SIEMENS

## Data sheet 6ES7144-4JF00-0AB0

SIMATIC DP, Electronic modules for ET 200 PRO 4 AI RTD High Feature, Pt100; PT200; PT500; Pt1000; NI100; NI200; NI500; NI1000; Channel diagnostics; incl. bus module, Connection module IO 6ES7194-4..00-0AA0 order separately

Figure similar

| | |
|---|---|
| **Supply voltage** | |
| Rated value (DC) | 24 V |
| Reverse polarity protection | Yes; against destruction |
| **Input current** | |
| from supply voltage 1L+, max. | 27 mA; Typical |
| from backplane bus 3.3 V DC, max. | 10 mA; Typical |
| **Power loss** | |
| Power loss, typ. | 0.7 W |
| **Address area** | |
| Address space per module | |
| • Address space per module, max. | 8 byte |
| **Analog inputs** | |
| Number of analog inputs | 4 |
| Constant measurement current for resistance-type transmitter, typ. | 1.25 mA; 1.25 / 0.5 mA depending on measuring range |
| Cycle time (all channels) max. | 83 ms; 83 ms at 50 Hz; 69 ms at 60 Hz |

| | |
|---|---|
| Technical unit for temperature measurement adjustable | Yes; Degrees Celsius/degrees Fahrenheit |
| Input ranges (rated values), resistance thermometer | |
| • Cu 10 | No |
| • Ni 100 | Yes |
| • Input resistance (Ni 100) | 10 000 kΩ |
| • Ni 1000 | Yes |
| • Input resistance (Ni 1000) | 10 000 kΩ |
| • Ni 120 | Yes |
| • Input resistance (Ni 120) | 10 000 kΩ |
| • Ni 200 | Yes |
| • Input resistance (Ni 200) | 10 000 kΩ |
| • Ni 500 | Yes |
| • Input resistance (Ni 500) | 10 000 kΩ |
| • Pt 100 | Yes |
| • Input resistance (Pt 100) | 10 000 kΩ |
| • Pt 1000 | Yes |
| • Input resistance (Pt 1000) | 10 000 kΩ |
| • Pt 200 | Yes |
| • Input resistance (Pt 200) | 10 000 kΩ |
| • Pt 500 | Yes |
| • Input resistance (Pt 500) | 10 000 kΩ |
| Input ranges (rated values), resistors | |
| • 0 to 150 ohms | Yes |
| • Input resistance (0 to 150 ohms) | 10 000 kΩ |
| • 0 to 300 ohms | Yes |
| • Input resistance (0 to 300 ohms) | 10 000 kΩ |
| • 0 to 600 ohms | Yes |
| • Input resistance (0 to 600 ohms) | 10 000 kΩ |
| • 0 to 3000 ohms | Yes |
| • Input resistance (0 to 3000 ohms) | 10 000 kΩ |
| Characteristic linearization | |
| • parameterizable | Yes |
| — for resistance thermometer | Ptxxx, Nixxx |
| Cable length | |
| • shielded, max. | 30 m |

| | |
|---|---|
| Analog value generation for the inputs | |
| Measurement principle | integrating |
| Integration and conversion time/resolution per channel | |
| • Resolution with overrange (bit including sign), max. | 15 bit; at 150, 300, 600 und 3000 ohms; otherwise 15 bits + sign |

| | |
|---|---|
| • Integration time (ms) | 20 / 16,667 |
| • Interference voltage suppression for interference frequency f1 in Hz | 50 / 60 Hz |
| • Conversion time (per channel) | 20.625 ms; 20.625 ms at 50 Hz; 17.25 ms at 60 Hz |
| Smoothing of measured values | |
| • parameterizable | Yes |
| • Step: None | Yes; 1x cycle time |
| • Step: low | Yes; 4x cycle time |
| • Step: Medium | Yes; 16x cycle time |
| • Step: High | Yes; 64x cycle time |

| Encoder | |
|---|---|
| Connection of signal encoders | |
| • for resistance measurement with two-wire connection | Yes; Line resistances are also measured |
| • for resistance measurement with three-wire connection | Yes |
| • for resistance measurement with four-wire connection | Yes |

| Errors/accuracies | |
|---|---|
| Linearity error (relative to input range), (+/-) | 0.05 % |
| Temperature error (relative to input range), (+/-) | 0.002 %/K |
| Crosstalk between the inputs, min. | -50 dB |
| Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) | 0.015 % |
| Operational error limit in overall temperature range | |
| • Resistance thermometer, relative to input range, (+/-) | 0.175 % |
| Basic error limit (operational limit at 25 °C) | |
| • Resistance thermometer, relative to input range, (+/-) | 0.125 % |
| Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency | |
| • Series mode interference (peak value of interference < rated value of input range), min. | 50 dB |
| • Common mode interference (USS < 2.5 V) , min. | 70 dB; Interference voltage < 5 V |

| Interrupts/diagnostics/status information | |
|---|---|
| Diagnostics function | Yes |
| Alarms | |
| • Diagnostic alarm | Yes; Parameterizable |
| • Hardware interrupt | No |
| Diagnostic messages | |
| • Diagnostic information readable | Yes |

| | |
|---|---|
| • Wire-break | Yes |
| • Overflow/underflow | Yes |
| Diagnostics indication LED | |
| • Group error SF (red) | Yes |
| **Parameter** | |
| Measurement type/range | R4L / R3L / R2L/ TR4L / TR3L / TR2L |
| **Potential separation** | |
| Potential separation analog inputs | |
| • between the channels | No |
| • between the channels and backplane bus | Yes |
| **Permissible potential difference** | |
| between the inputs (UCM) | 5 Vpp AC |
| **Isolation** | |
| Isolation tested with | 707 V DC (type test) |
| **Dimensions** | |
| Width | 45 mm |
| Height | 130 mm |
| Depth | 35 mm |
| **Weights** | |
| Weight, approx. | 150 g |

**last modified:** 08/16/2019