



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

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 loss	
Power loss, typ.	2.5 W
Digital inputs	
Number of digital inputs	16
in groups of	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	
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 ; Typical
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	
Cable length, shielded, max.	500 m
Cable length unshielded, max.	300 m
Digital outputs	
Number of digital outputs	0
Short-circuit protection	No
Interrupts/diagnostics/status information	
Alarms	
Alarms	Yes
Diagnostic alarm	Yes
Diagnostic messages	
Diagnostic functions	Yes
Monitoring the supply voltage	Yes
Diagnostics indication LED	
for status of the inputs	Yes
for maintenance	Yes

Status indicator digital input (green)	Yes
Galvanic isolation	
Galvanic isolation digital inputs	
between the channels, in groups of	4
Degree and class of protection	
IP20	Yes
Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes
UL	Yes
cULus	Yes
RCM (former C-TICK)	Yes
FM approval	Yes
Marine approval	
Marine 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
Relative humidity	
permissible range (without condensation) at 25 °C	95 %
Mechanical and climatic conditions during operation	
Climatic conditions in operation	
Temperature	
min.	-20 °C
max.	60 °C
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
Weights	
Weight, approx.	210 g
Status	Jul 28, 2014