



Figure similar

SIMATIC S7-1500, digital input module DI 32x24 V DC HF, 32 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 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
<ul style="list-style-type: none"> <li>Counter</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Oversampling</li> </ul>	No
<ul style="list-style-type: none"> <li>MSI</li> </ul>	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.	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	

<ul style="list-style-type: none"> <li>• Gate start/stop</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Freely usable digital input</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Counter <ul style="list-style-type: none"> <li>— Number, max.</li> </ul> </li> </ul>	2
<ul style="list-style-type: none"> <li>— Counting frequency, max.</li> </ul>	6 kHz; FS04 and FW V2.2.1 or higher
<ul style="list-style-type: none"> <li>— Counting width</li> </ul>	32 bit
<ul style="list-style-type: none"> <li>— Counting direction up/down</li> </ul>	Up
<b>Input voltage</b>	
<ul style="list-style-type: none"> <li>• Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>• for signal "0"</li> </ul>	-30 to +5 V
<ul style="list-style-type: none"> <li>• for signal "1"</li> </ul>	+11 to +30V
<b>Input current</b>	
<ul style="list-style-type: none"> <li>• for signal "1", typ.</li> </ul>	2.5 mA
<b>Input delay (for rated value of input voltage)</b>	
for standard inputs	
<ul style="list-style-type: none"> <li>— parameterizable</li> </ul>	Yes; 0.05 / 0.1 / 0.4 / 1.6 / 3.2 / 12.8 / 20 ms
<ul style="list-style-type: none"> <li>— at "0" to "1", min.</li> </ul>	0.05 ms
<ul style="list-style-type: none"> <li>— at "0" to "1", max.</li> </ul>	20 ms
<ul style="list-style-type: none"> <li>— at "1" to "0", min.</li> </ul>	0.05 ms
<ul style="list-style-type: none"> <li>— at "1" to "0", max.</li> </ul>	20 ms
for interrupt inputs	
<ul style="list-style-type: none"> <li>— parameterizable</li> </ul>	Yes
for technological functions	
<ul style="list-style-type: none"> <li>— parameterizable</li> </ul>	Yes
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	1 000 m
<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	600 m
<b>Encoder</b>	
Connectable encoders	
<ul style="list-style-type: none"> <li>• 2-wire sensor</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— permissible quiescent current (2-wire sensor), max.</li> </ul>	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>	
<ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Hardware interrupt</li> </ul>	Yes
<b>Diagnoses</b>	
<ul style="list-style-type: none"> <li>• Monitoring the supply voltage</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Wire-break</li> </ul>	Yes; to I < 350 µA
<ul style="list-style-type: none"> <li>• Short-circuit</li> </ul>	No
<b>Diagnostics indication LED</b>	
<ul style="list-style-type: none"> <li>• RUN LED</li> </ul>	Yes; green LED
<ul style="list-style-type: none"> <li>• ERROR LED</li> </ul>	Yes; red LED
<ul style="list-style-type: none"> <li>• Monitoring of the supply voltage (PWR-LED)</li> </ul>	Yes; green LED
<ul style="list-style-type: none"> <li>• Channel status display</li> </ul>	Yes; green LED
<ul style="list-style-type: none"> <li>• for channel diagnostics</li> </ul>	Yes; red LED
<ul style="list-style-type: none"> <li>• for module diagnostics</li> </ul>	Yes; red LED
<b>Potential separation</b>	
Potential separation channels	
<ul style="list-style-type: none"> <li>• between the channels</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• between the channels, in groups of</li> </ul>	16
<ul style="list-style-type: none"> <li>• between the channels and backplane bus</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• between the channels and the power supply of the electronics</li> </ul>	No
<b>Isolation</b>	
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>	7/30/2021 