



SIMATIC S7-1200, Digital input SM 1226, F-DI 16X 24 V DC, PROFIsafe, 70 mm overall width, up to PL E (ISO 13849-1)/ SIL3 (IEC 61508)

General information	
Product type designation	SM 1226, F-DI 16x24 V DC
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
power supply according to NEC Class 2 required	No
Input current	
from backplane bus 5 V DC, max.	155 mA; Current consumption (SM Bus, 5 V DC): 155 mA
Digital inputs	
<ul style="list-style-type: none"> <li>from load voltage L+ (without load), max.</li> </ul>	130 mA; 130 mA + 6 mA / input used + any Vs1/Vs2 current used
Power loss	
Power loss, typ.	7 W
Digital inputs	
Number of digital inputs	16; 16 (1oo1) or 8 (1oo2); Note: You can individually assign each pair of inputs "a.x" and "b.x" as a single (1oo2)-channel or as 2 separate (1oo1)-channels
Number of simultaneously controllable inputs	
horizontal installation	
— up to 50 °C, max.	16; 16 inputs at 55 °C horizontal
vertical installation	
— up to 40 °C, max.	16; 16 inputs at 45 °C vertical
Input voltage	
<ul style="list-style-type: none"> <li>for signal "0"</li> </ul>	-30 V DC to +5 V DC
<ul style="list-style-type: none"> <li>for signal "1"</li> </ul>	15 V DC to 30 V DC
Input current	
<ul style="list-style-type: none"> <li>for signal "0", max. (permissible quiescent current)</li> </ul>	0.5 mA
<ul style="list-style-type: none"> <li>for signal "1", typ.</li> </ul>	5 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.8 / 1.6 / 3.2 / 6.4 / 12.8 ms
Cable length	
<ul style="list-style-type: none"> <li>shielded, max.</li> </ul>	200 m; unshielded with input filter time of 1.6 ms to 12.6 ms (With an input delay of 0.8 ms, shielded cables must be used for the digital inputs and the sensor supply)
<ul style="list-style-type: none"> <li>unshielded, max.</li> </ul>	200 m; Shielded with input filter time of 0.8 ms to 12.6 s (With an input delay of 0.8 ms, shielded cables must be used for the digital inputs and the sensor supply)
Interrupts/diagnostics/status information	
Diagnostics indication LED	
<ul style="list-style-type: none"> <li>for status of the inputs</li> </ul>	Yes

<b>Degree and class of protection</b>	
IP degree of protection	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
cULus	Yes
FM approval	Yes
<b>Highest safety class achievable in safety mode</b>	
<ul style="list-style-type: none"> <li>• Performance level according to ISO 13849-1</li> <li>• SIL acc. to IEC 61508</li> </ul>	1-channel, Category 3, PL d; 2-channel, Category 3 or 4, PL e SIL 2 (single-channel), SIL 3 (two-channel)
<b>Probability of failure (for service life of 20 years and repair time of 100 hours)</b>	
— Low demand mode: PFDavg in accordance with SIL2	< 5.00E-04
— Low demand mode: PFDavg in accordance with SIL3	< 1.00E-05
— High demand/continuous mode: PFH in accordance with SIL2	< 1.00E-08 1/h
— High demand/continuous mode: PFH in accordance with SIL3	< 1.00E-10 1/h
<b>Ambient conditions</b>	
<b>Free fall</b>	
<ul style="list-style-type: none"> <li>• Fall height, max.</li> </ul>	0.3 m; five times, in product package
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> <li>• permissible temperature change</li> </ul>	0 °C 55 °C 5°C to 55°C, 3°C / minute
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	-40 °C 70 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
<ul style="list-style-type: none"> <li>• Storage/transport, min.</li> <li>• Storage/transport, max.</li> </ul>	660 hPa 1 080 hPa
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>• Operation at 25 °C without condensation, max.</li> </ul>	95 %
<b>Mechanics/material</b>	
Enclosure material (front)	
<ul style="list-style-type: none"> <li>• Plastic</li> </ul>	Yes
<b>Dimensions</b>	
Width	70 mm
Height	100 mm
Depth	75 mm
<b>Weights</b>	
Weight, approx.	250 g

**last modified:** 10/7/2021 