## **SIEMENS**

## **Data sheet**

6ES7222-1HH32-0XB0



SIMATIC S7-1200, Digital output SM 1222, 16 DO, relay 2 A

Figure similar

General information	
Product type designation	SM 1222, DQ 16x relay/2 A
Supply voltage	
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.	135 mA
Digital outputs	
• from load voltage L+, max.	11 mA/relay coil
Power loss	
Power loss, typ.	8.5 W
Digital outputs	
Number of digital outputs	16
• in groups of	1
Short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
<ul> <li>with resistive load, max.</li> </ul>	2 A
● on lamp load, max.	30 W with DC, 200 W with AC
Output voltage	
<ul> <li>Rated value (DC)</li> </ul>	5 V DC to 30 V DC
Rated value (AC)	5 V AC to 250 V AC
Output current	
for signal "1" rated value	2 A
Output delay with resistive load	
• "0" to "1", max.	10 ms
• "1" to "0", max.	10 ms
Total current of the outputs (per group)	
horizontal installation	
— up to 50 °C, max.	10 A; Current per mass
Relay outputs	
<ul> <li>Number of relay outputs</li> </ul>	16
<ul> <li>Rated supply voltage of relay coil L+ (DC)</li> </ul>	24 V
Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
Switching capacity of contacts	
<ul><li>— with inductive load, max.</li></ul>	2 A
— on lamp load, max.	30 W with DC, 200 W with AC
— with resistive load, max.	2 A
Cable length	
<ul><li>shielded, max.</li></ul>	500 m
unshielded, max.	150 m

1	
Interrupts/diagnostics/status information	
Alarms	
Diagnostic alarm	Yes
Diagnostics indication LED	V
for status of the outputs	Yes
Potential separation	
Potential separation digital outputs	
<ul> <li>between the channels</li> </ul>	Relays
<ul> <li>between the channels, in groups of</li> </ul>	4
between the channels and backplane bus	1 500 V AC for 1 minute
Permissible potential difference	
between different circuits	750 V AC for 1 minute
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	Yes
Ambient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	o.o m, mo umoo, m product puotage
• min.	-20 °C
• max.	60 °C; Number of simultaneously activated outputs: 8 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 16 at 55 °C horizontal or 45 °C vertical
<ul> <li>horizontal installation, min.</li> </ul>	-20 °C
horizontal installation, max.	60 °C
vertical installation, min.	-20 °C
vertical installation, max.	
	50 °C
· · · · · · · · · · · · · · · · · · ·	50 °C 5°C to 55°C 3°C / minute
permissible temperature change	50 °C 5°C to 55°C, 3°C / minute
permissible temperature change     Ambient temperature during storage/transportation	5°C to 55°C, 3°C / minute
permissible temperature change	
<ul> <li>permissible temperature change</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> </ul>	5°C to 55°C, 3°C / minute -40 °C
<ul> <li>permissible temperature change</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>max.</li> </ul>	5°C to 55°C, 3°C / minute -40 °C
<ul> <li>permissible temperature change</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>max.</li> <li>Air pressure acc. to IEC 60068-2-13</li> </ul>	5°C to 55°C, 3°C / minute -40 °C 70 °C
<ul> <li>permissible temperature change</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>max.</li> <li>Air pressure acc. to IEC 60068-2-13</li> <li>Storage/transport, min.</li> </ul>	5°C to 55°C, 3°C / minute  -40 °C  70 °C  660 hPa
<ul> <li>permissible temperature change</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>max.</li> <li>Air pressure acc. to IEC 60068-2-13</li> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> </ul>	5°C to 55°C, 3°C / minute  -40 °C  70 °C  660 hPa
<ul> <li>permissible temperature change</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>max.</li> <li>Air pressure acc. to IEC 60068-2-13</li> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> <li>Relative humidity</li> </ul>	5°C to 55°C, 3°C / minute  -40 °C  70 °C  660 hPa  1 080 hPa
<ul> <li>permissible temperature change</li> <li>Ambient temperature during storage/transportation</li> <li>min.</li> <li>max.</li> <li>Air pressure acc. to IEC 60068-2-13</li> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> <li>Relative humidity</li> <li>Operation at 25 °C without condensation, max.</li> </ul>	5°C to 55°C, 3°C / minute  -40 °C  70 °C  660 hPa  1 080 hPa
permissible temperature change     Ambient temperature during storage/transportation         • min.         • max.  Air pressure acc. to IEC 60068-2-13         • Storage/transport, min.         • Storage/transport, max.  Relative humidity         • Operation at 25 °C without condensation, max.  connection method / header	5°C to 55°C, 3°C / minute  -40 °C  70 °C  660 hPa  1 080 hPa  95 %
permissible temperature change     Ambient temperature during storage/transportation         • min.         • max.  Air pressure acc. to IEC 60068-2-13         • Storage/transport, min.         • Storage/transport, max.  Relative humidity         • Operation at 25 °C without condensation, max.  connection method / header  required front connector  Mechanics/material	5°C to 55°C, 3°C / minute  -40 °C  70 °C  660 hPa  1 080 hPa  95 %
permissible temperature change     Ambient temperature during storage/transportation         • min.         • max.  Air pressure acc. to IEC 60068-2-13         • Storage/transport, min.         • Storage/transport, max.  Relative humidity         • Operation at 25 °C without condensation, max.  connection method / header  required front connector	5°C to 55°C, 3°C / minute  -40 °C  70 °C  660 hPa  1 080 hPa  95 %
permissible temperature change     Ambient temperature during storage/transportation         • min.         • max.  Air pressure acc. to IEC 60068-2-13         • Storage/transport, min.         • Storage/transport, max.  Relative humidity         • Operation at 25 °C without condensation, max.  connection method / header  required front connector  Mechanics/material  Enclosure material (front)	5°C to 55°C, 3°C / minute  -40 °C  70 °C  660 hPa  1 080 hPa  95 %  Yes
permissible temperature change     Ambient temperature during storage/transportation         • min.         • max.  Air pressure acc. to IEC 60068-2-13         • Storage/transport, min.         • Storage/transport, max.  Relative humidity         • Operation at 25 °C without condensation, max.  connection method / header  required front connector  Mechanics/material  Enclosure material (front)         • Plastic	5°C to 55°C, 3°C / minute  -40 °C  70 °C  660 hPa  1 080 hPa  95 %  Yes
permissible temperature change     Ambient temperature during storage/transportation         • min.         • max.  Air pressure acc. to IEC 60068-2-13         • Storage/transport, min.         • Storage/transport, max.  Relative humidity         • Operation at 25 °C without condensation, max.  connection method / header  required front connector  Mechanics/material  Enclosure material (front)         • Plastic  Dimensions	5°C to 55°C, 3°C / minute  -40 °C 70 °C  660 hPa 1 080 hPa 95 %  Yes
permissible temperature change     Ambient temperature during storage/transportation         • min.         • max.  Air pressure acc. to IEC 60068-2-13         • Storage/transport, min.         • Storage/transport, max.  Relative humidity         • Operation at 25 °C without condensation, max.  connection method / header  required front connector  Mechanics/material  Enclosure material (front)         • Plastic  Dimensions  Width Height	5°C to 55°C, 3°C / minute  -40 °C 70 °C  660 hPa 1 080 hPa 95 %  Yes  Yes
permissible temperature change     Ambient temperature during storage/transportation         • min.         • max.  Air pressure acc. to IEC 60068-2-13         • Storage/transport, min.         • Storage/transport, max.  Relative humidity         • Operation at 25 °C without condensation, max.  connection method / header  required front connector  Mechanics/material  Enclosure material (front)         • Plastic  Dimensions  Width  Height  Depth	5°C to 55°C, 3°C / minute  -40 °C 70 °C  660 hPa 1 080 hPa 95 %  Yes  Yes  45 mm 100 mm
permissible temperature change     Ambient temperature during storage/transportation         • min.         • max.  Air pressure acc. to IEC 60068-2-13         • Storage/transport, min.         • Storage/transport, max.  Relative humidity         • Operation at 25 °C without condensation, max.  connection method / header  required front connector  Mechanics/material  Enclosure material (front)         • Plastic  Dimensions  Width Height	5°C to 55°C, 3°C / minute  -40 °C 70 °C  660 hPa 1 080 hPa 95 %  Yes  Yes  45 mm 100 mm

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