

SIPLUS S7-1200 SM 1221 16DI -25...+70 °C with conformal coating based on 6ES7221-1BH32-0XB0 . Digital input 16 DI, 24 V DC, Sink/Source



Figure similar

General information	
Product type designation	SM 1221, DI 16x24 V DC
Supply voltage	
Rated value (DC)	Yes
<ul style="list-style-type: none"> <li>• 24 V DC</li> </ul>	
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
from backplane bus 5 V DC, max.	130 mA
Digital inputs	
<ul style="list-style-type: none"> <li>• from load voltage L+ (without load), max.</li> </ul>	4 mA; per channel
Output voltage	
Power supply to the transmitters	
<ul style="list-style-type: none"> <li>• present</li> </ul>	Yes
Power loss	
Power loss, typ.	2.5 W

Digital inputs	
Number of digital inputs	16
<ul style="list-style-type: none"> <li>• in groups of</li> </ul>	4
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	16
horizontal installation	
— up to 40 °C, max.	16
— up to 50 °C, max.	16
vertical installation	
— up to 40 °C, max.	16
Input voltage	
<ul style="list-style-type: none"> <li>• Type of input voltage</li> </ul>	DC
<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>	5 V DC at 1 mA
<ul style="list-style-type: none"> <li>• for signal "1"</li> </ul>	15 V DC at 2.5 mA
Input current	
<ul style="list-style-type: none"> <li>• for signal "0", max. (permissible quiescent current)</li> </ul>	1 mA
<ul style="list-style-type: none"> <li>• for signal "1", min.</li> </ul>	2.5 mA
<ul style="list-style-type: none"> <li>• for signal "1", typ.</li> </ul>	4 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in groups of four
for interrupt inputs	
— parameterizable	Yes
Cable length	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	500 m
<ul style="list-style-type: none"> <li>• unshielded, max.</li> </ul>	300 m
Interrupts/diagnostics/status information	
Alarms	Yes
Diagnostic functions	Yes
Alarms	
<ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>	Yes
Diagnostic messages	
<ul style="list-style-type: none"> <li>• Monitoring the supply voltage</li> </ul>	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> <li>• for status of the inputs</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• for maintenance</li> </ul>	Yes

Potential separation	
Potential separation digital inputs	
<ul style="list-style-type: none"> <li>• between the channels, in groups of</li> </ul>	4
Degree and class of protection	
Degree of protection acc. to EN 60529	
<ul style="list-style-type: none"> <li>• IP20</li> </ul>	Yes
Standards, approvals, certificates	
CE mark	
	Yes
Ambient conditions	
Free fall	
<ul style="list-style-type: none"> <li>• Fall height, max.</li> </ul>	0.3 m; five times, in product package
Ambient temperature during operation	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	-40 °C; = Tmin; Startup @ -25 °C 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated inputs 8 (no adjacent points) for horizontal mounting position
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	-40 °C 70 °C
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> <li>• Ambient air temperature-barometric pressure-altitude</li> </ul>	5 000 m Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax - 20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
<ul style="list-style-type: none"> <li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Coolants and lubricants	
— Resistant to commercially available coolants and lubricants	Yes
Use in stationary industrial systems	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request

— to chemically active substances according to EN 60721-3-6  
— to mechanically active substances according to EN 60721-3-6

Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); \*  
Yes; Class 6S3 incl. sand, dust; \*

from supply voltage 1L+

— Note regarding classification of environmental conditions acc. to EN 60721

\* The supplied plug covers must remain in place over the unused interfaces during operation!

### Connection method

required front connector

Yes

### Mechanics/material

Enclosure material (front)

- Plastic

Yes

### Dimensions

Width

45 mm

Height

100 mm

Depth

75 mm

### Weights

Weight, approx.

210 g

**last modified:**

05/16/2018