



Figure similar

SIMATIC S7-1200 G2: SB 1221 digital input, 8 DI 100 kHz; inputs: 8x DI 24 V DC sink/source, 100 kHz

General information	
Product type designation	SB 1221, DI 8x 24 V DC 100 kHz
Input current	
from backplane bus 5 V DC, typ.	108 mA
Digital inputs	
from load voltage L+ (without load), max.	6 mA; per channel
Power loss	
Power loss, typ.	2.4 W
Digital inputs	
Number of digital inputs	8; sink / source
in groups of	8
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
Input voltage	
Rated value (DC)	24 V
for signal "0"	5 V DC or 0.5 mA
for signal "1"	15 V DC at 2.5 mA
Input current	
for signal "0", max. (permissible quiescent current)	0.5 mA
for signal "1", min.	3.3 mA
for signal "1", typ.	6 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— parameterizable	Yes; 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms
for interrupt inputs	
— parameterizable	Yes
for technological functions	
— parameterizable	Yes
Cable length	
shielded, max.	500 m; 500 m shielded, 50 m shielded for HSC inputs
unshielded, max.	300 m
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
Diagnostic alarm	No
Diagnoses	

• Monitoring the supply voltage	No
Diagnostics indication LED	
• DIAG LED	Yes
• for status of the inputs	Yes
Potential separation	
Potential separation digital inputs	
• between the channels	No
• between the channels, in groups of	8
• Number of potential groups	1
• between the channels and backplane bus	Yes; 707 V DC (type test)
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
CSA approval	No
UL approval	Yes
cULus	Yes
FM approval	No
RCM (formerly C-TICK)	Yes
KC approval	No
Marine approval	No
Ecological footprint	
• environmental product declaration	Yes
Ambient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
• min.	-20 °C
• max.	40 °C; at max. voltages and max. specifications
• horizontal installation, min.	-20 °C
• horizontal installation, max.	60 °C; at rated voltages, 50 % of max. specification and alternate IO active
• vertical installation, min.	-20 °C
• vertical installation, max.	50 °C; at rated voltages, 50 % of max. specification and alternate IO active
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
• Operation, min.	540 hPa
• Operation, max.	1 140 hPa
• Storage/transport, min.	540 hPa
• Storage/transport, max.	1 140 hPa
Altitude during operation relating to sea level	
• Installation altitude, min.	-1 000 m
• Installation altitude, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Relative humidity	
• Operation at 25 °C without condensation, max.	95 %
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	3.5 mm from 5 - 8.4 Hz, 1g from 8.4 - 150 Hz
• Operation, tested according to IEC 60068-2-6	Yes
Shock testing	
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
Pollutant concentrations	
• SO2 at RH < 60% without condensation	SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
Mechanics/material	
Enclosure material (front)	
• Plastic	Yes
Dimensions	
Width	15 mm
Height	62 mm

Depth	63 mm
Weights	
Weight, approx.	26 g
Classifications	

	Version	Classification
eClass	14	27-24-22-04
eClass	12	27-24-22-04
eClass	9.1	27-24-22-04
eClass	9	27-24-22-04
eClass	8	27-24-22-04
eClass	7.1	27-24-22-04
eClass	6	27-24-22-04
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419

Approvals / Certificates	
General Product Approval	EMV



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[Manufacturer Declaration](#)



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For use in hazardous locations	Environment
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