



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 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 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 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 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 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 