SIEMENS

Data sheet

6ES7222-1BH32-1XB0



SIMATIC S7-1200, Digital output SM 1222, 16 DO, 24 V DC, sourcing (Sinking Output), NPN transistor 0.5 A $\,$

General information	
Product type designation	SM 1222, DO 16x 24 V DC/0.5 A Sink
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
Current-sinking	Yes
Short-circuit protection	No; to be provided externally
Limitation of inductive shutdown voltage to	Typ 45 V
Switching capacity of the outputs	
with resistive load, max.	0.5 A
 on lamp load, max. 	5 W
Output voltage	
Rated value (DC)	24 V
for signal "0", max.	L+ minus 0.75 V DC with 10k Load
• for signal "1", min.	0,5 V
Output current	
for signal "1" rated value	0.5 A
for signal "0" residual current, max.	75 μA
Output delay with resistive load	
• "0" to "1", max.	20 μs
• "1" to "0", max.	350 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	

between the channels, in groups of between the channels and backplane bus Degree and class of protection IP degree of protection IP degree of protection Standards, approvals, certificates CE mark CSA approval UL approval Ves CULus Yes FM approval Yes FM approval Yes KC approval Yes KC approval Yes FM approval Yes ROM (formerly C-TICK) Yes KC approval Yes Marine approval Ambient conditions Ambient temperature during operation • min. • 20 °C • horizontal installation, min. • 20 °C • horizontal installation, min. • vertical installation, min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • 40 °C • max. • min. • 40 °C • max. • min. • min. • min. • 40 °C	Potential separation digital outputs		
between the channels and backplane bus Degree and class of protection IP degree of protection Standards, approvals, certificates CE mark CSA approval UL approval Ves CULus FM approval RCM (formerly C-TICK) KC approval Yes KC approval Yes Ambient conditions Ambient temperature during operation • min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • min. • 40 °C • max. • min. • 40 °C • max.	· · · · · · · · · · · · · · · · · · ·	1	
Degree and class of protection IP degree of protection Standards, approvals, certificates CE mark CSA approval Yes UL approval Yes CULus FM approval Yes RCM (formerly C-TICK) Yes KC approval Ambient conditions Ambient temperature during operation • min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • min. • 40 °C • max.		500 V AC	
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 Ambient temperature during operation • min20 °C • horizontal installation, min20 °C • horizontal installation, min20 °C • vertical installation, min20 °C • vertical installation, max50 °C • permissible temperature change 5°C to 55°C, 3°C / minute Ambient temperature during storage/transportation • min40 °C • max40 °C • max70 °C			
CE mark CSA approval Yes CSA approval Yes UL approval Yes CUlus Yes FM approval Yes RCM (formerly C-TICK) KC approval Yes Marine approval Ambient conditions Ambient temperature during operation • min. • mix. • horizontal installation, mix. • vertical installation, mix. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • min. -40 °C • max. 70 °C		IP20	
CE mark CSA approval Yes UL approval Yes CULus FM approval Yes RCM (formerly C-TICK) KC approval Ambient conditions Ambient temperature during operation • min. • horizontal installation, min. • vertical installation, min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • 40 °C • max. • min. -40 °C • max. -70 °C			
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CULus FM approval Yes RCM (formerly C-TICK) Yes KC approval Yes Marine approval Ambient conditions Ambient temperature during operation • min. • max. • horizontal installation, min. • horizontal installation, max. • horizontal installation, min. • vertical installation, min. • vertical installation, max. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • min. • min. • min. • min. • max. 70 °C	CSA approval	Yes	
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KC approval Yes Marine approval Yes Ambient conditions -20 °C Ambient temperature during operation -20 °C • max. 60 °C • horizontal installation, min20 °C • horizontal installation, max. 60 °C • vertical installation, min20 °C • vertical installation, max. 50 °C • vertical installation, max. 50 °C • permissible temperature change 5 °C to 55 °C, 3 °C / minute Ambient temperature during storage/transportation -40 °C • min40 °C • max. 70 °C	FM approval	Yes	
Marine approval Ambient conditions Ambient temperature during operation • min. • max. • horizontal installation, min. • horizontal installation, min. • vertical installation, min. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • min. • max. Yes Yes Yes Ambient temperature during operation Yes -20 °C -20	RCM (formerly C-TICK)	Yes	
Ambient conditions Ambient temperature during operation • min. • max. • horizontal installation, min. • horizontal installation, max. • horizontal installation, max. • vertical installation, min. • vertical installation, max. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • min. • 40 °C • max. 70 °C	KC approval	Yes	
Ambient temperature during operation • min. • max. • horizontal installation, min. • horizontal installation, max. • horizontal installation, max. • vertical installation, min. • vertical installation, max. • vertical installation, max. • permissible temperature change Ambient temperature during storage/transportation • min. • min. • max. 70 °C	Marine approval	Yes	
 min. max. 60 °C horizontal installation, min. -20 °C horizontal installation, max. 60 °C vertical installation, min. -20 °C vertical installation, max. vertical installation, max. permissible temperature change 5°C to 55°C, 3°C / minute Ambient temperature during storage/transportation min. -40 °C max. 70 °C 	Ambient conditions		
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 vertical installation, max. permissible temperature change C to 55°C, 3°C / minute Ambient temperature during storage/transportation min. max. 70 °C 	 horizontal installation, max. 	60 °C	
 permissible temperature change Ambient temperature during storage/transportation min. max. 5°C to 55°C, 3°C / minute -40 °C 70 °C 	 vertical installation, min. 	-20 °C	
Ambient temperature during storage/transportation • min.	 vertical installation, max. 	50 °C	
• min.	permissible temperature change	5°C to 55°C, 3°C / minute	
● max. 70 °C	Ambient temperature during storage/transportation		
	• min.	-40 °C	
	• max.	70 °C	
Air pressure acc. to IEC 60068-2-13	Air pressure acc. to IEC 60068-2-13		
• Storage/transport, min. 660 hPa	 Storage/transport, min. 	660 hPa	
• Storage/transport, max. 1 080 hPa	Storage/transport, max.	1 080 hPa	
Relative humidity	Relative humidity		
 Operation at 25 °C without condensation, max. 95 % 	 Operation at 25 °C without condensation, max. 	95 %	
connection method	connection method		
required front connector Yes	required front connector	Yes	
Mechanics/material	Mechanics/material		
Enclosure material (front)	Enclosure material (front)		
• Plastic Yes	Plastic	Yes	
Dimensions	Dimensions		
Width 45 mm	Width	45 mm	
Height 100 mm	Height	100 mm	
Depth 75 mm	Depth	75 mm	
Weights	Weights		
Weight, approx. 220 g	Weight, approx.	220 g	

last modified: 3/12/2021 C