## 6ES7223-1PH22-0XA0

## **SIEMENS**

## **Data sheet**



\*\*\*Spare part\*\*\* SIMATIC S7-200, Digital I/O EM 223, only for S7-22X CPU, 8 DI 24 V DC, Sink/Source, 8 DO relay, 2 A/channel

Figure similar

Load voltage L+  Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  permissible range, upper limit (DC)  permissible range, lower limit (DC)  permissible range, lower limit (AC)  permissible range, upper limit (AC)  permissible range, uper limit (AC)  permissible range uper limit (AC)  permissible range uper limit (AC)  permissible range uper limi	Supply voltage	
permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range, lower limit (AC) permissible range, lower limit (AC) permissible range, upper limi	Load voltage L+	
permissible range, upper limit (DC)  Load voltage L1  Rated value (AC) permissible range, lower limit (AC) permissible range, lower limit (AC) permissible range, upper limit	Rated value (DC)	24 V
Load voltage L1	<ul> <li>permissible range, lower limit (DC)</li> </ul>	5 V
Rated value (AC)	<ul> <li>permissible range, upper limit (DC)</li> </ul>	30 V
permissible range, lower limit (AC) permissible range, upper limit (AC) permissible range, upper limit (AC) permissible range, upper limit (AC)  from external supply (24 V DC), max.  from backplane bus 5 V DC, max.  from coil current, max.  9 mA; for each output on signal "1"  Power loss  Power loss  Power loss, typ.  1 3 W  10 juital inputs  Number of digital inputs  8 Input voltage Proved input voltage	Load voltage L1	
permissible range, upper limit (AC) put current from external supply (24 V DC), max. from backplane bus 5 V DC, max. from backplane bus 5 V DC, max.  power loss  Power loss, typ.  Power loss, typ.  Digital inputs  Number of digital inputs  Input voltage  • Type of input voltage  • Type of input voltage  • Type of input voltage  • Tor signal "0"  • for signal "1"  Input current  • for signal "4", typ.  Input delay (for rated value of input voltage)  for standard inputs  — at "0" to "1", max.  Vaniable of digital outputs  Number of digital outputs  Number of digital inputs  8  Relays  Short-circuit protection  No  Output voltage  • for signal "0", max. • for signal "0", max. • for signal "0", max. • for signal "1", min.  L+/L1  Output current  • for signal "4", min.  L+/L1  Output current  • for signal "4" rated value  • for signal "4", min.  L+/L1  Output current  • for signal "4" rated value	<ul> <li>Rated value (AC)</li> </ul>	230 V; 24V AC to 230V AC
Input current  from external supply (24 V DC), max.  from backplane bus 5 V DC, max.  from coil current, max.  9 mA; for each output on signal "1"  Power loss  Power loss, typ.  3 W  Digital inputs  Number of digital inputs  8 Input voltage  • Type of input voltage  • Rated value (DC) • for signal "0" • for signal "1" • for signal "1", typ.  Input delay (for rated value of input voltage)  for standard inputs  — at "0" to "1", max.  4.5 ms  Digital outputs  Number of digital outputs  Signal "0", max. • for signal "1", min.  - t-VL1  Output current  • for signal "1", min.  - t-VL1  Output current  • for signal "1", min.  L+/L1  Output current  • for signal "1" rated value • for signal "1", min.  - total current of the outputs (per group)	<ul> <li>permissible range, lower limit (AC)</li> </ul>	5 V
from external supply (24 V DC), max.  from backplane bus 5 V DC, max.  from coil current, max.  Power loss  Power loss, typ.  Digital inputs  Number of digital inputs  8 Input voltage  • Type of input voltage  • Rated value (DC) • for signal "1" • for signal "1" • for signal "1" • for signal "1", max.  Digital outputs  Number of digital inputs  8 Input voltage  • Type of input voltage • Type of input voltage • Rated value (DC) • for signal "0" • for signal "1" • for signal "1" • for signal "1" • for signal "1" • for signal "1", typ.  Input delay (for rated value of input voltage)  for standard inputs  — at "0" to "1", max.  4.5 ms  Digital outputs  Number of digital outputs  Short-circuit protection  No  Output voltage • for signal "1", min.  L+/L1  Output current • for signal "1" rated value	<ul> <li>permissible range, upper limit (AC)</li> </ul>	250 V
from backplane bus 5 V DC, max.  from coil current, max.  9 mA; for each output on signal "1"  Power loss.  Power loss, typ.  3 W  Digital inputs  Number of digital inputs  8 Input voltage  • Type of input voltage  • Rated value (DC)  • for signal "0"  • for signal "1"  15 V DC to 30 V DC  Input current  • for signal "1", typ.  4 mA  Input delay (for rated value of input voltage)  for standard inputs  — at "0" to "1", max.  Digital outputs  Number of digital outputs  Short-circuit protection  No  Output voltage  • for signal "0", max.  • for signal "0", max.  • for signal "1", min.  Output current  • for signal "1" rated value  2 000 mA  Total current of the outputs (per group)	Input current	
from coil current, max.  Power loss  Power loss, typ.  Digital inputs  Number of digital inputs  8 Input voltage  • Type of input voltage  • Rated value (DC)  • for signal "0"  • for signal "1"  15 V DC to 30 V DC  Input current  • for signal "1", typ.  Input delay (for rated value of input voltage)  for standard inputs  — at "0" to "1", max.  4.5 ms  Digital outputs  Number of digital outputs  Short-circuit protection  Output voltage  • for signal "0", max.  • for signal "0", max.  • for signal "1", min.  Output current  • for signal "1" rated value	from external supply (24 V DC), max.	72 mA
Power loss Power loss, typ. 3 W  Digital inputs  Number of digital inputs 8  Input voltage  • Type of input voltage  • Rated value (DC) • for signal "0" • for signal "1" • for signal "1", typ. 4 mA  Input delay (for rated value of input voltage)  for standard inputs  — at "0" to "1", max. 4.5 ms  Digital outputs  Number of digital outputs 8; Relays  Short-circuit protection No  Output voltage  • for signal "0", max. 0.1 V; with 10 kOhm load  • for signal "1", min. L+/L1  Output current  • for signal "1", min. 2 000 mA  Total current of the outputs (per group)	from backplane bus 5 V DC, max.	80 mA
Power loss, typ.  Digital inputs  Number of digital inputs  8 Input voltage  • Type of input voltage  • Rated value (DC) • for signal "0" • for signal "1" • for signal "1"  • for signal "1", typ.  Input delay (for rated value of input voltage)  for standard inputs  — at "0" to "1", max.   A.5 ms  Digital outputs  Number of digital outputs  Short-circuit protection  Output voltage  • for signal "0", max. • for signal "1", min.  Output current  • for signal "1", min.  Output current  • for signal "1", min.  Output current  • for signal "1" rated value  2 000 mA  Total current of the outputs (per group)	from coil current, max.	9 mA; for each output on signal "1"
Number of digital inputs  Number of digital inputs  • Type of input voltage • Type of input voltage • Rated value (DC) • for signal "0" • for signal "1" • for signal "1"  • for signal "1", typ.  • for signal "1", typ.  • for standard inputs  — at "0" to "1", max.   Pigital outputs  Number of digital outputs  Short-circuit protection  Output voltage  • for signal "1", min.  • for signal "1", min.  L+/L1  Output current  • for signal "1" rated value  • for signal "1", min.  2 000 mA  Total current of the outputs (per group)	Power loss	
Number of digital inputs  Input voltage  Type of input voltage Rated value (DC) for signal "0" for signal "1" Type of input voltage  for signal "1" Type of input voltage  for signal "1"  for signal "1", typ.  Input current  for signal "1", typ.  Input delay (for rated value of input voltage)  for standard inputs  - at "0" to "1", max.  Input delay (for rated value of input voltage)  for standard inputs  - at "0" to "1", max.  Input delay (for rated value of input voltage)  for standard inputs  - at "0" to "1", max.  Input delay (for rated value of input voltage)  for signal outputs  Short-circuit protection  No  Output voltage  for signal "0", max. for signal "1", min.  L+/L1  Output current for signal "1" rated value  Input voltage  Input voltag	Power loss, typ.	3 W
Input voltage  Type of input voltage Rated value (DC)  Tor signal "0"  Tor signal "1"  Tor signal "1"  Tor signal "1", typ.  Tor signal "1", max.  Tor signal "1", max.  Tor signal "0", max.  Tor signal "0", max.  Tor signal "1", min.  Tor signal "1" rated value  Total current of the outputs (per group)	Digital inputs	
<ul> <li>Type of input voltage</li> <li>Rated value (DC)</li> <li>for signal "0"</li> <li>0 to 5 V</li> <li>for signal "1"</li> <li>15 V DC to 30 V DC</li> </ul> Input current <ul> <li>for signal "1", typ.</li> <li>4 mA</li> </ul> Input delay (for rated value of input voltage) <ul> <li>for standard inputs</li> <li>— at "0" to "1", max.</li> </ul> Digital outputs <ul> <li>Number of digital outputs</li> <li>Short-circuit protection</li> <li>Output voltage</li> <li>for signal "0", max.</li> <li>for signal "1", min.</li> <li>L+/L1</li> </ul> Output current <ul> <li>for signal "1" rated value</li> <li>Total current of the outputs (per group)</li> </ul> Total current of the outputs (per group)	Number of digital inputs	8
<ul> <li>Rated value (DC)</li> <li>for signal "0"</li> <li>0 to 5 V</li> <li>for signal "1"</li> <li>15 V DC to 30 V DC</li> </ul> Input current <ul> <li>for signal "1", typ.</li> <li>4 mA</li> </ul> Input delay (for rated value of input voltage) <ul> <li>for standard inputs</li> <li>— at "0" to "1", max.</li> </ul> Digital outputs <ul> <li>8; Relays</li> </ul> Number of digital outputs <ul> <li>8; Relays</li> </ul> Short-circuit protection <ul> <li>No</li> </ul> Output voltage <ul> <li>for signal "0", max.</li> <li>for signal "0", max.</li> <li>for signal "1", min.</li> </ul> Output current <ul> <li>for signal "1" rated value</li> <li>2 000 mA</li> </ul> Total current of the outputs (per group)	Input voltage	
for signal "0"	<ul> <li>Type of input voltage</li> </ul>	DC
	<ul> <li>Rated value (DC)</li> </ul>	24 V
Input current  ● for signal "1", typ. 4 mA  Input delay (for rated value of input voltage)  for standard inputs  — at "0" to "1", max. 4.5 ms  Digital outputs  Number of digital outputs 8; Relays Short-circuit protection No  Output voltage  ● for signal "0", max. 0.1 V; with 10 kOhm load  ● for signal "1", min. L+/L1  Output current  ● for signal "1" rated value 2 000 mA  Total current of the outputs (per group)	● for signal "0"	0 to 5 V
	• for signal "1"	15 V DC to 30 V DC
Input delay (for rated value of input voltage)  for standard inputs  — at "0" to "1", max.  4.5 ms  Digital outputs  Number of digital outputs  Short-circuit protection  No  Output voltage  • for signal "0", max.  • for signal "1", min.  Output current  • for signal "1" rated value  Total current of the outputs (per group)	Input current	
for standard inputs  — at "0" to "1", max.  4.5 ms  Digital outputs  Number of digital outputs  Short-circuit protection  No  Output voltage  • for signal "0", max.  • for signal "1", min.  Output current  • for signal "1" rated value  Total current of the outputs (per group)	● for signal "1", typ.	4 mA
— at "0" to "1", max.  Digital outputs  Number of digital outputs  Short-circuit protection  Output voltage  ● for signal "0", max.  ● for signal "1", min.  Output current  ● for signal "1" rated value  Total current of the outputs (per group)	Input delay (for rated value of input voltage)	
Number of digital outputs  Short-circuit protection  Output voltage  of r signal "0", max. for signal "1", min.  Output current  of r signal "1" rated value  2 000 mA  Total current of the outputs (per group)	for standard inputs	
Number of digital outputs  Short-circuit protection  Output voltage  of or signal "0", max.  of or signal "1", min.  Output current  of or signal "1" rated value  2 000 mA  Total current of the outputs (per group)	— at "0" to "1", max.	4.5 ms
Short-circuit protection  Output voltage  • for signal "0", max.  • for signal "1", min.  Output current  • for signal "1" rated value  2 000 mA  Total current of the outputs (per group)	Digital outputs	
Output voltage  • for signal "0", max.  • for signal "1", min.  Output current  • for signal "1" rated value  2 000 mA  Total current of the outputs (per group)	Number of digital outputs	8; Relays
<ul> <li>for signal "0", max.</li> <li>for signal "1", min.</li> <li>Output current</li> <li>for signal "1" rated value</li> <li>2 000 mA</li> </ul> Total current of the outputs (per group)	Short-circuit protection	No
<ul> <li>for signal "1", min.</li> <li>Output current</li> <li>for signal "1" rated value</li> <li>2 000 mA</li> <li>Total current of the outputs (per group)</li> </ul>	Output voltage	
Output current  • for signal "1" rated value 2 000 mA  Total current of the outputs (per group)		0.1 V; with 10 kOhm load
• for signal "1" rated value 2 000 mA  Total current of the outputs (per group)	● for signal "1", min.	L+/L1
Total current of the outputs (per group)	•	
	for signal "1" rated value	2 000 mA
	1 (1 0 1)	
•	all mounting positions	
— Current per conductor/group, max. 8 A	<ul><li>— Current per conductor/group, max.</li></ul>	8 A

Relay outputs	
Number of operating cycles, max.	10 000 000; mechanically 10 million, at rated load voltage 100 000
Switching capacity of contacts	, , , , , , , , , , , , , , , , , , ,
— with inductive load, max.	0.75 A; each output
— on lamp load, max.	200 W; 30 W with DC, 200 W with AC
— with resistive load, max.	0.75 A; each output
Cable length	
• shielded, max.	500 m
• unshielded, max.	150 m
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
<ul> <li>permissible quiescent current (2-wire sensor), max.</li> </ul>	1 mA
Potential separation	
Potential separation digital inputs	
<ul> <li>Potential separation digital inputs</li> </ul>	Yes; Optocoupler
<ul> <li>between the channels, in groups of</li> </ul>	4
Potential separation digital outputs	
<ul> <li>Potential separation digital outputs</li> </ul>	Yes; Relays
<ul> <li>between the channels, in groups of</li> </ul>	4
Isolation	
Isolation tested with	500 V AC
connection method / header	
Plug-in I/O terminals	Yes
Dimensions	
Width	71.2 mm
Height	80 mm
Depth	62 mm
Weights	
Weight, approx.	300 g

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last modified: