

Siemens  
EcoTech



SIMATIC S7-1200 G2: SM 1222 digital output, 16 relays; outputs: 16x DO, relay 2 A

Figure similar

General information	
Product type designation	SM 1222, DQ 16x relay/2 A
Supply voltage	
Rated value (DC)	24 V
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.	115 mA
Digital outputs	
<ul style="list-style-type: none"> <li>from load voltage L+, max.</li> </ul>	9 mA; per relay coil
Power loss	
Power loss, typ.	4.2 W
Digital outputs	
Number of digital outputs	16
<ul style="list-style-type: none"> <li>in groups of</li> </ul>	8
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
<ul style="list-style-type: none"> <li>with resistive load, max.</li> <li>on lamp load, max.</li> </ul>	2 A 30 W with DC, 200 W with AC
Output voltage	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> <li>Rated value (AC)</li> </ul>	5 V DC to 30 V DC 5 V AC to 250 V AC
Output current	
<ul style="list-style-type: none"> <li>for signal "1" rated value</li> </ul>	2 A
Output delay with resistive load	
<ul style="list-style-type: none"> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> </ul>	10 ms 10 ms
Total current of the outputs (per group)	
horizontal installation	
— up to 50 °C, max.	16 A; Current per mass
Relay outputs	
<ul style="list-style-type: none"> <li>Number of relay outputs</li> <li>Rated supply voltage of relay coil L+ (DC)</li> <li>Number of operating cycles, max.</li> </ul>	16 24 V mechanically 10 million, at rated load voltage 100 000
Switching capacity of contacts	

— with inductive load, max.	2 A
— on lamp load, max.	30 W with DC, 200 W with AC
— with resistive load, max.	2 A
<b>Cable length</b>	
• shielded, max.	500 m
• unshielded, max.	150 m
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnoses</b>	
• Monitoring the supply voltage	Yes
<b>Diagnostics indication LED</b>	
• DIAG LED	Yes
• for status of the outputs	Yes
<b>Potential separation</b>	
<b>Potential separation digital outputs</b>	
• between the channels	Relays
• between the channels, in groups of	8
• between the channels and backplane bus	Yes; 1500 V AC (type test)
<b>Degree and class of protection</b>	
IP degree of protection	IP20
<b>Standards, approvals, certificates</b>	
Siemens Eco Profile (SEP)	Siemens EcoTech
CE mark	Yes
CSA approval	No
UL approval	Yes
cULus	Yes
FM approval	No
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	No
<b>Ecological footprint</b>	
• environmental product declaration	Yes; type 2 acc. to ISO 14021
<b>Global warming potential</b>	
— global warming potential, (total) [CO2 eq]	40.3 kg
— global warming potential, (during production) [CO2 eq]	7.79 kg
— global warming potential, (during operation) [CO2 eq]	32.5 kg
— global warming potential, (after end of life cycle) [CO2 eq]	-0.089 kg
<b>Ambient conditions</b>	
<b>Free fall</b>	
• Fall height, max.	0.3 m; five times, in product package
<b>Ambient temperature during operation</b>	
• min.	-20 °C; No condensation
• max.	40 °C; at max. voltages and max. specifications
• horizontal installation, min.	-20 °C; No condensation
• horizontal installation, max.	60 °C; at rated voltages, 50 % of max. specification and alternate IO active
• vertical installation, min.	-20 °C; No condensation
• vertical installation, max.	50 °C; at rated voltages, 50 % of max. specification and alternate IO active
• permissible temperature change	5°C to 55°C, 3°C / minute
<b>Ambient temperature during storage/transportation</b>	
• min.	-40 °C
• max.	70 °C
<b>Air pressure acc. to IEC 60068-2-13</b>	
• Operation, min.	540 hPa
• Operation, max.	1 140 hPa

• Storage/transport, min.	540 hPa
• Storage/transport, max.	1 140 hPa
<b>Altitude during operation relating to sea level</b>	
• Installation altitude, min.	-1 000 m
• Installation altitude, max.	4 000 m; Restrictions for installation altitudes > 2 000 m, see manual
<b>Relative humidity</b>	
• Operation at 25 °C without condensation, max.	95 %
<b>Vibrations</b>	
• 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
<b>Shock testing</b>	
• 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
<b>Pollutant concentrations</b>	
• SO2 at RH < 60% without condensation	SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60 % condensation-free
<b>Connection method</b>	
required front connector	No
<b>Mechanics/material</b>	
Enclosure material (front)	
• Plastic	Yes
<b>Dimensions</b>	
Width	30 mm
Height	125 mm
Depth	100 mm
<b>Weights</b>	
Weight, approx.	217 g
<b>Classifications</b>	

	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	10	EC001419
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419

**Approvals / Certificates**

**General Product Approval**



[Miscellaneous](#)

[China RoHS](#)



**EMV**      **For use in hazardous locations**      **Test Certificates**



[CCC-Ex](#)

[Type Test Certificates/Test Report](#)

**Maritime application**      **Environment**



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