

SIMATIC S7-1500, digital input module DI 32x24 V DC HF, 32 channels in groups of 16; 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



Figure similar

General information	
Product type designation	DI 32x24VDC HF
HW functional status	from FS04
Firmware version	V2.2.1
<ul style="list-style-type: none"> <li>FW update possible</li> </ul>	Yes
Product function	
<ul style="list-style-type: none"> <li>I&amp;M data</li> </ul>	Yes; I&M0 to I&M3
<ul style="list-style-type: none"> <li>Isochronous mode</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Prioritized startup</li> </ul>	Yes
Engineering with	
<ul style="list-style-type: none"> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	V13 SP1 / -
<ul style="list-style-type: none"> <li>STEP 7 configurable/integrated from version</li> </ul>	V5.5 SP3 / -
<ul style="list-style-type: none"> <li>PROFIBUS from GSD version/GSD revision</li> </ul>	V1.0 / V5.1
<ul style="list-style-type: none"> <li>PROFINET from GSD version/GSD revision</li> </ul>	V2.3 / -
Operating mode	
<ul style="list-style-type: none"> <li>DI</li> </ul>	Yes

- Counter Yes
- Oversampling No
- 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.	40 mA; 20 mA per group with 24 V DC supply
---------------------------	--

### Power

Power available from the backplane bus	1.1 W
--	-------

### Power loss

Power loss, typ.	4.2 W
------------------	-------

### Digital inputs

Number of digital inputs	32
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 Yes
- Counter
  - Number, max. 2
  - Counting frequency, max. 3 kHz; FS04 and FW V2.2.1 or higher
  - Counting width 32 bit
  - Counting direction up/down Up

### Input voltage

- Rated value (DC) 24 V
  - 24 V DC Yes
- 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
<b>for interrupt inputs</b>	
— parameterizable	Yes
<b>for technological functions</b>	
— parameterizable	Yes
<b>Cable length</b>	
• shielded, max.	1 000 m
• unshielded, max.	600 m
<b>Encoder</b>	
<b>Connectable encoders</b>	
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
<b>Isochronous mode</b>	
Filtering and processing time (TCI), min.	80 µs; At 50 µs filter time
Bus cycle time (TDP), min.	250 µs
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
• Hardware interrupt	Yes
<b>Diagnoses</b>	
• Monitoring the supply voltage	Yes
• Wire-break	Yes; to I < 350 µA
• Short-circuit	No
<b>Diagnostics indication LED</b>	
• 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
<b>Potential separation</b>	
<b>Potential separation channels</b>	
• between the channels	Yes
• 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

Isolation	
Isolation tested with	707 V DC (type test)
Standards, approvals, certificates	
Suitable for safety functions	No
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> <li>• horizontal installation, min.</li> <li>• horizontal installation, max.</li> <li>• vertical installation, min.</li> <li>• vertical installation, max.</li> </ul>	<ul style="list-style-type: none"> <li>-30 °C; From FS05</li> <li>60 °C</li> <li>-30 °C; From FS05</li> <li>40 °C</li> </ul>
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> </ul>	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.	260 g
<b>last modified:</b>	09/11/2020