

SIMATIC S7-200 SMART, Digital I/O SM DR32, 16DI/16DO, 16 DI 24 V DC, Sink/Source, 16 DO, relay 2 A

| General information | |
|--|---|
| Product type designation | SM DR32, DI 16x24 V DC, DQ 16x relay/2A |
| 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. | 165 mA; Current for 24 V DC input power |
| from backplane bus 5 V DC, typ. | 165 mA; For 5 V DC from CPU module |
| Digital inputs | |
| Number of digital inputs | 16 |
| • 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. | 16 |
| vertical installation | |
| — up to 40 °C, max. | 16 |
| 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 | 16 |
| 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 |
| Relay outputs | |
| • Number of relay outputs | 16 |
| • Rated supply voltage of relay coil L+ (DC) | 24 V |
| — Reverse polarity protection | Yes |
| • Current consumption of relays (coil current of all relays), max. | 165 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 | | |
| Dimensions | | | |
| Width | 70 mm | | |
| Height | 100 mm | | |
| Depth | 81 mm | | |
| Weights | | | |
| Weight, approx. | 295.4 g | | |
| Classifications | | | |
| | | Version | Classification |

| | | |
|--------|-----|-------------|
| 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 | 9 | EC001419 |
| ETIM | 8 | EC001419 |
| ETIM | 7 | EC001419 |
| IDEA | 4 | 3566 |
| UNSPSC | 15 | 32-15-17-05 |

Approvals / Certificates

General Product Approval



last modified:

12/8/2024