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# Data sheet for SINAMICS S110 control unit CU310-2 DP


Figure similar

**Article No. :** 6SL3040-1LA00-0AA0

Client order no. :
Order no. :
Offer no. :
Remarks :

Item no. :
Consignment no. :
Project :

## Inputs / outputs

### Digital inputs

| | |
|---|---|
| Number | 11 |
| Voltage | -3 ... 30 V |
| Low level | -3 ... 5 V |
| High level | 15 ... 30 V |
| Power consumption at 24 V DC, typ. | 3.5 mA |
| Delay time L→H, typ. [1] | 50 µs |
| Delay time H→L, typ. [1] | 150 µs |

### Digital I/O

| | |
|---|---|
| Number of bidirectional, not potential-free inputs [3] | 8 |

**As input**

| | |
|---|---|
| Voltage | -3 ... 30 V |
| Low level | -3 ... 5 V |
| High level | 15 ... 30 V |
| Power consumption at 24 V DC, typ. | 3.5 mA |
| Delay time L→H [1] | 5 µs |
| Delay time H→L [1] | 50 µs |

**As output**

| | |
|---|---|
| Continuous short-circuit proof | Yes |
| Voltage | DC 24 V |
| Load current per digital output, max. | 500 mA |
| Delay time L→H, typ./ max. | 150 µs / 400 µs |
| Delay time H→L, typ./ max. | 75 µs / 100 µs |

### Analog inputs

| | |
|---|---|
| Number [4] | 1 |

**As voltage input**

| | |
|---|---|
| Voltage | -10 ... 10 V |
| Resolution | 12 bit + sign (with respect to the maximum range that can be resolved -11 ... +11 V) |
| $R_i$ | >100 kΩ |

**As current input**

| | |
|---|---|
| Voltage | -20 ... 20 mA |
| Resolution | 11 bit + sign (with respect to -22 ... 22 mA); Maximum range that can be resolved -44 ... +44 mA) |
| $R_i$ | >250 Ω |

## Electrical data

| | |
|---|---|
| Electronics power supply | DC 24 V (20.4 ... 28.8 V) |
| Max. power consumption [5] | 0.8 A |
| Power loss, max. | 20 W |
| Protection, max. | 20 A |

## Communication

| | |
|---|---|
| Communication | Profibus DP |

## On-board encoder interface

| | |
|---|---|
| Encoder evaluation | optional incremental encoder TTL/HTL or encoder SSI without incremental signals |
| max. load current at 24 V encoder supply | 0.35 A |
| max. load current at 5 V encoder supply | 0.35 A |
| Encoder frequency, max. | 300 kHz |
| SSI baudrate | 100 ... 1,000 kBaud |
| SSI absolute position resolution | 30 bit |

**Line length, max.**

| | |
|---|---|
| TTL encoder [6] | 100 m (328.08 ft) |
| HTL encoder unipolar signal | 100 m (328.04 ft) |
| HTL encoder bipolar signal | 300 m (984.25 ft) |
| SSI encoder | 100 m (328.08 ft) |

## Environmental conditions

| | |
|---|---|
| Installation altitude | 2,000 m (6,561.68 ft) |

**Ambient temperature during**

| | |
|---|---|
| Operation | 0 ... 55 °C (32 ... 131 °F) |
| Storage | -25 ... 55 °C (-13 ... 131 °F) |
| Transport | -40 ... 70 °C (-40 ... 158 °F) |

**Relative humidity during**

| | |
|---|---|
| Transport, max. | 95 % at 40 °C (104 °F) |

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| Connections | |
|---|---|
| PE connection | 1 (M5 screw) |
| Supply voltage, max. | 2.5 mm² (AWG 14) |
| Digital inputs, max. | 1.5 mm² (AWG 16) |
| Digital inputs/outputs, max. | 1.5 mm² (AWG 16) |
| DRIVE-CLiQ | 1 |
| PROFINET | - - |
| PROFIBUS | 1 |
| RS232 | - - |
| Ethernet | 1 |
| Temperature sensor | 1 |
| 24 V | 1 |

| | |
|---|---|
| Measuring sockets | 3 |
| **Number of slots** | |
| Flash card | 1 |

| Mechanical data | |
|---|---|
| Net weight | 0.95 kg (2.09 lb) |
| **Dimensions** | |
| Width | 73.0 mm (2.87 in) |
| Height | 191.0 mm (7.52 in) |
| Depth | 75.0 mm (2.95 in) |

| Standards | |
|---|---|
| Compliance with standards | CE, KC, cULus, EAC, C-Tick (RCM) |

[1] The specified delay times refer to the hardware. The actual reaction time depends on the time slot in which the digital input or output is processed.
[3] Parameterizable as DI or DO
[4] The analog input can be switched between current and voltage input.
[5] without taking into account digital outputs. Option slot extension, DRIVE-CLiQ supply and Power Module PM340
[6] Signal cables twisted in pairs and shielded