## **SIEMENS**

## Data sheet

6ES7223-1PH32-0XB0

SIMATIC S7-1200, Digital I/O SM 1223, 8 DI/8 DO, 8 DI 24 V DC, Sink/Source, 8 DO, relay 2 A



General information	
Product type designation	SM 1223, DI 8x24 V DC, DQ 8x relay
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.	145 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 loss	
Power loss, typ.	5.5 W
Digital inputs	

Number of digital inputs	8
• 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.	8
horizontal installation	
— up to 40 °C, max.	8
— up to 50 °C, max.	8
vertical installation	
— up to 40 °C, max.	8
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 V DC at 2.5 mA
Input current	
<ul> <li>for signal "0", max. (permissible quiescent current)</li> </ul>	1 mA
• for signal "1", min.	2.5 mA
• for signal "1", typ.	4 mA
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	8
• in groups of	2
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)	
rated value (BG)	5 V DC to 30 V DC
• Rated value (AC)	5 V DC to 30 V DC 5 V AC to 250 V AC

• 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
Total current of the outputs (per group)	
horizontal installation	
— up to 50 °C, max.	10 A; Current per mass
Relay outputs	
Number of relay outputs	8
<ul> <li>Rated supply voltage of relay coil L+ (DC)</li> </ul>	24 V
<ul> <li>Number of operating cycles, max.</li> </ul>	mechanically 10 million, at rated load voltage 100 000
Switching capacity of contacts	
— 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	
• shielded, max.	500 m
• unshielded, max.	150 m
Interrunta/diagnostics/status information	
Interrupts/diagnostics/status information  Alarms	
Diagnostic alarm	Yes
Diagnostics indication LED	
for status of the inputs	Yes
• for status of the outputs	Yes
Potential separation	
Potential separation digital inputs	
• between the channels, in groups of	2
Potential separation digital outputs	Delaye
• between the channels	Relays
<ul> <li>between the channels, in groups of</li> </ul>	2
<ul> <li>between the channels and backplane bus</li> </ul>	1500 V AC for 1 minute
Permissible potential difference	
between different circuits	750 V AC for 1 minute
Degree and class of protection	
Degree of protection acc. to EN 60529	
• IP20	Yes
Standards, approvals, certificates	
CE mark	Yes
CSA approval UL approval	Yes
	Yes

Marine approval   Yes	cULus	Yes
Ambient conditions  Free fall  Fall height, max.  Ambient temperature during operation  imin.  horizontal installation, min.  horizontal temperature during storage/transportation  hini.  horizontal temperature during storage/transportation  horizontal temperature during storage/transportation  horizontal temperature during storage/transportal de "C"  horizontal temperature during storage/transportation  horizontal temperature during storage/transportal de "C"  horizontal temperature during storage/transportation  horizontal temperature during storage/transportation  horizontal temperature during storage/transportation  horizontal temperature during storage	FM approval	Yes
Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package  Ambient temperature during operation  inin.  max.  Oo "C  horizontal installation, min.  horizontal installation, max.  vertical installation, max.  permissible temperature change  Ambient temperature during storage/transportation  inin.  vertical installation, max.  permissible temperature change  Ambient temperature during storage/transportation  inin.  max.  70 "C  Air pressure acc. to IEC 60068-2-13  Storage/transport, min.  Storage/transport, max.  1 080 hPa  Storage/transport, max.  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  Weight, approx.	RCM (formerly C-TICK)	Yes
Free fall  Free fall Fall height, max.  Ambient temperature during operation  Imin.  Pax.  And Connection method resource of the factor of the	Marine approval	Yes
Free fall  Free fall Fall height, max.  Ambient temperature during operation  Imin.  Pax.  And Connection method resource of the factor of the	Ambient conditions	
Ambient temperature during operation  Imm. Imm. Imm. Imm. Immorbient temperature during operation  Immorbient temperature during to a company to the foreign of the foreign		
• min. • max. • horizontal installation, min. • horizontal installation, min. • horizontal installation, max. • vertical installation, min. • vertical installation, min. • vertical installation, min. • vertical installation, max. • vertical installation, max. • vertical installation, max. • permissible temperature change  Ambient temperature during storage/transportation • min. • 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 Yes  Mechanics/material  Enclosure material (front) • Plastic  Yes  Dimensions  Width Height 100 mm Depth 75 mm  Weights  Weights  Weight, approx. 230 g	● Fall height, max.	0.3 m; five times, in product package
max. horizontal installation, min. 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.  min.  min.  max.  70 °C  Air pressure acc. to IEC 60068-2-13  Storage/transport, min. Storage/transport, min. Storage/transport, max.  1 080 hPa Storage/transport, max.  Relative humidity  Operation at 25 °C without condensation, max.  Connection method required front connector  Yes  Mechanics/material  Enclosure material (front) Plastic  Yes  Dimensions  Width 45 mm  Height 100 mm  Depth 75 mm  Weights  Weight, approx.  230 g	Ambient temperature during operation	
horizontal installation, min.     horizontal installation, max.     horizontal installation, max.     vertical installation, min.     vertical installation, min.     vertical installation, max.      vertical installation, min.     vertical installation, max.      vertical installation, max.      vertical installation, min.     vertical installation, max.      vertical installation.      vertical installation, max.      vertical installation, max.      vertical installation.      vertical	● min.	-20 °C
horizontal installation, max.     vertical installation, min.     vertical installation, min.     vertical installation, max.      ver	• max.	60 °C
vertical installation, min.     vertical installation, max.      vertical installation.      vertical i	• horizontal installation, min.	-20 °C
vertical installation, max.     vermissible temperature change  Ambient temperature during storage/transportation      min.     vermine.     ve	<ul> <li>horizontal installation, max.</li> </ul>	60 °C
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, max.     1 080 hPa      • Operation at 25 °C without condensation, max.  Connection method  required front connector  Mechanics/material  Enclosure material (front)     • Plastic  Pisstic  Ves  Dimensions  Width     45 mm Height     100 mm Depth  T5 mm  Weights  Weights  Weight, approx.  230 g	• vertical installation, min.	-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.  95 %  Connection method  required front connector  Yes  Mechanics/material  Enclosure material (front)  • Plastic  Ves  Dimensions  Width  45 mm  Height  100 mm  Depth  75 mm  Weights  Weight, approx.  230 g	• vertical installation, max.	50 °C
<ul> <li>min.</li> <li>max.</li> <li>70 °C</li> <li>Air pressure acc. to IEC 60068-2-13</li> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> <li>1 080 hPa</li> <li>Storage/transport, max.</li> <li>1 080 hPa</li> <li>Qperation at 25 °C without condensation, max.</li> <li>95 %</li> </ul> Connection method required front connector Yes 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 Weight, approx. <ul> <li>230 g</li> </ul>	permissible temperature change	5°C to 55°C, 3°C / minute
max.  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.  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  Weight, approx. 230 g	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.  95 %  Connection method required front connector  Yes  Mechanics/material  Enclosure material (front) • Plastic  Pimensions  Width 45 mm Height 100 mm Depth 75 mm  Weights  Weight, approx.  230 g	• min.	-40 °C
Storage/transport, min. Storage/transport, max.  1 080 hPa  1 080 hPa  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 45 mm Height 100 mm Depth 75 mm  Weights Weight, approx.  230 g	• max.	70 °C
Storage/transport, max.  Relative humidity  Operation at 25 °C without condensation, max.  Solution method  required front connector  Mechanics/material  Enclosure material (front)  Plastic  Yes  Dimensions  Width  45 mm  Height  100 mm  Depth  75 mm  Weights  Weight, approx.  230 g	Air pressure acc. to IEC 60068-2-13	
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  Weight, approx.  230 g	Storage/transport, min.	660 hPa
Operation at 25 °C without condensation, max.    95 %	<ul> <li>Storage/transport, max.</li> </ul>	1 080 hPa
Connection method required front connector  Yes  Mechanics/material  Enclosure material (front)  Plastic  Yes  Dimensions  Width  Height  100 mm  Depth  75 mm  Weights  Weight, approx.  230 g	Relative humidity	
required front connector  Mechanics/material  Enclosure material (front)  Plastic  Yes  Dimensions  Width 45 mm  Height 100 mm  Depth 75 mm  Weights  Weight, approx. 230 g	<ul> <li>Operation at 25 °C without condensation, max.</li> </ul>	95 %
required front connector  Mechanics/material  Enclosure material (front)  Plastic  Yes  Dimensions  Width 45 mm  Height 100 mm  Depth 75 mm  Weights  Weight, approx. 230 g	Connection method	
Enclosure material (front)  ● Plastic  Pimensions  Width  Height  Depth  To mm  Weights  Weight, approx.		Yes
Enclosure material (front)  ● Plastic  Pimensions  Width  Height  Depth  To mm  Weights  Weight, approx.	Mochanics/material	
● Plastic  Dimensions  Width 45 mm  Height 100 mm  Depth 75 mm  Weights  Weight, approx. 230 g		
Dimensions           Width         45 mm           Height         100 mm           Depth         75 mm           Weights         230 g		Yes
Width 45 mm Height 100 mm Depth 75 mm  Weights Weight, approx. 230 g		
Height 100 mm Depth 75 mm  Weights Weight, approx. 230 g		
Depth 75 mm  Weights Weight, approx. 230 g		
Weights Weight, approx. 230 g		
Weight, approx. 230 g	рерш	75 111111
<b>last modified:</b> 01/31/2019	Weight, approx.	230 g
	last modified:	01/31/2019