

SIMATIC S7-200 SMART, Digital I/O SM DR16, 8DI/8DO, 8 DI 24 V DC, Sink/Source, 8 DO, relay 2 A



Supply voltage	
Rated value (DC)	
<ul style="list-style-type: none"> • 24 V DC 	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption, typ.	80 mA; Current for 24 V DC input power
from backplane bus 5 V DC, typ.	115 mA; For 5 V DC from CPU module
Digital inputs	
Number of digital inputs	8
<ul style="list-style-type: none"> • in groups of 	2
Parallel switching of inputs	Yes
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
horizontal installation	
<ul style="list-style-type: none"> — 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
• for signal "1"	+15 to +30V
Input current	
• for signal "0", max. (permissible quiescent current)	1 mA
• for signal "1", min.	2.5 mA
• for signal "1", max.	5 mA
• for signal "1", typ.	4 mA
Input delay (for rated value of input voltage)	
for standard inputs	
— at "0" to "1", max.	200 µs
— at "1" to "0", max.	200 µs
Cable length	
• shielded, max.	500 m
• unshielded, max.	300 m
Digital outputs	
Output delay with resistive load	
• "0" to "1", max.	10 ms
• "1" to "0", max.	10 ms
Parallel switching of two outputs	
• for logic links	No
• for uprating	No
• for redundant control of a load	No
Relay outputs	
• Number of relay outputs	8
• Rated supply voltage of relay coil L+ (DC)	24 V
— Reverse polarity protection	Yes
• Current consumption of relays (coil current of all relays), max.	80 mA
Switching capacity of contacts	
— with inductive load, max.	2 A
— on lamp load, max.	30 W; 30 W with DC, 200 W with AC
— with resistive load, up to 50 °C, max.	2 A
— with resistive load, up to 60 °C, max.	2 A
— with resistive load, max.	2 A
— Thermal continuous current, max.	2 A
Cable length	

- shielded, max. 500 m
- unshielded, max. 150 m

Interrupts/diagnostics/status information

Diagnostics indication LED

- for status of the inputs Yes
- for status of the outputs Yes

Potential separation

Potential separation digital inputs

- between the channels Yes; Optocoupler

Potential separation digital outputs

- between the channels Yes; Relay, dry contact

Isolation

Isolation tested with

500VAC for 1 minute for input isolation; 1500VAC for 1 minute for output isolation

EMC

Interference immunity against discharge of static electricity

- Interference immunity against discharge of static electricity acc. to IEC 61000-4-2
 - Test voltage at air discharge Yes; ± 4 kV contact discharge (to IEC 801-2/IEC 1000-4-2; ESD), ± 8 kV air discharge (to IEC 801-2/IEC 1000-4-2; ESD)
 - Test voltage at air discharge 8 kV
 - Test voltage at contact discharge 4 kV

Interference immunity against high-frequency electromagnetic fields

- Interference immunity against high-frequency radiation acc. to IEC 61000-4-3
 - Frequency range of the RF radiation Yes
 - 80 to 1000 MHz, 10 V/m, 1.4 to 2.0 GHz, 3 V/m, 2.0 to 2.7 GHz, 1 V/m (In the range of 87 MHz to 187 MHz, 174 MHz to 230 MHz and 470 MHz to 790 MHz: 3V/m)

Interference immunity to cable-borne interference

- Interference immunity on supply lines acc. to IEC 61000-4-4
 - Yes; 2 kV acc. to IEC 61000-4-4, burst
- Interference immunity on signal cables acc. to IEC 61000-4-4
 - Yes; ± 2 kV acc. to IEC 61000-4-4, Burst

Interference immunity against voltage surge

- on the supply lines acc. to IEC 61000-4-5
 - Yes; With upstream protective element
- asymmetric interference
 - Test voltage on supply cables 2 kV
 - Test voltage on signal cables >30m 2 kV

Interference immunity against conducted variable disturbance induced by high-frequency fields

- Interference immunity against high frequency current feed acc. to IEC 61000-4-6
 - Yes
- Interference immunity against high-frequency radiation acc. to IEC 61000-4-6
 - Yes; 10 V/m, with 80% amplitude modulation at 1 kHz

— Test voltage at 80% amplitude modulation
with 1kHz in the range 9 kHz to 80 MHz

10 V

Emission of radio interference acc. to EN 55 011

- Emission of radio interference Interference emission to EN 50081-2, testing to EN 55011, Class A, Group 1
- Limit class A, for use in industrial areas Yes

Degree and class of protection

Degree of protection acc. to EN 60529

- IP20 Yes

Standards, approvals, certificates

CE mark Yes

Ambient conditions

Relative humidity

- Operation at 25 °C without condensation, max. 95 %

Dimensions

Width 45 mm

Height 100 mm

Depth 81 mm

Weights

Weight, approx. 201.9 g

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