## **SIEMENS**

## **Data sheet**

6ES7222-1BF32-0XB0



SIMATIC S7-1200, Digital output SM 1222, 8 DO, 24 V DC, transistor 0.5 A

General information	
Product type designation	SM 1222, DQ 8x24 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.	120 mA
Power loss	
Power loss, typ.	1.5 W
Digital outputs	
Number of digital outputs	8
• 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.	4 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     Obgree and class of protection     Ple degree of protection     Standards, approvals, certificates     CE mark     Yes     CSA approval     Ves     Ut. approval     Yes     CULus     Yes     RCM (formerly C-TICK)     Yes     RAmbient conditions     Free fall     Fall height, max.     O. 3 m; five times, in product package  Ambient temperature during operation     min.     Pall height, max.     Oo "C     Notizontal installation, min.     Oo "C     Notizontal installation, max     Oo "C     Vertical installation, max     Vertical installation, max     Vertical installation, max     Permissible temperature change     Shore C     Ambient temperature during storage/transportation     min.     Vertical installation, max     Permissible temperature change     Shore C     Ambient temperature during storage/transportation     min.     Vertical installation, max     Permissible temperature change     Shore C     Ambient temperature during storage/transportation     min.     Vertical installation, max     Permissible temperature change     Shore C     Vertical installation, max     Permissible temperature change     Shore C     Vertical installation, max     Permissible temperature change     Shore C     Vertical installation     Min    Vertical installation, max     Permissible temperature change     Shore C     Vertical installation     Permissible temperature change     Shore C     Vertical installation, max     Permissible temperature change     Shore C     Vertical installation     Vertical installation, max     Permissible temperature change     Vertical installation, max     Permissible temperature change     Vertical installation, max     Permissible temperature change     Vertical installation, max     Vertical installation, max     Permissible temperature change     Vertical installation, max     Vertical installation, max     Vert	<ul> <li>between the channels, in groups of</li> </ul>	1
Degree and class of protection   IP20		
Processor   Proc		
Standards, approvals, certificates		IP20
CE mark		
Ves		Yes
UL approval		
cULus         Yes           FM approval         Yes           RCM (formerty 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         • min.           • min.         -20 °C           • max.         60 °C           • horizontal installation, min.         -20 °C           • horizontal installation, max.         60 °C           • vertical installation, min.         -20 °C           • vertical installation, max.         50 °C           • permissible temperature change         5° °C to 55° °C, 3°C / minute           Ambient temperature during storage/transportation         • min.           • max.         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         Yes           Mechanics/material         Enclosure material (front)         • Plastic	· ·	Yes
FM approval		Yes
RCM (formerly C-TICK)   Yes		Yes
Yes   Marine approval   Yes   Yes   Ambient conditions		Yes
Ambient conditions  Free fall  • Fall height, max.  Ambient temperature during operation  • min.  • max.  • horizontal installation, min.  • horizontal installation, max.  • horizontal installation, min.  • vertical installation, max.  • vertical installation, max.  • vertical installation, max.  • permissible temperature change  Ambient temperature during storage/transportation  • min.  • 40 °C  • max.  Air pressure acc. to IEC 60088-2-13  • Storage/transport, min.  • Storage/transport, min.  • Operation at 25 °C without condensation, max.  • Operation at 25 °C without condensation, max.  • Storage/transport, max.  Relative humidity  • Operation at 25 °C without condensation, max.  95 %  connection method  required front connector  Yes  Mochanics/material  Enclosure material (front)  • Plastic  Yes  Dimensions  Width  Height  100 mm  Depth  75 mm  Welghts		Yes
Free fall  Fall height, max.  Ambient temperature during operation  min.  min.  max.  horizontal installation, min.  vertical installation, max.  permissible temperature change  Ambient temperature during operation  **O °C  horizontal installation, min.  vertical installation, max.  permissible temperature change  **S°C to 55°C, 3°C / minute  **C to 55°C, 3°C / minute  **All pressure acc. to IEC 60068-2-13  **Storage/transport, min.  Storage/transport, mix.  **O °C  **Ali pressure acc. to IEC 60068-2-13  **Storage/transport, mix.  **O Poperation at 25 °C without condensation, max.  **Passible temperature to the condensation, max.  **Passible temperature during storage/transport.  **To °C  **Ali pressure acc. to IEC 60068-2-13  **Storage/transport, mix.  **Operation at 25 °C without condensation, max.  **Passible temperature to the condensation, max.  **Passible temperature to the condensation, max.  **Passible temperature during storage/transport, max.  **Passible temperature during sto	Marine approval	Yes
Fall height, max.  Ambient temperature during operation  • min. • max. • horizontal installation, min. • horizontal installation, min. • vertical installation, min. • yerical installation, min. • yerical 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  Ves  Dimensions  Width  45 mm  Height  Depth 75 mm  Weights	Ambient conditions	
Ambient temperature during operation  • min. • 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  Ambient temperature during storage/transportation • min. • max.  Ali 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.  95 %  connection method required front connector  Mechanics/material  Enclosure material (front) • Plastic  Yes  Dimensions  Width  45 mm  Height  100 mm  Depth  75 mm  Weights	Free fall	
<ul> <li>min.</li> <li>max.</li> <li>horizontal installation, min.</li> <li>+ por vertical installation, max.</li> <li>vertical installation, max.</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>95 %</li> </ul> Connection method <ul> <li>required front connector</li> <li>Yes</li> </ul> Mochanics/material <ul> <li>Enclosure material (front)</li> <li>Plastic</li> <li>Yes</li> </ul> Dimensions Width <ul> <li>45 mm</li> </ul> Height <ul> <li>100 mm</li> <li>Depth</li> <li>75 mm</li> </ul> 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, 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.  Relative humidity     Operation at 25 °C without condensation, max.  connection method required front connector  Mechanics/material  Enclosure material (front)     Plastic  Ves  Dimensions  Width  45 mm  Height  100 mm  Depth  75 mm  Weights		
<ul> <li>horizontal installation, min.</li> <li>-20 °C</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>-20 °C</li> <li>vertical installation, min.</li> <li>50 °C</li> <li>vertical installation, max.</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>40 °C</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>1080 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 Enclosure material (front) <ul> <li>Plastic</li> <li>Yes</li> </ul> Dimensions Width <ul> <li>45 mm</li> </ul> Height <ul> <li>100 mm</li> <li>Depth</li> <li>75 mm</li> </ul> Weights	• min.	-20 °C
horizontal installation, max.     vertical installation, min.     vertical installation, max.      vertical installation.	• 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>S°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>remperature during storage/transportation</li> <li>min.</li> <li>40 °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>Operation 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 Width <ul> <li>45 mm</li> <li>Height</li> <li>100 mm</li> <li>Depth</li> <li>75 mm</li> </ul> Weights	<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.	<ul> <li>vertical installation, min.</li> </ul>	-20 °C
Ambient temperature during storage/transportation  • min.  • 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.  connection method  required front connector  Yes  Mechanics/material  Enclosure material (front)  • Plastic  Ves  Dimensions  Width  Height  100 mm  Depth  75 mm  Weights	<ul> <li>vertical installation, max.</li> </ul>	50 °C
	<ul> <li>permissible temperature change</li> </ul>	5°C to 55°C, 3°C / minute
max. 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 Yes  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.  55 %  connection method required front connector Yes  Mechanics/material Enclosure material (front) 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  Mechanics/material Enclosure material (front) Plastic Plastic Yes  Dimensions  Width Height 100 mm Depth 75 mm  Weights	• max.	70 °C
Storage/transport, max.  Relative humidity  Operation at 25 °C without condensation, max.  55 %  Connection method  required front connector  Yes  Mechanics/material  Enclosure material (front)  Plastic  Yes  Dimensions  Width  Height  100 mm  Depth  75 mm  Weights	Air pressure acc. to IEC 60068-2-13	
Relative humidity  Operation at 25 °C without condensation, max.  Sometion method  required front connector  Mechanics/material  Enclosure material (front)  Plastic  Plastic  Yes  Dimensions  Width  45 mm  Height  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  Mechanics/material  Enclosure material (front)	Storage/transport, max.	1 080 hPa
required front connector  Yes  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)	<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)	required front connector	Yes
◆ Plastic         Yes           Dimensions         45 mm           Height         100 mm           Depth         75 mm           Weights	Mechanics/material	
Dimensions           Width         45 mm           Height         100 mm           Depth         75 mm           Weights         Weights	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. 180 g	Weights	
	Weight, approx.	180 g

last modified: 8/23/2023 🖸