SIEMENS

Data sheet

6ES7223-1PL32-0XB0



SIMATIC S7-1200, DIGITAL I/O SM 1223, 16DI / 16DO, 16DI DC 24 V, SINK/SOURCE, 16DO, RELAY 2A

Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
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.	180 mA
Digital inputs	
 from load voltage L+ (without load), max. 	4 mA/input 11 mA/relay
Output voltage	
Power supply to the transmitters	
• present	Yes
Power losses	
Power loss, typ.	10 W
Digital inputs	
Number of digital inputs	16
• In groups of	2
Input characteristic curve in accordance with IEC	Yes
61131, type 1	
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	16
horizontal installation	

(10 °C	40
— up to 40 °C, max.	16
— up to 50 °C, max.	16
vertical installation	
— up to 40 °C, max.	16
Input voltage	
 Type of input voltage 	DC
Rated value (DC)	24 V
● for signal "0"	5 V DC at 1 mA
● for signal "1"	15 VDC at 2.5 mA
Input current	
 for signal "0", max. (permissible quiescent current) 	1 mA
• for signal "1", min.	2.5 mA
• for signal "1", typ.	4 mA; Typical
Input delay (for rated value of input voltage)	
for standard inputs	
— Parameterizable	Yes; 0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in groups of four
for interrupt inputs	
— Parameterizable	Yes
Cable length	
• shielded, max.	500 m
• Unshielded, max.	300 m
Digital outputs	
Number of digital outputs	16
• In groups of	4
short-circuit protection	No; to be provided externally
Switching capacity of the outputs	
• with resistive load, max.	2 A
• on lamp load, max.	30 W with DC, 200 W with AC
Output voltage	
Rated value (DC)	5 V DC to 30 V DC
• Rated value (AC)	5 V AC to 250 V AC
Output current	
 for signal "1" permissible range, max. 	2 A
Output delay with resistive load	
• "0" to "1", max.	10 ms
● "1" to "0", max.	10 ms
Aggregate current of outputs (per group)	
horizontal installation	
— up to 50 °C, max.	8 A; Current per mass
Relay outputs	

• Number of relay outputs 16 • Rated input voltage of relay coil L+ (DC) 24 V • Number of operating cycles, max. mechanically 10 million, at rated load voltage 100.000 Switching capacity of contacts - with inductive load, max. 2 A - with inductive load, max. 2 A - on lamp load, max. 20 W with DC, 200 W with AC - with resistive load, max. 2 A - with resistive load, max. 2 A - with resistive load, max. 150 m • Shielded, max. 150 m • Unshielded, max. 150 m • Unshielded, max. 150 m • Alarms Yes • Diagnostic functions Yes • Diagnostic functions Yes • Diagnostic functions Yes • Diagnostic functions Yes • For status of the inputs Yes • For status of the outputs Yes • For status of the inputs Yes • For status of the outputs Yes • Status indicator (gital output (green) Yes • Status indicator digital input (green) Yes • Status indicator digital input (green) Yes • between the channels, in groups of 2 • Detential separation digital inputs 1500 V AC for 1 minute		40	
Number of operating cycles, max. mechanically 10 million, at rated load voltage 100,000 Switching capacity of contacts 2 A - with inductive load, max. 2 A - on lamp load, max. 2 A Cable length 500 m • Unshielded, max. 500 m • Unshielded, max. 150 m Interrupts/citagnostics/status information Yes Alarms Yes Diagnostic messages - • Diagnostic messages - • Diagnostic functions Yes Diagnostic messages - • For status of the inputs Yes • Status indicator digital outputs Yes • Status indicator digital input (green) Yes • Detential separation 2 Potential separation 2 • Detween the channels Relays • between the channels Relays • between the channels 750 V AC for 1 minute Portential separation 1000 V AC for 1 minute Permet difference - • between the channels Relays <tr< td=""><td></td><td></td></tr<>			
Switching capacity of contacts 2 A - with inductive load, max. 2 A - on lamp load, max. 30 W with DC, 200 W with AC - with resistive load, max. 2 A Cable length 500 m • Unshielded, max. 150 m Interrupts/diagnostics/status information Alarms Yes • Diagnostic functions Yes Diagnostic functions Yes Obignostic functions Yes Diagnostic functions Yes Obignostic functions Yes Obignostic functions Yes Obignostic functions Yes For status of the inputs Yes • for status of the outputs Yes • for status of the outputs Yes • for status of the outputs Yes • Status indicator digital inputs Yes • between the channels, in groups of 2 Potential separation Ze Potential separation digital inputs Yes • between the channels, in groups of 4 • between the channels, in groups of 4 • between the channels and the backplan			
- with inductive load, max. 2 Å - on lamp load, max. 30 W with DC, 200 W with AC - with resistive load, max. 2 Å Cable length 500 m • shelded, max. 150 m Interrupts/diagnostics/status information Alarms Alarms Ves • Diagnostic alarm Yes Diagnostic messages Yes • Monitoring the supply voltage Yes Diagnostic sindcation LED Yes • for status of the inputs Yes • Status of the outputs Yes • Status of the couptus Yes • Status of the couptus Yes • Status of the couptus Yes • Status indicator digital output (green) Yes • Detential separation digital inputs • es • between the channels, in groups of 2 Potential separation digital inputs 1500 V AC for 1 minute • between the channels and the backplane bus 1500 V AC for 1 minute Permissible potential difference 1500 V AC for 1 minute Permissible potential difference 1500 V AC for 1 minute Permissible potential difference Yes between the channels and the backplane bus 750 V AC for 1 minute Permissible potential difference Yes		mechanically 10 million, at rated load voltage 100,000	
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Cable length • shielded, max. 500 m • Unshielded, max. 150 m Interrupts/diagnostics/status information Alarms • Alarms Yes • Diagnostic alarm Yes Diagnostic messages Yes • Diagnostic messages Yes • Monitoring the supply voltage Yes Diagnostic messages Yes • for status of the inputs Yes • for status of the outputs Yes • for maintenance Yes • Status indicator digital output (green) Yes Potential separation Yes Potential separation digital inputs Pes • between the channels, in groups of 2 Potential separation digital outputs 1500 V AC for 1 minute • between the channels, in groups of 4 • between the channels on the backplane bus 1500 V AC for 1 minute Porential separation digital outputs 750 V AC for 1 minute Permissible potential difference Yes between different circuits 750 V AC for 1 minute Degree of protection to EN 60529 Yes • IP20	— on lamp load, max.	30 W with DC, 200 W with AC	
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between different circuits 750 V AC for 1 minute Degree and class of protection Degree of protection to EN 60529 • IP20 Yes Standards, approvals, certificates CE mark Yes CSA approval Yes UL approval Yes	Permissible potential difference		
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 IP20 Yes Standards, approvals, certificates CE mark CSA approval Yes UL approval Yes 	Degree and class of protection		
Standards, approvals, certificates CE mark Yes CSA approval Yes UL approval Yes	Degree of protection to EN 60529		
CE mark Yes CSA approval Yes UL approval Yes	• IP20	Yes	
CE mark Yes CSA approval Yes UL approval Yes	Standards, approvals, certificates		
UL approval Yes		Yes	
	CSA approval	Yes	
cULus Yes	UL approval	Yes	
	cULus	Yes	

FM approval	Yes
RCM (formerly C-TICK)	Yes
Marine approval	
Marine approval	Yes
Ambient conditions	
Free fall	
 Drop height, max. (in packaging) 	0.3 m; five times, in dispatch package
Ambient temperature in operation	
 Permissible temperature range 	-20 °C to +60 °C horizontal mounting, -20 °C to 50 °C vertical mounting, 95% humidity, non-condensing
• 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
 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	
 Permissible range (without condensation) at 25 °C 	95 %
Connection method	
required front connector	Yes
Mechanics/material	
Type of housing (front)	
• plastic	Yes
Dimensions	
Width	70 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	350 g
last modified:	20.04.2015