




Figure similar

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

| 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                             |   |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• 0 to 150 ohms <ul style="list-style-type: none"> <li>— Input resistance (0 to 150 ohms)</li> </ul> </li> </ul>   | Yes<br>10 000 k $\Omega$  |
| <ul style="list-style-type: none"> <li>• 0 to 300 ohms <ul style="list-style-type: none"> <li>— Input resistance (0 to 300 ohms)</li> </ul> </li> </ul>   | Yes<br>10 000 k $\Omega$  |
| <ul style="list-style-type: none"> <li>• 0 to 600 ohms <ul style="list-style-type: none"> <li>— Input resistance (0 to 600 ohms)</li> </ul> </li> </ul>   | Yes<br>10 000 k $\Omega$  |
| <ul style="list-style-type: none"> <li>• 0 to 3000 ohms <ul style="list-style-type: none"> <li>— Input resistance (0 to 3000 ohms)</li> </ul> </li> </ul> | Yes<br>10 000 k $\Omega$  |
| <b>Characteristic linearization</b>   |   |
| <ul style="list-style-type: none"> <li>• parameterizable <ul style="list-style-type: none"> <li>— for resistance thermometer</li> </ul> </li> </ul>       | Yes<br>Ptxxx, Nixxx   |
| <b>Cable length</b>   |   |
| <ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>  | 30 m  |
| <b>Analog value generation for the inputs</b>   |   |
| Measurement principle   | integrating   |
| <b>Integration and conversion time/resolution per channel</b>   |   |
| <ul style="list-style-type: none"> <li>• Resolution with overrange (bit including sign), max.</li> </ul>  | 15 bit; at 150, 300, 600 und 3 000 ohms; otherwise 15 bits + sign |
| <ul style="list-style-type: none"> <li>• Integration time (ms)</li> </ul>   | 20 / 16,667   |
| <ul style="list-style-type: none"> <li>• Interference voltage suppression for interference frequency f1 in Hz</li> </ul>                                  | 50 / 60 Hz  |
| <ul style="list-style-type: none"> <li>• Conversion time (per channel)</li> </ul>   | 20.625 ms; 20.625 ms at 50 Hz; 17.25 ms at 60 Hz                  |
| <b>Smoothing of measured values</b>   |   |
| <ul style="list-style-type: none"> <li>• parameterizable</li> </ul>   | Yes   |
| <ul style="list-style-type: none"> <li>• Step: None</li> </ul>  | Yes; 1x cycle time  |
| <ul style="list-style-type: none"> <li>• Step: low</li> </ul>   | Yes; 4x cycle time  |
| <ul style="list-style-type: none"> <li>• Step: Medium</li> </ul>  | Yes; 16x cycle time   |
| <ul style="list-style-type: none"> <li>• Step: High</li> </ul>  | Yes; 64x cycle time   |
| <b>Encoder</b>  |   |
| <b>Connection of signal encoders</b>  |   |
| <ul style="list-style-type: none"> <li>• for resistance measurement with two-wire connection</li> </ul>   | Yes; Line resistances are also measured                           |
| <ul style="list-style-type: none"> <li>• for resistance measurement with three-wire connection</li> </ul>   | Yes   |
| <ul style="list-style-type: none"> <li>• for resistance measurement with four-wire connection</li> </ul>  | Yes   |
| <b>Errors/accuracies</b>  |   |
| 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 %   |
| <b>Operational error limit in overall temperature range</b>   |   |
| <ul style="list-style-type: none"> <li>• Resistance thermometer, relative to input range, (+/-)</li> </ul>  | 0.175 %   |
| <b>Basic error limit (operational limit at 25 °C)</b>   |   |
| <ul style="list-style-type: none"> <li>• Resistance thermometer, relative to input range, (+/-)</li> </ul>  | 0.125 %   |
| <b>Interference voltage suppression for <math>f = n \times (f1 \pm 1 \%)</math>, <math>f1 =</math> interference frequency</b>                             |   |
| <ul style="list-style-type: none"> <li>• Series mode interference (peak value of interference &lt; rated value of input range), min.</li> </ul>           | 50 dB   |
| <ul style="list-style-type: none"> <li>• Common mode interference (USS &lt; 2.5 V), min.</li> </ul>   | 70 dB; Interference voltage < 5 V                                 |
| <b>Interrupts/diagnostics/status information</b>  |   |
| Diagnostics function  | Yes   |
| <b>Alarms</b>   |   |
| <ul style="list-style-type: none"> <li>• Diagnostic alarm</li> </ul>  | Yes; Parameterizable  |
| <ul style="list-style-type: none"> <li>• Hardware interrupt</li> </ul>  | No  |
| <b>Diagnoses</b>  |   |
| <ul style="list-style-type: none"> <li>• Diagnostic information readable</li> </ul>   | Yes   |
| <ul style="list-style-type: none"> <li>• Wire-break</li> </ul>  | Yes   |
| <ul style="list-style-type: none"> <li>• Overflow/underflow</li> </ul>  | Yes   |
| Diagnostics indication LED  |   |

|  |  |
|--|--|
| • Group error SF (red)                   | Yes  |
| <b>Potential separation</b>              |  |
| Potential separation analog inputs       |  |
| • between the channels                   | No   |
| • between the channels and backplane bus | Yes  |
| <b>Permissible potential difference</b>  |  |
| between the inputs (UCM)                 | 5 Vpp AC   |
| <b>Isolation</b>                         |  |
| Isolation tested with                    | 707 V DC (type test)   |
| <b>Dimensions</b>                        |  |
| Width                                    | 45 mm  |
| Height                                   | 130 mm   |
| Depth                                    | 35 mm  |
| <b>Weights</b>                           |  |
| Weight, approx.                          | 150 g  |
| <b>last modified:</b>                    | 12/19/2020  |