



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> <li>— Counting frequency, max.</li> <li>— Counting width</li> <li>— Counting direction up/down</li> </ul> </li> </ul>                | <p>2<br/>6 kHz; FS04 and FW V2.2.1 or higher<br/>32 bit<br/>Up</p>   |
| <b>Input voltage</b>   |  |
| <ul style="list-style-type: none"> <li>• Rated value (DC)</li> <li>• for signal "0"</li> <li>• for signal "1"</li> </ul>   | <p>24 V<br/>-30 to +5 V<br/>+11 to +30V</p>  |
| <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> <li>— at "0" to "1", min.</li> <li>— at "0" to "1", max.</li> <li>— at "1" to "0", min.</li> <li>— at "1" to "0", max.</li> </ul>  | <p>Yes; 0.05 / 0.1 / 0.4 / 1.6 / 3.2 / 12.8 / 20 ms<br/>0.05 ms<br/>20 ms<br/>0.05 ms<br/>20 ms</p>            |
| 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> <li>• unshielded, max.</li> </ul>   | <p>1 000 m<br/>600 m</p>   |
| <b>Encoder</b>   |  |
| Connectable encoders   |  |
| <ul style="list-style-type: none"> <li>• 2-wire sensor <ul style="list-style-type: none"> <li>— permissible quiescent current (2-wire sensor), max.</li> </ul> </li> </ul>   | <p>Yes<br/>1.5 mA</p>  |
| <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> <li>• Hardware interrupt</li> </ul>   | <p>Yes<br/>Yes</p>   |
| <b>Diagnoses</b>   |  |
| <ul style="list-style-type: none"> <li>• Monitoring the supply voltage</li> <li>• Wire-break</li> <li>• Short-circuit</li> </ul>   | <p>Yes<br/>Yes; to I &lt; 350 µA<br/>No</p>  |
| <b>Diagnostics indication LED</b>  |  |
| <ul style="list-style-type: none"> <li>• RUN LED</li> <li>• ERROR LED</li> <li>• Monitoring of the supply voltage (PWR-LED)</li> <li>• Channel status display</li> <li>• for channel diagnostics</li> <li>• for module diagnostics</li> </ul>    | <p>Yes; green LED<br/>Yes; red LED<br/>Yes; green LED<br/>Yes; green LED<br/>Yes; red LED<br/>Yes; red LED</p> |
| <b>Potential separation</b>  |  |
| Potential separation channels  |  |
| <ul style="list-style-type: none"> <li>• between the channels</li> <li>• between the channels, in groups of</li> <li>• between the channels and backplane bus</li> <li>• between the channels and the power supply of the electronics</li> </ul> | <p>Yes<br/>16<br/>Yes<br/>No</p>   |
| <b>Isolation</b>   |  |
| Isolation tested with  | 707 V DC (type test)   |
| <b>Standards, approvals, certificates</b>  |  |
| Suitable for safety functions  | No   |
| <b>Ambient conditions</b>  |  |
| 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. | 260 g |
|-----------------|-------|

**last modified:** 7/30/2021 