

\*\*\* SPARE PART\*\*\* SIMATIC DP, ELECTRONIC MODULE  
 ANALOG, FOR ET 200B, W=160MM, 4AI 0(4)...20MA; +/- 10V,  
 FAST CONVERSION, 12 BITS

Supply voltage	
Rated value (DC)	24 V; Value at t < 0.5 s: 35 V
permissible range, lower limit (DC)	18.5 V
permissible range, upper limit (DC)	30.2 V
Input current	
Current consumption, typ.	70 mA; Logic
Power loss	
Power loss, typ.	1.8 W
Hardware configuration	
Rack	
<ul style="list-style-type: none"> <li>required terminal block</li> </ul>	TB8
Analog inputs	
Number of analog inputs	4
permissible input voltage for voltage input (destruction limit), max.	30 V; +/-30 V (static) or +/-75 V (pulse for max. 1 ms and mark to space ratio 1:20)
permissible input current for current input (destruction limit), max.	24 mA
Cycle time (all channels) max.	5 ms
Input ranges	
<ul style="list-style-type: none"> <li>Voltage</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Current</li> </ul>	Yes
Input ranges (rated values), voltages	
<ul style="list-style-type: none"> <li>-1.25 V to +1.25 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Input resistance (-1.25 V to +1.25 V)</li> </ul>	100 kΩ
<ul style="list-style-type: none"> <li>-10 V to +10 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Input resistance (-10 V to +10 V)</li> </ul>	100 kΩ
<ul style="list-style-type: none"> <li>-2.5 V to +2.5 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Input resistance (-2.5 V to +2.5 V)</li> </ul>	100 kΩ
<ul style="list-style-type: none"> <li>-5 V to +5 V</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Input resistance (-5 V to +5 V)</li> </ul>	100 kΩ
Input ranges (rated values), currents	
<ul style="list-style-type: none"> <li>0 to 20 mA</li> </ul>	Yes
<ul style="list-style-type: none"> <li>Input resistance (0 to 20 mA)</li> </ul>	125 Ω

• -20 mA to +20 mA	Yes
• Input resistance (-20 mA to +20 mA)	125 Ω
• 4 mA to 20 mA	Yes
• Input resistance (4 mA to 20 mA)	125 Ω
<b>Cable length</b>	
• shielded, max.	100 m

<b>Analog value generation for the inputs</b>	
Measurement principle	successive approximation
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	12 bit; Two's complement
• Integration time (ms)	0.1 ms / channel

<b>Encoder</b>	
<b>Connection of signal encoders</b>	
• for voltage measurement	Yes
• for voltage measurement as 2-wire transducer	Yes
• for current measurement as 2-wire transducer	Yes
• for current measurement as 4-wire transducer	Yes

<b>Errors/accuracies</b>	
<b>Operational error limit in overall temperature range</b>	
• Voltage, relative to input range, (+/-)	32 %; 0 to 60°C
• Current, relative to input range, (+/-)	41 %; 0 to 60°C
<b>Basic error limit (operational limit at 25 °C)</b>	
• Voltage, relative to input range, (+/-)	0.15 %
• Current, relative to input range, (+/-)	0.2 %
<b>Interference voltage suppression for <math>f = n \times (f_1 \pm 1 \%)</math>, <math>f_1</math> = interference frequency</b>	
• Common mode interference, min.	70 dB; $U_{pp} < 1 \text{ V}$

<b>Interfaces</b>	
<b>PROFIBUS DP</b>	
• Transmission rate, max.	12 Mbit/s

<b>Protocols</b>	
Bus protocol/transmission protocol	PROFIBUS DP

<b>Interrupts/diagnostics/status information</b>	
<b>Alarms</b>	
• Diagnostic alarm	Yes; Parameterizable
• Limit value alarm	Yes; Parameterizable, channels 0 and 2
<b>Diagnostic messages</b>	
• Overage	Yes; Rated range
• Wire-break in signal transmitter cable	Yes; Measuring range 4 to 20 mA only
<b>Diagnostics indication LED</b>	

• RUN LED	Yes
• Bus fault BF (red)	Yes
<b>Potential separation</b>	
between electronic block and PROFIBUS DP	Yes
<b>Potential separation analog inputs</b>	
• Potential separation analog inputs	No
<b>Permissible potential difference</b>	
between the inputs (UCM)	max. +/- 10 V
Between the inputs and MANA (UCM)	max. +/- 1 V
<b>Degree and class of protection</b>	
Degree of protection acc. to EN 60529	IP20
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• horizontal installation, min.	0 °C
• horizontal installation, max.	60 °C; 41 °C for other mountings
<b>Air pressure acc. to IEC 60068-2-13</b>	
• permissible range, lower limit	795 hPa
• permissible range, upper limit	1 080 hPa
<b>Relative humidity</b>	
• Operation, min.	15 %
• Operation, max.	95 %; RH class 2 in accordance with IEC 1131-2
<b>Vibrations</b>	
• Operation, tested according to IEC 60068-2-6	Yes; IEC 68, Part 2-6; 10 to 57 Hz; (constant amplitude 0.075 mm); 57 to 150 Hz; (constant acceleration 1 g)
<b>Shock test</b>	
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27; half-sine, 15 g, 11 ms
<b>Connection method</b>	
Design of electrical connection for the inputs and outputs	Screw-type and spring-loaded terminals, permanent wiring; 3 and 4-wire connection
<b>Dimensions</b>	
Width	160 mm; EB and TB
Height	130 mm; EB and TB
Depth	60 mm; EB and TB
<b>Weights</b>	
Weight, approx.	550 g; EB and TB
<b>last modified:</b>	03/07/2017