SIEMENS

Product data sheet 6ES7221-1BH30-0XB0



SIMATIC S7-1200, DIGITAL INPUT SM 1221,
16 DI, 24VDC, SINK/SOURCE INPUT

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Supply voltage	
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.	130 mA
Digital inputs	
from load voltage L+ (without load), max.	4 mA ; per channel
Output voltage	
Power supply to the transmitters	
present	Yes
Power losses	
Power loss, typ.	2.5 W
Digital inputs	
Number/binary inputs	16
In groups of	4
Input characteristic curve acc. to IEC 61131, Type 1	Yes
Number of simultaneously controllable inputs	

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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	
Type of input voltage	DC
Rated value, DC	24 V
for signal "0"	5 V DC at 1 mA
for signal "1"	15 V DC 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 ; Typical
Input delay (for rated value of input voltage)	
for standard inputs	
Parameterizable	Yes ; 0.2, 0.4, 0.8, 1.6, 3.2, 6.4, and 12.8 ms, selectable in groups of four
for interrupt inputs	
Parameterizable	Yes
Cable length	
Cable length, shielded, max.	500 m
Cable length unshielded, max.	300 m
Digital outputs	
Number/binary outputs	0
Interrupts/diagnostics/status information	
Alarms	
Alarms	Yes
Diagnostic alarm	Yes
Diagnostic messages	
Diagnostic functions	Yes
Diagnostics indication LED	
for status of the inputs	Yes
for maintenance	Yes
Status indicator digital input (green)	Yes
Galvanic isolation	

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Galvanic isolation digital inputs	
between the channels, in groups of	4
Degree and class of protection	
IP20	Yes
Standards, approvals, certificates	
CE mark	Yes
C-TICK	Yes
FM approval	Yes
Climatic and mechanical conditions for storage and transport	
Climatic conditions for storage and transport	
Free fall	
Drop height, max. (in packaging)	0.3 m ; five times, in dispatch package
Temperature	
Permissible temperature range	-40 °C to +70 °C
Air pressure acc. to IEC 60068-2-13	
Permissible air pressure	1080 to 660 hPa
Mechanical and climatic conditions during operation	
Climatic conditions in operation	
Temperature	
Permissible temperature range	0 °C to 55 °C horizontal installation 0 °C to 45 °C vertical installation
Permissible temperature change	5°C to 55°C, 3°C / minute
Connection method	
required front connector	Yes
Mechanics/material	
Type of housing (front)	
Plastic	Yes
Dimensions	
Width	45 mm
Height	100 mm
Depth	75 mm
Weight	
Weight, approx.	210 g
Status	Feb 21, 2013

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