




SIMATIC S7-1200, Digital input SM 1226, F-DI 16X 24 V DC, PROFIsafe, 70 mm overall width, up to PL E (ISO 13849-1)/ SIL3 (IEC 61508)

| General information | |
|--|---|
| Product type designation | SM 1226, F-DI 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 |
| power supply according to NEC Class 2 required | No |
| Input current | |
| from backplane bus 5 V DC, max. | 155 mA; Current consumption (SM Bus, 5 V DC): 155 mA |
| Digital inputs | |
| <ul style="list-style-type: none"> from load voltage L+ (without load), max. | 130 mA; 130 mA + 6 mA / input used + any Vs1/Vs2 current used |
| Power loss | |
| Power loss, typ. | 7 W |
| Digital inputs | |
| Number of digital inputs | 16; 16 (1oo1) or 8 (1oo2); Note: You can individually assign each pair of inputs "a.x" and "b.x" as a single (1oo2)-channel or as 2 separate (1oo1)-channels |
| Number of simultaneously controllable inputs | |
| horizontal installation | |
| — up to 50 °C, max. | 16; 16 inputs at 55 °C horizontal |
| vertical installation | |
| — up to 40 °C, max. | 16; 16 inputs at 45 °C vertical |
| Input voltage | |
| <ul style="list-style-type: none"> for signal "0" for signal "1" | -30 V DC to +5 V DC 15 V DC to 30 V DC |
| Input current | |
| <ul style="list-style-type: none"> for signal "0", max. (permissible quiescent current) for signal "1", typ. | 0.5 mA 5 mA |
| Input delay (for rated value of input voltage) | |
| for standard inputs | |
| — parameterizable | Yes; 0.8 / 1.6 / 3.2 / 6.4 / 12.8 ms |
| Cable length | |
| <ul style="list-style-type: none"> shielded, max. unshielded, max. | 200 m; unshielded with input filter time of 1.6 ms to 12.6 ms (With an input delay of 0.8 ms, shielded cables must be used for the digital inputs and the sensor supply) 200 m; Shielded with input filter time of 0.8 ms to 12.6 s (With an input delay of 0.8 ms, shielded cables must be used for the digital inputs and the sensor supply) |
| Interrupts/diagnostics/status information | |
| Diagnostics indication LED | |

| | |
|---|---|
| • for status of the inputs | Yes |
| Degree and class of protection | |
| IP degree of protection | IP20 |
| Standards, approvals, certificates | |
| CE mark | Yes |
| cULus | Yes |
| FM approval | Yes |
| Highest safety class achievable in safety mode | |
| • Performance level according to ISO 13849-1 | 1-channel, Category 3, PL d; 2-channel, Category 3 or 4, PL e |
| • SIL acc. to IEC 61508 | SIL 2 (single-channel), SIL 3 (two-channel) |
| Probability of failure (for service life of 20 years and repair time of 100 hours) | |
| — Low demand mode: PFDavg in accordance with SIL2 | < 5.00E-04 |
| — Low demand mode: PFDavg in accordance with SIL3 | < 1.00E-05 |
| — High demand/continuous mode: PFH in accordance with SIL2 | < 1.00E-08 1/h |
| — High demand/continuous mode: PFH in accordance with SIL3 | < 1.00E-10 1/h |
| Ambient conditions | |
| Free fall | |
| • Fall height, max. | 0.3 m; five times, in product package |
| Ambient temperature during operation | |
| • min. | 0 °C |
| • max. | 55 °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 % |
| Mechanics/material | |
| Enclosure material (front) | |
| • Plastic | Yes |
| Dimensions | |
| Width | 70 mm |
| Height | 100 mm |
| Depth | 75 mm |
| Weights | |
| Weight, approx. | 250 g |
| last modified: | 10/7/2021  |