



Figure similar

SIPLUS S7-1200 SM 1223 16 DI/16 DQ -25...+70°C with conformal coating based on 6ES7223-1BL32-0XB0 . Digital input/output 16 DI/16 DQ, 16 DI 24 V DC, Sink/Source, 16 DQ, transistor 0.5 A

General information	
Product type designation	SM 1223, DI 16x24 V DC, DQ 16x24 V DC
Supply voltage	
Rated value (DC)	24 V
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.	185 mA
Digital inputs	
<ul style="list-style-type: none"> from load voltage L+ (without load), max. 	4 mA; per channel
Output voltage	
Power supply to the transmitters	
<ul style="list-style-type: none"> present 	Yes
Power loss	
Power loss, typ.	4.5 W
Digital inputs	
Number of digital inputs	16
<ul style="list-style-type: none"> in groups of 	2
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	16
horizontal installation	
— up to 40 °C, max.	16
— up to 50 °C, max.	16
vertical installation	
— up to 40 °C, max.	16
Input voltage	
<ul style="list-style-type: none"> Type of input voltage Rated value (DC) for signal "0" for signal "1" 	DC 24 V 5 V DC at 1 mA 15 V DC at 2.5 mA
Input current	
<ul style="list-style-type: none"> for signal "0", max. (permissible quiescent current) for signal "1", min. 	1 mA 2.5 mA

<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • shielded, max. • unshielded, max. 	500 m 300 m
Digital outputs	
Number of digital outputs	16
<ul style="list-style-type: none"> • in groups of 	1
Short-circuit protection	No; to be provided externally
Limitation of inductive shutdown voltage to	L+ (-48 V)
Switching capacity of the outputs	
<ul style="list-style-type: none"> • with resistive load, max. • on lamp load, max. 	0.5 A 5 W
Output voltage	
<ul style="list-style-type: none"> • Rated value (DC) • for signal "0", max. • for signal "1", min. 	24 V 0.1 V; with 10 kOhm load 20 V DC
Output current	
<ul style="list-style-type: none"> • for signal "1" rated value • for signal "1" permissible range, max. • for signal "0" residual current, max. 	0.5 A 0.5 A 10 µA
Output delay with resistive load	
<ul style="list-style-type: none"> • "0" to "1", max. • "1" to "0", max. 	50 µs 200 µs
Total current of the outputs (per group)	
horizontal installation	
— up to 50 °C, max.	8 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	
<ul style="list-style-type: none"> • shielded, max. • unshielded, max. 	500 m 150 m
Interrupts/diagnostics/status information	
Alarms	Yes
Diagnostics function	Yes
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm 	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> • for status of the inputs • for status of the outputs • for maintenance 	Yes Yes Yes
Potential separation	
Potential separation digital inputs	
<ul style="list-style-type: none"> • between the channels, in groups of 	2
Potential separation digital outputs	
<ul style="list-style-type: none"> • between the channels, in groups of • between the channels and backplane bus 	1 500 V AC
Ambient conditions	
Free fall	
<ul style="list-style-type: none"> • Fall height, max. 	0.3 m; five times, in product package

Ambient temperature during operation	
<ul style="list-style-type: none"> • min. • max. 	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C 70 °C; = Tmax; Tmax > +60 °C number of simultaneously activated outputs 8, inputs 8 (no adjacent points) for horizontal mounting position
<ul style="list-style-type: none"> • At cold restart, min. 	-25 °C
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. • max. 	-40 °C 70 °C
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude 	5 000 m Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)
Relative humidity	
<ul style="list-style-type: none"> • With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Coolants and lubricants	
— Resistant to commercially available coolants and lubricants	Yes
Use in stationary industrial systems	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	
— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
<ul style="list-style-type: none"> • Coatings for printed circuit board assemblies acc. to EN 61086 • Protection against fouling acc. to EN 60664-3 • Military testing according to MIL-I-46058C, Amendment 7 • Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A 	Yes; Class 2 for high reliability Yes; Type 1 protection Yes; Discoloration of coating possible during service life Yes; Conformal coating, Class A
Connection method	
required front connector	Yes
Mechanics/material	
Enclosure material (front) <ul style="list-style-type: none"> • Plastic 	Yes
Dimensions	
Width	70 mm
Height	100 mm
Depth	75 mm
Weights	

Weight, approx.

310 g

last modified:

1/16/2021 