SIEMENS

Data sheet 6ES7221-1BF32-0XB0

SIMATIC S7-1200, DIGITAL INPUT SM 1221, 8DI, 24V DC, SINK/SOURCE INPUT



Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
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.	105 mA
Digital inputs	
• from load voltage L+ (without load), max.	4 mA; per channel
Output voltage	
Power supply to the transmitters	
• present	Yes
Power loss	
Power loss, typ.	1.5 W
Digital inputs	
Number of digital inputs	8
• in groups of	2

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Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	8
horizontal installation	
— up to 40 °C, max.	8
— up to 50 °C, max.	8
vertical installation	
— up to 40 °C, max.	8
Input voltage	
• Type of input voltage	DC
• Rated value (DC)	24 V
• for signal "0"	5 V DC at 1 mA
• for signal "1"	15 VDC at 2.5 mA
Input current	
• for signal "0", max. (permissible quiescent current)	1 mA
• for signal "1", min.	2.5 mA
• for signal "1", typ.	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	
• shielded, max.	500 m
• unshielded, max.	300 m
Interrupts/diagnostics/status information	
Alarms	
• Alarms	Yes
• Diagnostic alarm	Yes
Diagnostics indication LED	
• for status of the inputs	Yes
• for maintenance	Yes
• Status indicator digital input (green)	Yes
Potential separation	
Potential separation digital inputs	
• between the channels, in groups of	2
Degree and class of protection	

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Degree of protection acc. to EN 60529	
• IP20	Yes

Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes

Ambient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in dispatch package
Ambient temperature during operation	
• permissible temperature range	-20 °C to +60 °C horizontal mounting, -20 °C to 50 °C vertical mounting, 95% humidity, non-condensing
• min.	-20 °C
• max.	60 °C
• permissible temperature change	5°C to 55°C, 3°C / minute
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
• Storage/transport, min.	660 hPa
• Storage/transport, max.	1 080 hPa
Relative humidity	
• permissible range (without condensation) at 25 °C	95 %

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.	170 g

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