SIEMENS

## Data sheet 6DL1131-6BH00-0PH1

SIMATIC ET 200SP HA, digital input module, DI 16X24VDC HA, suitable for terminal block H1, M1, color code CC01, channel diagnostics

| | |
|---|---|
| **General information** | |
| Product type designation | DI 16x24VDC HA |
| Firmware version | V1.0 |
| ● FW update possible | Yes |
| Usable terminal block | TB type H1, M1, P0 and N0 |
| Color code for module-specific color identification plate | CC01 |
| Product function | |
| ● I&M data | Yes; I&M0 to I&M3 |
| Engineering with | |
| ● STEP 7 TIA Portal configurable/integrated from version | V16 |
| ● STEP 7 configurable/integrated from version | V5.6 |
| ● PCS 7 configurable/integrated from version | V9.0 |
| ● PCS neo can be configured/integrated from version | V3.0 |
| ● PROFINET from GSD version/GSD revision | GSDML V2.3 |
| Operating mode | |
| ● DI | Yes |
| ● Counter | No |
| ● Oversampling | No |
| ● MSI | No |
| Redundancy | |
| ● Redundancy capability | Yes; With TB type M1 |
| **Supply voltage** | |
| Rated value (DC) | 24 V |
| permissible range, lower limit (DC) | 19.2 V |
| permissible range, upper limit (DC) | 28.8 V |
| Reverse polarity protection | Yes |
| **Input current** | |
| Current consumption (rated value) | 60 mA; without sensor supply |
| Current consumption, max. | 120 mA; without sensor supply |
| **Encoder supply** | |
| Number of outputs | 16 |
| Output voltage, min. | 18.2 V; L+ (-1 V) |
| Short-circuit protection | Yes; electronic (response threshold 0.7 A to 1.3 A; for IO redundancy up to 2.6 A) Ensure sufficient low-resistance cable routing to the sensor/actuator in order to attain the response threshold. Depending on the cable cross-section used, there may be constraints regarding the usable length of cable |
| Output current | |
| ● up to 60 °C, max. | 2 A; 1 A when mounted vertically; see derating information in Equipment Manual |
| ● up to 70 °C, max. | 1 A; See derating information in Equipment Manual |
| 24 V encoder supply | |


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| | |
|---|---|
| ● 24 V | Yes |
| ● Short-circuit protection | Yes; electronic (response threshold 0.7 A to 1.3 A; for IO redundancy up to 2.6 A) Ensure sufficient low-resistance cable routing to the sensor/actuator in order to attain the response threshold. Depending on the cable cross-section used, there may be constraints regarding the usable length of cable |
| ● Output current per channel, max. | 0.5 A |
| ● Output current per module, max. | 2 A |
| **Power** | |
| Power consumption from the backplane bus | 80 mW |
| **Power loss** | |
| Power loss, typ. | 3.6 W; Maximum value (taking the max. encoder current and the max. operating voltage into account) |
| **Address area** | |
| Address space per module | |
| ● Address space per module, max. | 2 byte; + 2 bytes for QI information (additional 18 bytes when using high-precision time stamping) |
| **Hardware configuration** | |
| Automatic encoding | |
| ● Mechanical coding element | Yes |
| **Digital inputs** | |
| Number of digital inputs | 16 |
| Digital inputs, parameterizable | Yes |
| Source/sink input | Yes; P-reading |
| Input characteristic curve in accordance with IEC 61131, type 1 | Yes |
| Input characteristic curve in accordance with IEC 61131, type 2 | No |
| Input characteristic curve in accordance with IEC 61131, type 3 | Yes |
| Pulse extension | Yes |
| ● Length | off, 50 ms, 100 ms, 200 ms, 500 ms, 1 s, 2 s |
| Time stamping | Yes; Resolution 10 ms |
| Time stamp (with precision of 1 ms) | Yes; Resolution 1ms |
| Edge evaluation | Yes; rising edge, falling edge, edge change |
| Input voltage | |
| ● Rated value (DC) | 24 V |
| ● for signal "0" | -30 to +5 V |
| ● for signal "1" | +11 to +30V |
| Input current | |
| ● for signal "1", typ. | 2.5 mA |
| Input delay (for rated value of input voltage) | |
| for standard inputs | |
| — parameterizable | Yes; none / 0.05 / 0.1 / 0.4 / 0.8 / 1.6 / 3.2 / 12.8 / 20 ms |
| Cable length | |
| ● shielded, max. | 1 000 m |
| ● unshielded, max. | 600 m |
| **Encoder** | |
| Connectable encoders | |
| ● 2-wire sensor | Yes |
| — permissible quiescent current (2-wire sensor), max. | 1.5 mA |
| **Interrupts/diagnostics/status information** | |
| Diagnostics function | Yes |
| Alarms | |
| ● Diagnostic alarm | Yes; channel by channel |
| ● Hardware interrupt | Yes; channel by channel |
| Diagnoses | |
| ● Diagnostic information readable | Yes |
| ● Monitoring the supply voltage | Yes; Module-wise |
| — parameterizable | Yes |
| ● Monitoring of encoder power supply | Yes |
| ● Wire-break | Yes; Channel-by-channel, optional protective circuit for preventing wire-break diagnostics in the case of simple encoder contacts: 15 kOhm to 18 kOhm |
| ● Short-circuit to M | Yes; Encoder supply to M, channel by channel |
| Diagnostics indication LED | |
| ● MAINT LED | Yes; Yellow LED |


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| | |
|---|---|
| ● Monitoring of the supply voltage (PWR-LED) | Yes; green PWR LED |
| ● Channel status display | Yes; green LED |
| ● for channel diagnostics | Yes; red LED |
| ● for module diagnostics | Yes; green/red LED |
| **Potential separation** | |
| Potential separation channels | |
| ● between the channels | No |
| ● between the channels and backplane bus | Yes |
| ● between the channels and the power supply of the electronics | No |
| **Isolation** | |
| Isolation tested with | 1 500 V DC/1 min, type test |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● horizontal installation, min. | -40 °C |
| ● horizontal installation, max. | 70 °C |
| ● vertical installation, min. | -40 °C |
| ● vertical installation, max. | 60 °C |
| **Dimensions** | |
| Width | 22.5 mm |
| Height | 115 mm |
| Depth | 138 mm |
| **Weights** | |
| Weight, approx. | 135 g |

**Classifications**

| | Version | Classification |
|---|---|---|
| eClass | 14 | 27-24-26-04 |
| eClass | 12 | 27-24-26-04 |
| eClass | 9.1 | 27-24-26-04 |
| eClass | 9 | 27-24-26-04 |
| eClass | 8 | 27-24-26-04 |
| eClass | 7.1 | 27-24-26-04 |
| eClass | 6 | 27-24-26-04 |
| ETIM | 9 | EC001599 |
| ETIM | 8 | EC001599 |
| ETIM | 7 | EC001599 |

**Approvals / Certificates**

**General Product Approval**

Miscellaneous | KC

**General Product Approval** | **For use in hazardous locations**

Declaration of Conformity

**For use in hazardous locations** | **Marine / Shipping**

Miscellaneous


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| Marine / Shipping | | | Environment | |
|---|---|---|---|---|
| NK / Nippon Kaiji Kyokai |  | CCS (China Classification Society) | Siemens EcoTech  |  |

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