SIEMENS

Data sheet 6ES7288-2DR16-0AA0

	SIMATIC S7-200 SMART, Digital I/O SM DR16, 8DI/8DO, 8 DI 24 V DC, Sink/Source, 8 DO, relay 2 A
General information	
Product type designation	SM DR16, DI 8x24 V DC, DQ 8x relay/2 A
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	
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
● 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	
— 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 +30 V
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	
Number of digital outputs	8
Short-circuit protection	No
Output current	
● for signal "1" rated value	2 A
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	

Subject to change without notice
© Copyright Siemens

● 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	500 V AC for 1 minute for input isolation; 1500 V AC 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	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	Yes
— Frequency range of the RF radiation	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	
● Interference immunity on supply lines acc. to IEC 61000-4-5	Yes; With upstream protective element
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	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
Ambient conditions	

Subject to change without notice
© Copyright Siemens

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

Classifications

	Version	Classification
eClass	16	27-24-22-04
eClass	14	27-24-22-04
eClass	12	27-24-22-04
eClass	9.1	27-24-22-04
eClass	9	27-24-22-04
eClass	8	27-24-22-04
eClass	7.1	27-24-22-04
eClass	6	27-24-22-04
ETIM	10	EC001419
ETIM	9	EC001419
ETIM	8	EC001419
ETIM	7	EC001419
IDEA	4	3566
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

China RoHS

last modified: 8/24/2025

Subject to change without notice
© Copyright Siemens