1500, DIGITAL INPUT MODULE DI16 X DC24V, 16 CHANNELS IN GROUPS OF 16; INPUT DELAY 0.05 ... 20MS; INPUT TYPE 3 (IEC 61131); DIAGNOSIS, PROCESSALARMS



General information	
Product type designation	DI 16x24 V DC HF
HW functional status	FS01
Firmware version	V2.1.0
Product function	
<ul style="list-style-type: none"> I&M data 	Yes; I&M0 to I&M3
Engineering with	
<ul style="list-style-type: none"> STEP 7 TIA Portal configurable/integrated as of version 	V13 SP1 / -
<ul style="list-style-type: none"> STEP 7 configurable/integrated as of version 	V5.5 SP3 / -
<ul style="list-style-type: none"> PROFIBUS as of GSD version/GSD revision 	V1.0 / V5.1
<ul style="list-style-type: none"> PROFINET as of 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"> MSI 	Yes
Supply voltage	
Rated value (DC)	24 V

permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes

Input current

Current consumption, max.	20 mA; with 24 V DC supply
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Power

Power available from the backplane bus	1.1 W
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Power loss

Power loss, typ.	2.6 W
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Digital inputs

Number of digital inputs	16
Digital inputs, parameterizable	Yes
m/p-reading	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.	1 kHz
— Counting width	32 bit
— Counting direction up/down	Up

Input voltage

• Type of input voltage	DC
• Rated value (DC)	24 V
• for signal "0"	-30 to +5V
• for signal "1"	+11 to +30V

Input current

• for signal "1", typ.	2.5 mA
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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 counter/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	
Isochronous operation (application synchronized up to terminal)	Yes
Filtering and processing time (TCI), min.	80 μ s; At 50 μ s filter time
Bus cycle time (TDP), min.	250 μ s

Interrupts/diagnostics/status information	
Alarms	
• Diagnostic alarm	Yes
• Hardware interrupt	Yes
Diagnostic messages	
• Diagnostics	Yes
• Monitoring the supply voltage	Yes
• Wire-break	Yes; to I < 350 μ A
• Short-circuit	No
• Fuse blown	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 the power supply of the electronics	No

Permissible potential difference	
between different circuits	75 V DC/60 V AC (base isolation)

Isolation	
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Isolation tested with	707 V DC (type test)
Decentralized operation	
Prioritized startup	Yes
Dimensions	
Width	35 mm
Height	147 mm
Depth	129 mm
Weights	
Weight, approx.	240 g
last modified:	03.12.2015