



Figure similar

SIMATIC S7-1200, Digital I/O SM 1223, 16 DI/16 DO, 16 DI 24 V DC, Sink/Source, 16 DO, 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 / header		
supply voltage of the transmitters / header	<ul style="list-style-type: none"> product function / supply voltage for transmitters 	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. for signal "1", typ. 	1 mA 2.5 mA 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	16		
• 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			
• 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		
• for signal "1", min.	20 V DC		
Output current			
• for signal "1" rated value	0.5 A		
• for signal "1" permissible range, max.	0.5 A		
• for signal "0" 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.	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			
• shielded, max.	500 m		
• unshielded, max.	150 m		
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			
• 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			



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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	
required front connector	Yes
Mechanics/material	
Enclosure material (front)	
• Plastic	Yes
Dimensions	
Width	70 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	310 g

last modified:

4/1/2022 



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