



SIMATIC S7-1200, DIGITAL I/O SM 1223,  
8DI / 8DO, 8DI DC 24 V, SINK/SOURCE,  
8DO, TRANSISTOR 0.5A

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.	145 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 of digital inputs	8
In groups of	2
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	

<b>all mounting positions</b>	
up to 40 °C, max.	8
<b>horizontal installation</b>	
up to 40 °C, max.	8
up to 50 °C, max.	8
<b>vertical installation</b>	
up to 40 °C, max.	8
<b>Input voltage</b>	
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
<b>Input current</b>	
for signal "0", max. (permissible quiescent current)	1 mA
for signal "1", min.	2.5 mA
for signal "1", typ.	4 mA ; Typical
<b>Input delay (for rated value of input voltage)</b>	
<b>for standard inputs</b>	
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
<b>for interrupt inputs</b>	
Parameterizable	Yes
<b>Cable length</b>	
Cable length, shielded, max.	500 m
Cable length unshielded, max.	300 m
<b>Digital outputs</b>	
Number of digital outputs	8
In groups of	1
Short-circuit protection	No
Limitation of inductive shutdown voltage to	L+ (-48 V)
<b>Switching capacity of the outputs</b>	
with resistive load, max.	0.5 A
on lamp load, max.	5 W
<b>Output voltage</b>	
Rated value (DC)	24 V
for signal "0", max.	0.1 V ; with 10 kOhm load
for signal "1", min.	20 V DC
<b>Output current</b>	

for signal "1" rated value	0.5 A
for signal "1" permissible range, max.	0.5 A
for signal "0" residual current, max.	10 µA
<b>Output delay with resistive load</b>	
"0" to "1", max.	50 µs
"1" to "0", max.	200 µs
<b>Aggregate current of outputs (per group)</b>	
<b>horizontal installation</b>	
up to 50 °C, max.	4 A ; Current per mass
<b>Relay outputs</b>	
<b>Switching capacity of contacts</b>	
with inductive load, max.	0.5 A
on lamp load, max.	5 W
with resistive load, max.	0.5 A
<b>Cable length</b>	
Cable length, shielded, max.	500 m
Cable length unshielded, max.	150 m
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
Alarms	Yes
Diagnostic alarm	Yes
<b>Diagnostic messages</b>	
Diagnostic functions	Yes
Monitoring the supply voltage	Yes
<b>Diagnostics indication LED</b>	
for status of the inputs	Yes
For status of the outputs	Yes
for maintenance	Yes
Status indicator digital output (green)	Yes
Status indicator digital input (green)	Yes
<b>Galvanic isolation</b>	
<b>Galvanic isolation digital inputs</b>	
between the channels, in groups of	2
<b>Galvanic isolation digital outputs</b>	
between the channels, in groups of	1
between the channels and the backplane bus	500 V AC
<b>Degree and class of protection</b>	
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	Apr 25, 2014