



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

Product type designation	
<b>General information</b>	
HW functional status	E01
<b>Product function</b>	
• I&M data	Yes; I&M0 to I&M3
<b>Engineering with</b>	
• STEP 7 can be configured/integrated as of version	V5.5 SP3 / -
• PROFIBUS as of GSD version/GSD revision	V1.0 / V5.1
• PROFINET as of GSD version/GSD revision	V2.3 / -
<b>Operating mode</b>	
• Counter	Yes
• MSI	Yes
<b>Supply voltage</b>	
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
<b>Input current</b>	
Current consumption, max.	20 mA; with 24 V DC supply
<b>Power</b>	
Power available from the backplane bus	1.1 W
<b>Power losses</b>	

Power loss, typ.	2.6 W
<b>Digital inputs</b>	
Number of digital inputs	16
Digital inputs, configurable	Yes
m/p-reading	p-reading
Input characteristic curve in accordance with IEC 61131, type 3	Yes
<b>Digital input functions, parameterizable</b>	
• Gate start/stop	Yes
• Freely usable digital input	Yes
• Counter	
— Number, max.	2
— Counting frequency, max.	1 kHz
— Counting width	32 bit
<b>Input voltage</b>	
• Type of input voltage	DC
• Rated value (DC)	24 V
• for signal "0"	-30 to +5V
• for signal "1"	+11 to +30V
<b>Input current</b>	
• for signal "1", typ.	2.5 mA
<b>Input delay (for rated value of input voltage)</b>	
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
<b>Cable length</b>	
• shielded, max.	1 000 m
• Unshielded, max.	600 m
<b>Encoder</b>	
Connectable encoders	
• 2-wire sensor	Yes
— Permissible quiescent current (2-wire sensor), max.	1.5 mA
<b>Isochronous mode</b>	

Isochronous operation (application synchronized up to terminal)	Yes
Filtering and processing time (TCI), min.	80 µs; At 50 µs filter time
Bus cycle time (TDP), min.	250 µs

### 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 µA |
| • 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   |

### Galvanic isolation

#### Electrical isolation channels

- |  |     |
|--|-----|
| • between the channels   | No  |
| • between the channels, in groups of                             | 16  |
| • between the channels and the backplane bus                     | Yes |
| • between the channels and the supply voltage of the electronics | No  |

#### Permissible potential difference

between different circuits	75 V DC/60 V AC (base isolation)
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#### Isolation

Isolation checked with	707 V DC (type test)
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#### Decentralized operation

Fast Startup supported	Yes; 500 ms
Prioritized startup	Yes

#### Dimensions

Width	35 mm
Height	147 mm
Depth	129 mm

#### Weights

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Weight, approx.

240 g

**last modified:**

12.03.2015