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		
Supply voltage permissible range, lower limit (DC) 20.4 V permissible range, upper limit (DC) 28.8 V Input current 120 mA Power loss Power loss Power loss, typ. 1.5 W Digital outputs 8 • in groups of 1 Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to typ. (+):48 V Switching capacity of the outputs • • with resistive load, max. 0.5 A • on lamp load, max. 0.5 A • or signal *0*, max. 0.1 V, with 10 kOhm load • for signal *1*, min. 20 V DC Output voltage • • for signal *1*, min. 20 V DC Output delay with resistive load • • for signal *1*, min. 20 V DC Output delay with resistive load • • for signal *1*, max. 50 µs • for signal *1*, max. 20 µs • for or signal *1*, max. 20 µs • for or signal *1*, max. 20 µs • for or *1*, max. 20 µs • or or signal *1*	General information	
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 15 W Power loss, typ. 1.5 W Digital outputs Number of digital outputs 8 . • in groups of 1 Not: to be provided externally Limitation of inductive shutdown voltage to typ. (L+) -48 V Switching capacity of the outputs 0.5 A • on lamp load, max. 0.5 A • on lamp load, max. 0.1 V, with 10 kOhm load • for signal "1", min. 20 V DC Output urent 0.5 A • for signal "1" rated value 0.5 A • for signal "1", max. 0.1 V, with 10 kOhm load • for signal "1" rated value 0.5 A • for signal "0" residual current, max. 10 μA Output current • for signal "0" residual current, max. 10 μA • orb tri", max. 50 us • "1" to "0", max. 200 μs Total current of the outputs (per group)	Product type designation	SM 1222, DQ 8x24 V DC/0.5 A
permissible range, upper limit (DC) 28.8 V Input current 120 mA Power loss, typ. 1.5 W Power loss, typ. 1.5 W 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 0.5 A • with resistive load, max. 0.5 A • of signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V DC Output voltage 0.5 A • for signal "1" rated value 0.5 A • or signal "1" rated value 0.5 A • or signal "1" rated value 0.5 A • for signal "1" rated value 0.5 A • for signal "1" rated value 0.5 A • or signal "1" rated value 0.5 A • or the outputs (per g	Supply voltage	
Input current Imput current from backplane bus 5 V DC, max. 120 mA Power loss. Power loss. Power loss.typ. 1.5 W 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 • • with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage • • Rated value (DC) 24 V • for signal "1", min. 20 V DC Output voltage • • for signal "1" rated value 0.5 A • for signal "0" residual current, max. 10 µA Output delay with resistive load • • "0" to "1", max. 200 µs Total current of the outputs (per group) horizontal insta	permissible range, lower limit (DC)	20.4 V
from backplane bus 5 V DC, max. 120 mA Power loss, typ. 1.5 W 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 0.5 A • on lamp load, max. 0.5 A ofter and load, max. 0.5 A ofter angle load, max. 0.1 V; with 10 kOhm load • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", rated value 0.5 A • for signal "0" residual current, max. 10 µA Output delay with resistive load 50 µs • O't "1", max. 200 µs Total current of the outputs (per group) horizontal installation • on to to 50 °C, max. 200 µs Total current of the outputs (per group) + horizontal installation - - up to 50 °C, max. 4 A; Current per mass Relay outputs 5 W Switching capacity of contacts - - with inductive load, max. 0.5 A <td>permissible range, upper limit (DC)</td> <td>28.8 V</td>	permissible range, upper limit (DC)	28.8 V
Power loss 1.5 W Digital outputs 8 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 0.5 A • on lamp load, max. 0.5 A • on lamp load, max. 5 W Output voltage 24 V • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V DC Output day with resistive load 0.5 A • for signal "0" residual current, max. 10 µA Output day with resistive load 0.5 A • 0" to "1", max. 20 ups Total current of the outputs (per group) borizontal installation horizontal installation - - up to 50 °C, max. 4 A; Current per mass Relay outputs 5W Switching capacity of contacts - - with inductive load, max. 0.5 A - on lamp load, max. 5W - with inductive load, max. <td>Input current</td> <td></td>	Input current	
Power loss, typ. 1.5 W 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 • • with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage • • Rated value (DC) 24 V • for signal "1", min. 20 V DC Output remet 0.5 A • for signal "1" rated value 0.5 A • output deal with resistive load • • "0" to "1", max. 200 µs Total current of the outputs (per group) • horizontal installation -	from backplane bus 5 V DC, max.	120 mA
Digital outputs 8 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 • • with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage • • Rated value (DC) 24 V • for signal "0", max. 0.1 V; with 10 kOhm load • of raignal "1", min. 20 V DC Output current • • for signal "1" rated value 0.5 A • on signal "1" rated value 0.5 A • output delay with resistive load • • "0" to "1", max. 20 µs Total current of the outputs (per group) • horizontal installation - - - up to 50 °C, max. Switching capacity of contacts • - - with resistive load, max. Switching capacity of contacts . - - with resistive load, max. Switching capacity of contacts	Power loss	
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 0.5 A • with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage	Power loss, typ.	1.5 W
• 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 0.5 A • on lamp load, max. 0.5 A Output voltage 7 Rated value (DC) 24 V • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V DC Output durent 0.5 A • for signal "1" rated value 0.5 A • for signal "1" rated value 0.5 A • for signal "0" residual current, max. 10 µA Output delay with resistive load 0 • "0" to "1", max. 50 µs • "1" to "0", max. 200 µs Total current of the outputs (per group) 10 µA horizontal installation - - up to 50 "C, max. 4 A; Current per mass Relay outputs Switching capacity of contacts - with inductive load, max. 0.5 A - on lamp load, max. 5 W - with inductive load, max. 5 A - with inductive load, max. 5 A - with inductive	Digital outputs	
Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to typ. (L+) -48 V Switching capacity of the outputs 0.5 A • on lamp load, max. 5 W Output voltage 5 W Output voltage 24 V • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1" rated value 0.5 A • or signal "1" rated value 0.5 A • for signal "0" residual current, max. 10 µA Output delay with resistive load	Number of digital outputs	8
Limitation of inductive shutdown voltage to typ. (L+) -48 V Switching capacity of the outputs 0.5 A • with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage 24 V • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V DC Output current 0.5 A • for signal "1" rated value 0.5 A • for signal "0" residual current, max. 10 µA Output delay with resistive load 50 µs • "0" to "1", max. 50 µs • "0" to "1", max. 200 µs Total current of the outputs (per group) horizontal installation horizontal installation - - up to 50 °C, max. 4 A; Current per mass Relay outputs Switching capacity of contacts - with inductive load, max. 0.5 A - on lamp load, max. 0.5 A - with resistive load, max. 0.5 A - on lamp load, max. 0.5 A - with resistive load, max. 0.5 A - with resistive load, max. 0.5 A - with resistive load, max. 0.5 A <	 in groups of 	1
Switching capacity of the outputs • with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage	Short-circuit protection	No; to be provided externally
• with resistive load, max. 0.5 Å • on lamp load, max. 5 W Output voltage		
• on lamp load, max. 5 W Output voltage - • Rated value (DC) 24 V • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V DC Output current - • for signal "1" rated value 0.5 A • for signal "1" residual current, max. 10 μA 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 Relay outputs - Switching capacity of contacts - - with inductive load, max. 0.5 A - on lamp load, max. 0.5 A - on lamp load, max. 0.5 A - with resistive load, max. 500 m - with resistive load, max. 500 m - with inductive load, max. 150 m	Switching capacity of the outputs	
Output voltage 24 V • Rated value (DC) 24 V • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V DC Output current 0.5 A • for signal "1" rated value 0.5 A Output delay with resistive load = • "0" to "1", max. 200 µs Total current of the outputs (per group) + horizontal installation - - up to 50 °C, max. 4 A; Current per mass Relay outputs Switching capacity of contacts - with inductive load, max. 0.5 A Cable length - • shielded, max. 500 m • unshielded, max. 500 m	 with resistive load, max. 	0.5 A
• Rated value (DC) 24 V • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V DC Output current 0.5 A • for signal "0" residual current, max. 10 µA Output delay with resistive load 50 µs • "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 Relay outputs Switching capacity of contacts - with inductive load, max. 0.5 A - with resistive load, max. 0.5 A - on lamp load, max. 0.5 A - with resistive load, max. 0.5 A - with resistive load, max. 0.5 A - with resistive load, max. 0.5 A Cable length - • shielded, max. 500 m • unshielded, max. 500 m • unshielded, max. 150 m	 on lamp load, max. 	5 W
 for signal "0", max. 0.1 V; with 10 kOhm load for signal "1", min. 20 V DC Output current for signal "1" rated value 0.5 A for signal "0" residual current, max. 10 µA Output delay with resistive load "0" to "1", max. 20 µs Total current of the outputs (per group) horizontal installation — up to 50 °C, max. 4 A; Current per mass Relay outputs Switching capacity of contacts — with inductive load, max. 0.5 A So µS So µS So µS Total current of the outputs (per group) horizontal installation — up to 50 °C, max. 4 A; Current per mass Relay outputs Switching capacity of contacts — with inductive load, max. 0.5 A So µS Unshielded, max. 500 m unshielded, max. 150 m 	Output voltage	
• for signal "1", min. 20 V DC Output current 0.5 A • for signal "0" residual current, max. 10 μA Output delay with resistive load 50 μs • "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 Relay outputs Switching capacity of contacts - with inductive load, max. 0.5 A - on lamp load, max. 5 W - with resistive load, max. 0.5 A Shielded, max. 500 m • shielded, max. 150 m	 Rated value (DC) 	24 V
Output current • for signal "1" rated value 0.5 A • for signal "0" residual current, max. 10 µA Output delay with resistive load 50 µs • "0" to "1", max. 200 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 Relay outputs Switching capacity of contacts - with inductive load, max. 0.5 A - on lamp load, max. 5 W - with resistive load, max. 0.5 A Cable length 500 m • shielded, max. 500 m • unshielded, max. 150 m Interrupts/diagnostics/status information 150 m	 for signal "0", max. 	0.1 V; with 10 kOhm load
• for signal "1" rated value0.5 A• for signal "0" residual current, max.10 μAOutput delay with resistive load50 μs• "0" to "1", max.50 μs• "1" to "0", max.200 μsTotal current of the outputs (per group)horizontal installation- up to 50 °C, max up to 50 °C, max.4 A; Current per massRelay outputsSwitching capacity of contacts- on lamp load, max.0.5 A- with resistive load, max.0.5 A- Imp load, max.0.5 A- Alarms500 m- Alarms500 m	 for signal "1", min. 	20 V DC
• for signal "0" residual current, max. 10 μA Output delay with resistive load 50 μs • "0" to "1", max. 200 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 Relay outputs Switching capacity of contacts - with inductive load, max. 0.5 A - on lamp load, max. 5 W - with resistive load, max. 0.5 A Cable length 500 m • shielded, max. 500 m • unshielded, max. 150 m	Output current	
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 Relay outputs Switching capacity of contacts - with inductive load, max. 0.5 A - on lamp load, max. 5 W - with resistive load, max. 0.5 A Cable length 500 m • shielded, max. 500 m • unshielded, max. 150 m	 for signal "1" rated value 	0.5 A
• "0" to "1", max.50 μs• "1" to "0", max.200 μsTotal current of the outputs (per group) horizontal installation up to 50 °C, max.4 A; Current per massRelay outputs-Switching capacity of contacts with inductive load, max.0.5 A on lamp load, max.5 W with resistive load, max.0.5 ACable length-• shielded, max.500 m• unshielded, max.150 mInterrupts/diagnostics/status information	 for signal "0" residual current, max. 	10 µA
 "1" to "0", max. 200 µs Total current of the outputs (per group) horizontal installation - up to 50 °C, max. - up to 50 °C, max. 4 A; Current per mass Relay outputs Switching capacity of contacts - with inductive load, max. 0.5 A - on lamp load, max. 5 W - with resistive load, max. 0.5 A Cable length shielded, max. 500 m unshielded, max. 150 m Interrupts/diagnostics/status information 	Output delay with resistive load	
Total current of the outputs (per group) horizontal installation up to 50 °C, max. 4 A; Current per mass Relay outputs Switching capacity of contacts with inductive load, max. 0.5 A on lamp load, max. 0.5 A with resistive load, max. 0.5 A Cable length • shielded, max. 500 m • unshielded, max. 150 m		50 µs
horizontal installation up to 50 °C, max. 4 A; Current per mass Relay outputs	• "1" to "0", max.	200 µs
up to 50 °C, max. 4 A; Current per mass Relay outputs	Total current of the outputs (per group)	
Relay outputs Switching capacity of contacts with inductive load, max. 0.5 A on lamp load, max. 5 W with resistive load, max. 0.5 A Cable length 0.5 A • shielded, max. 500 m • unshielded, max. 150 m Interrupts/diagnostics/status information	horizontal installation	
Switching capacity of contacts with inductive load, max. 0.5 A on lamp load, max. 5 W with resistive load, max. 0.5 A Cable length 0.5 A • shielded, max. 500 m • unshielded, max. 150 m Interrupts/diagnostics/status information Alarms	— up to 50 °C, max.	4 A; Current per mass
with inductive load, max. 0.5 A on lamp load, max. 5 W with resistive load, max. 0.5 A Cable length 0.5 A • shielded, max. 500 m • unshielded, max. 150 m Interrupts/diagnostics/status information Alarms	Relay outputs	
- on lamp load, max. 5 W - with resistive load, max. 0.5 A Cable length • shielded, max. 500 m • unshielded, max. 150 m Interrupts/diagnostics/status information	Switching capacity of contacts	
with resistive load, max. 0.5 A Cable length 500 m • shielded, max. 500 m • unshielded, max. 150 m Interrupts/diagnostics/status information	 — with inductive load, max. 	0.5 A
Cable length • shielded, max. • unshielded, max. 150 m Interrupts/diagnostics/status information		
	— with resistive load, max.	0.5 A
• unshielded, max. 150 m Interrupts/diagnostics/status information Alarms		
Interrupts/diagnostics/status information Alarms		
Alarms	unshielded, max.	150 m
	Interrupts/diagnostics/status information	
Diagnostic alarm Yes	Alarms	
	Diagnostic alarm	Yes

Diagnostics indication LED		
 for status of the outputs 	Yes	
Potential separation		
Potential separation digital outputs		
 between the channels, in groups of 	1	
 between the channels and backplane bus 	500 V AC	
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		
• 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.	-40 °C	
• 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 / header		
required front connector	Yes	
Mechanics/material		
Enclosure material (front)		
Plastic	Yes	
Dimensions		
Width	45 mm	
Height	100 mm	
Depth	75 mm	
Weights		
Weight, approx.	180 g	
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