



SIMATIC S7-1200, DIGITAL I/O SM 1223,  
8DI AC / 8DO RLY, 8DI 120/230 V AC,  
8DO, RELAY 2A

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.	120 mA
Output voltage	
Power supply to the transmitters	
present	Yes
Power losses	
Power loss, typ.	7.5 W
Digital inputs	
Number of digital inputs	8
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.	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	AC
Rated value, AC	230 V
for signal "0"	20 V AC at 1 mA
for signal "1"	79 V AC 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.	9 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	2
short-circuit protection	No ; to be provided externally
<b>Switching capacity of the outputs</b>	
with resistive load, max.	2 A
on lamp load, max.	30 W with DC, 200 W with AC
<b>Output voltage</b>	
Rated value (AC)	5 V AC to 250 V AC
Rated value (DC)	5 V DC to 30 V DC
<b>Output current</b>	
for signal "1" permissible range, max.	2 A
<b>Output delay with resistive load</b>	
"0" to "1", max.	10 ms
"1" to "0", max.	10 ms

<b>Aggregate current of outputs (per group)</b>	
<b>horizontal installation</b>	
<b>up to 50 °C, max.</b>	10 A ; Current per mass
<b>Relay outputs</b>	
<b>Number of relay outputs</b>	8
<b>Rated input voltage of relay coil L+ (DC)</b>	24 V
<b>Number of operating cycles, max.</b>	mechanically 10 million, at rated load voltage 100,000
<b>Switching capacity of contacts</b>	
<b>with inductive load, max.</b>	2 A
<b>on lamp load, max.</b>	30 W with DC, 200 W with AC
<b>with resistive load, max.</b>	2 A
<b>Cable length</b>	
<b>Cable length, shielded, max.</b>	500 m
<b>Cable length unshielded, max.</b>	150 m
<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
<b>Alarms</b>	Yes
<b>Diagnostic alarm</b>	Yes
<b>Diagnostic messages</b>	
<b>Diagnostic functions</b>	Yes
<b>Diagnostics indication LED</b>	
<b>for status of the inputs</b>	Yes
<b>For status of the outputs</b>	Yes
<b>for maintenance</b>	Yes
<b>Status indicator digital output (green)</b>	Yes
<b>Status indicator digital input (green)</b>	Yes
<b>Galvanic isolation</b>	
<b>Galvanic isolation digital inputs</b>	
<b>between the channels, in groups of</b>	2
<b>Galvanic isolation digital outputs</b>	
<b>between the channels</b>	Relays
<b>between the channels, in groups of</b>	2
<b>between the channels and the backplane bus</b>	1500 V AC for 1 minute
<b>Permissible potential difference</b>	
<b>between different circuits</b>	750 V AC for 1 minute
<b>Degree and class of protection</b>	
<b>IP20</b>	Yes
<b>Standards, approvals, certificates</b>	

<b>CE mark</b>	Yes
<b>RCM (formerly C-TICK)</b>	Yes
<b>FM approval</b>	Yes
<b>Climatic and mechanical conditions for storage and transport</b>	
<b>Climatic conditions for storage and transport</b>	
<b>Free fall</b>	
<b>Drop height, max. (in packaging)</b>	0.3 m ; five times, in dispatch package
<b>Temperature</b>	
<b>Permissible temperature range</b>	-40 °C to +70 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
<b>Permissible air pressure</b>	1080 to 660 hPa
<b>Relative humidity</b>	
<b>Permissible range (without condensation) at 25 °C</b>	95 %
<b>Mechanical and climatic conditions during operation</b>	
<b>Climatic conditions in operation</b>	
<b>Temperature</b>	
<b>Permissible temperature range</b>	0 °C to 55 °C horizontal installation, 0 °C to 45 °C vertical installation
<b>Permissible temperature change</b>	5°C to 55°C, 3°C / minute
<b>Connection method</b>	
<b>required front connector</b>	Yes
<b>Mechanics/material</b>	
<b>Type of housing (front)</b>	
<b>plastic</b>	Yes
<b>Dimensions</b>	
<b>Width</b>	45 mm
<b>Height</b>	100 mm
<b>Depth</b>	75 mm
<b>Weights</b>	
<b>Weight, approx.</b>	230 g
Status	Sep 8, 2014