



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	
• 0 to 150 ohms	Yes

— Input resistance (0 to 150 ohms)	10 000 k $\Omega$
• 0 to 300 ohms	Yes
— Input resistance (0 to 300 ohms)	10 000 k $\Omega$
• 0 to 600 ohms	Yes
— Input resistance (0 to 600 ohms)	10 000 k $\Omega$
• 0 to 3000 ohms	Yes
— Input resistance (0 to 3000 ohms)	10 000 k $\Omega$
<b>Characteristic linearization</b>	
• parameterizable	Yes
— for resistance thermometer	Ptxxx, Nixxx
<b>Cable length</b>	
• shielded, max.	30 m
<b>Analog value generation for the inputs</b>	
Measurement principle	integrating
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	15 bit; at 150, 300, 600 und 3 000 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
<b>Smoothing of measured values</b>	
• 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
<b>Encoder</b>	
<b>Connection of signal encoders</b>	
• 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
<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>	
• Resistance thermometer, relative to input range, (+/-)	0.175 %
<b>Basic error limit (operational limit at 25 °C)</b>	
• Resistance thermometer, relative to input range, (+/-)	0.125 %
<b>Interference voltage suppression for <math>f = n \times (f_1 \pm 1 \%)</math>, <math>f_1 =</math> interference frequency</b>	
• 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
<b>Interrupts/diagnostics/status information</b>	
Diagnostics function	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes; Parameterizable
• Hardware interrupt	No
<b>Diagnoses</b>	
• Diagnostic information readable	Yes
• Wire-break	Yes
• Overflow/underflow	Yes
<b>Diagnostics indication LED</b>	
• Group error SF (red)	Yes

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
<b>last modified:</b>	12/19/2020 