## **SIEMENS**

## **Data sheet**

6ES7222-1BH32-0XB0



SIMATIC S7-1200, Digital output SM 1222, 16 DO, 24 V DC, transistor 0.5 A  $\,$ 

General information		
Product type designation	SM 1222, DQ 16x24 V DC/0.5 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.	140 mA	
Power loss		
Power loss, typ.	2.5 W	
Digital outputs		
Number of digital outputs	16	
• in groups of	1	
Short-circuit protection	No; to be provided externally	
Limitation of inductive shutdown voltage to	typ. (L+) -48 V	
Switching capacity of the outputs		
<ul> <li>with resistive load, max.</li> </ul>	0.5 A	
<ul><li>on lamp load, max.</li></ul>	5 W	
Output voltage		
<ul> <li>Rated value (DC)</li> </ul>	24 V	
• for signal "0", max.	0.1 V; with 10 kOhm load	
• for signal "1", min.	20 V DC	
Output current		
<ul><li>for signal "1" rated value</li></ul>	0.5 A	
• for signal "0" residual current, max.	10 μΑ	
Output delay with resistive load		
• "0" to "1", max.	50 μs	
• "1" to "0", max.	200 µs	
Total current of the outputs (per group)		
horizontal installation		
— up to 50 °C, max.	8 A; Current per mass	
Cable length		
• shielded, max.	500 m	
• unshielded, max.	150 m	
Interrupts/diagnostics/status information		
Alarms		
Diagnostic alarm	Yes	
Diagnostics indication LED		
for status of the outputs	Yes	
Potential separation		
Potential separation digital outputs		

between the channels and backplane bus      Degree and class of protection    Pages of protection   P20   Standards, approvals, certificates    CE mark	<ul> <li>between the channels, in groups of</li> </ul>	1	
Pegree of protection   IP20			
P degree of protection			
Standards, approvals, certificates		IP20	
CE mark			
UL approval   Yes		Yes	
Culus	CSA approval	Yes	
FM approval	UL approval	Yes	
RCM (formerly C-TICK)	cULus	Yes	
KC approval Marine approval Ambient conditions  Free fall Fall height, max. 0.3 m; five times, in product package  Ambient temperature during operation  min. min. horizontal installation, min. horizontal installation	FM approval	Yes	
Marine approval Ambient conditions  Free fall Fall height, max.  O.3 m; five times, in product package  Ambient temperature during operation  min. Occ max. Occ horizontal installation, min. horizontal installation, max. Occ vertical installation, min. vertical installation, min. Vertical installation, min. Vertical installation, max. Occ min. Vertical installation, max. Occ Tocc Vertical installation, max. Occ Tocc Vertical installation, max. Occ Vertical installation, max.	RCM (formerly C-TICK)	Yes	
Ambient conditions Free fall  Fre	KC approval	Yes	
Free fall  Pall height, max.  Ambient temperature during operation  min.  min.  Pall height, max.  O.3 m; five times, in product package  Ambient temperature during operation  min.  Pall horizontal installation, min.  Por or o	Marine approval	Yes	
Fall height, max.  Ambient temperature during operation  • min. • max. • horizontal installation, min. • horizontal installation, min. • vertical installation, min. • vertical installation, min. • vertical installation, min. • vertical installation, max. • vertical installation, max. • permissible temperature change  Ambient temperature during storage/transportation • min. • max. • 70 °C  Air pressure acc. to IEC 60068-2-13 • Storage/transport, min. • Storage/transport, min. • Storage/transport, max. 1 080 hPa • Storage/transport max.  Relative humidity • Operation at 25 °C without condensation, max.  connection method required front connector Mechanics/material  Enclosure material (front) • Plastic  Dimensions  Width  45 mm  Height 100 mm  Depth 75 mm  Wolghts	Ambient conditions		
Ambient temperature during operation  inin. inin	Free fall		
• min.     • max.     • horizontal installation, min.     • horizontal installation, max.     • horizontal installation, max.     • vertical installation, max.     • vertical installation, max.     • vertical installation, max.     • vertical installation, max.     • permissible temperature change  Ambient temperature during storage/transportation     • min.     • max.     70 °C  Air pressure acc. to IEC 60068-2-13     • Storage/transport, min.     • Storage/transport, min.     • Storage/transport, max.     1 080 hPa  Relative humidity     • Operation at 25 °C without condensation, max.  connection method  required front connector  Mechanics/material  Enclosure material (front)     • Plastic     Yes  Dimensions  Width     45 mm  Height     100 mm  Depth     75 mm  Weights	Fall height, max.	0.3 m; five times, in product package	
max.     horizontal installation, min.     horizontal installation, max.     horizontal installation, max.     vertical installation, min.     vertical installation, min.     vertical installation, min.     vertical installation, max.     permissible temperature change     S° C to 55°C, 3°C / minute  Ambient temperature during storage/transportation     min.         -40 °C     max.  Air pressure acc. to IEC 60068-2-13     Storage/transport, min.     Storage/transport, min.     Storage/transport, max.  Relative humidity     Operation at 25 °C without condensation, max.  connection method required front connector  Yes  Mechanics/material  Enclosure material (front)     Plastic     Yes  Dimensions  Width Height 100 mm Depth 75 mm  Weights	Ambient temperature during operation		
<ul> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>vertical installation, max.</li> <li>permissible temperature change</li> <li>fo c to 55°C, 3°C / minute</li> </ul> Ambient temperature during storage/transportation <ul> <li>min.</li> <li>40 °C</li> <li>max.</li> <li>fo c</li> </ul> Air pressure acc. to IEC 60068-2-13 <ul> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> <li>Storage/transport, max.</li> <li>Plastive humidity</li> <li>Operation at 25 °C without condensation, max.</li> <li>connection method</li> <li>required front connector</li> <li>Yes</li> </ul> Mechanics/material Enclosure material (front) <ul> <li>Plastic</li> <li>Yes</li> </ul> Dimensions Wright <ul> <li>45 mm</li> <li>Height</li> <li>Depth</li> <li>75 mm</li> </ul> Weights	• min.	-20 °C	
<ul> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>-20 °C</li> <li>vertical installation, max.</li> <li>50 °C</li> <li>permissible temperature change</li> <li>5°C to 55°C, 3°C / minute</li> </ul> Ambient temperature during storage/transportation <ul> <li>min.</li> <li>max.</li> <li>70 °C</li> </ul> Air pressure acc. to IEC 60068-2-13 <ul> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> <li>1 080 hPa</li> </ul> Relative humidity <ul> <li>Operation at 25 °C without condensation, max.</li> <li>connection method</li> <li>required front connector</li> <li>Yes</li> </ul> Mechanics/material <ul> <li>Enclosure material (front)</li> <li>Plastic</li> <li>Yes</li> </ul> Dimensions <ul> <li>Width</li> <li>45 mm</li> <li>Height</li> <li>100 mm</li> <li>Depth</li> <li>75 mm</li> </ul> Weights	• max.	60 °C	
<ul> <li>vertical installation, min.</li> <li>vertical installation, max.</li> <li>vertical installation, max.</li> <li>permissible temperature change</li> <li>SC to 55°C, 3°C / minute</li> </ul> Ambient temperature during storage/transportation <ul> <li>min.</li> <li>-40 °C</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>1 080 hPa</li> </ul> Relative humidity <ul> <li>Operation at 25 °C without condensation, max.</li> <li>95 %</li> </ul> Connection method <ul> <li>required front connector</li> <li>Yes</li> </ul> Mechanics/material Enclosure material (front) <ul> <li>Plastic</li> <li>Yes</li> </ul> Dimensions <ul> <li>Width</li> <li>45 mm</li> <li>Height</li> <li>100 mm</li> <li>Depth</li> <li>75 mm</li> </ul> Weights <ul> <li>Weights</li> </ul>	<ul> <li>horizontal installation, min.</li> </ul>	-20 °C	
vertical installation, max.     permissible temperature change  Ambient temperature during storage/transportation      min.	<ul> <li>horizontal installation, max.</li> </ul>	60 °C	
permissible temperature change  Ambient temperature during storage/transportation  min.  min.  40 °C  max.  70 °C  Air pressure acc. to IEC 60068-2-13  Storage/transport, min.  Storage/transport, max.  1 080 hPa  Relative humidity  Operation at 25 °C without condensation, max.  95 %  connection method  required front connector  Mechanics/material  Enclosure material (front)  Plastic  Plastic  Yes  Dimensions  Width  45 mm  Height  100 mm  Depth  75 mm  Weights	<ul> <li>vertical installation, min.</li> </ul>	-20 °C	
Ambient temperature during storage/transportation  • min.	<ul> <li>vertical installation, max.</li> </ul>	50 °C	
	permissible temperature change	5°C to 55°C, 3°C / minute	
Nax.     70 °C  Air pressure acc. to IEC 60068-2-13      Storage/transport, min.     660 hPa     Storage/transport, max.     1 080 hPa  Relative humidity     Operation at 25 °C without condensation, max.      95 %  connection method required front connector  Mechanics/material Enclosure material (front)     Plastic     Yes  Dimensions  Width     45 mm  Height     100 mm  Depth     75 mm  Weights	Ambient temperature during storage/transportation		
Air pressure acc. to IEC 60068-2-13  • Storage/transport, min. • Storage/transport, max.  1 080 hPa  Relative humidity  • Operation at 25 °C without condensation, max.  95 %  connection method  required front connector  Mechanics/material  Enclosure material (front) • Plastic  Plastic  Yes  Dimensions  Width  45 mm  Height  100 mm  Depth  75 mm  Weights	• min.	-40 °C	
Storage/transport, min. Storage/transport, max.  1 080 hPa  Relative humidity Operation at 25 °C without condensation, max.  95 %  connection method required front connector Yes  Mechanics/material  Enclosure material (front) Plastic Yes  Dimensions  Width 45 mm Height 100 mm Depth 75 mm  Weights	• max.	70 °C	
Storage/transport, max.  Relative humidity  Operation at 25 °C without condensation, max.  95 %  connection method  required front connector  Yes  Mechanics/material  Enclosure material (front)  Plastic  Plastic  Yes  Dimensions  Width  45 mm  Height  100 mm  Depth  75 mm  Weights	Air pressure acc. to IEC 60068-2-13		
Relative humidity  • Operation at 25 °C without condensation, max.  connection method  required front connector  Mechanics/material  Enclosure material (front)  • Plastic  Plastic  Yes  Dimensions  Width  45 mm  Height  100 mm  Depth  75 mm  Weights	<ul> <li>Storage/transport, min.</li> </ul>	660 hPa	
Operation at 25 °C without condensation, max.      connection method  required front connector      Yes  Mechanics/material  Enclosure material (front)	Storage/transport, max.	1 080 hPa	
connection method required front connector  Mechanics/material  Enclosure material (front)  ● Plastic  Plastic  Yes  Dimensions  Width  45 mm  Height  100 mm  Depth  T5 mm  Weights	Relative humidity		
required front connector  Mechanics/material  Enclosure material (front)  Plastic  Plastic  Yes  Dimensions  Width  45 mm  Height  100 mm  Depth  75 mm  Weights	<ul> <li>Operation at 25 °C without condensation, max.</li> </ul>	95 %	
Mechanics/material   Enclosure material (front) Yes   ● Plastic Yes   Dimensions   Width 45 mm   Height 100 mm   Depth 75 mm   Weights	connection method		
Enclosure material (front)  Plastic  Plastic  Yes  Dimensions  Width  45 mm  Height  100 mm  Depth  75 mm  Weights	required front connector	Yes	
● Plastic Yes  Dimensions  Width 45 mm  Height 100 mm  Depth 75 mm  Weights	Mechanics/material		
Dimensions           Width         45 mm           Height         100 mm           Depth         75 mm           Weights         To me	Enclosure material (front)		
Width         45 mm           Height         100 mm           Depth         75 mm           Weights	Plastic	Yes	
Height         100 mm           Depth         75 mm           Weights	Dimensions		
Depth 75 mm Weights	Width	45 mm	
Weights	Height	100 mm	
	Depth	75 mm	
Weight approx	Weights		
vveignt, approx. 220 g	Weight, approx.	220 g	

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