



\*\*\* Spare part \*\*\* SIMATIC DP, Electronics module f. ET200S, 2AI TC High Feature, 15 mm width, 15 bit+sign with internal temperature Compensation

Supply voltage	
Load voltage L+	
• Rated value (DC)	24 V; From power module
• Reverse polarity protection	Yes
Input current	
from load voltage L+ (without load), max.	30 mA
from backplane bus 3.3 V DC, max.	10 mA
Power loss	
Power loss, typ.	0.6 W
Address area	
Address space per module	
• Address space per module, max.	4 byte
Analog inputs	
Number of analog inputs	2
permissible input voltage for voltage input (destruction limit), max.	20 V; $\pm 20$ V, continuous
Cycle time (all channels) max.	Number of active channels per module x basic conversion time
Technical unit for temperature measurement adjustable	Yes; Celsius / Fahrenheit
Input ranges (rated values), voltages	
• -80 mV to +80 mV	Yes
— Input resistance (-80 mV to +80 mV)	1 M $\Omega$
Input ranges (rated values), thermocouples	
• Type B	Yes
— Input resistance (Type B)	1 M $\Omega$
• Type C	Yes
— Input resistance (Type C)	1 M $\Omega$
• Type E	Yes
— Input resistance (Type E)	1 M $\Omega$
• Type J	Yes
— Input resistance (type J)	1 M $\Omega$
• Type K	Yes
— Input resistance (Type K)	1 M $\Omega$
• Type L	Yes
— Input resistance (Type L)	1 M $\Omega$
• Type N	Yes
— Input resistance (Type N)	1 M $\Omega$
• Type R	Yes
— Input resistance (Type R)	1 M $\Omega$
• Type S	Yes
— Input resistance (Type S)	1 M $\Omega$

<ul style="list-style-type: none"> <li>• Type T</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— Input resistance (Type T)</li> </ul>	1 MΩ
<b>Thermocouple (TC)</b>	
Temperature compensation	
<ul style="list-style-type: none"> <li>— internal temperature compensation</li> </ul>	Yes; possible with TM-E15S24-AT, TM-E15C24-AT
<ul style="list-style-type: none"> <li>— external temperature compensation with compensations socket</li> </ul>	Yes; one external compensating box per channel
<b>Characteristic linearization</b>	
<ul style="list-style-type: none"> <li>• parameterizable</li> </ul>	Yes
<ul style="list-style-type: none"> <li>— for thermocouples</li> </ul>	Type B, C, E, J, K, L, N, R, S, T to IEC 584
<b>Cable length</b>	
<ul style="list-style-type: none"> <li>• shielded, max.</li> </ul>	50 m
<b>Analog value generation for the inputs</b>	
Measurement principle	integrating
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> <li>• Resolution with overrange (bit including sign), max.</li> </ul>	16 bit
<ul style="list-style-type: none"> <li>• Integration time (ms)</li> </ul>	16,7 / 20 ms
<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>	66 ms; 66 / 80 ms; additional conversion time for diagnostic wire break test
Smoothing of measured values	
<ul style="list-style-type: none"> <li>• parameterizable</li> </ul>	Yes; In four stages by means of digital filtering
<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; 32x cycle time
<ul style="list-style-type: none"> <li>• Step: High</li> </ul>	Yes; 64x cycle time
<b>Errors/accuracies</b>	
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> <li>• Voltage, relative to input range, (+/-)</li> </ul>	0.1 %; ±1.5 K for thermocouples, ±7 K for thermocouples type C, ±2.5 K with static thermal state (ambient temperature change < 0.3 K/min)
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> <li>• Voltage, relative to input range, (+/-)</li> </ul>	0.05 %; ±1 K with thermocouples, ±5 K with thermocouples type C, ±1.5 K with static thermal state (ambient temperature change < 0.3 K/min)
<b>Interrupts/diagnostics/status information</b>	
Diagnoses	
<ul style="list-style-type: none"> <li>• Wire-break</li> </ul>	Yes; only thermocouples
<ul style="list-style-type: none"> <li>• Group error</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Overflow/underflow</li> </ul>	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> <li>• Group error SF (red)</li> </ul>	Yes
<b>Parameter</b>	
Remark	4 byte
Diagnostics wire break	Disable / enable (wire break is detected only in thermocouples)
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable
Comparison point	none / yes, internal
<b>Potential separation</b>	
Potential separation analog inputs	
<ul style="list-style-type: none"> <li>• between the channels</li> </ul>	No
<ul style="list-style-type: none"> <li>• between the channels and backplane bus</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Between the channels and load voltage L+</li> </ul>	Yes
<b>Isolation</b>	
Isolation tested with	500 V DC
<b>Dimensions</b>	
Width	15 mm
Height	81 mm
Depth	52 mm
<b>Weights</b>	
Weight, approx.	40 g

last modified:

5/22/2024 