

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

General information	
Usable terminal block	TB8
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
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	
• Voltage	Yes
• Current	Yes
Input ranges (rated values), voltages	
• -1.25 V to +1.25 V	Yes
• Input resistance (-1.25 V to +1.25 V)	100 k Ω
• -10 V to +10 V	Yes
• Input resistance (-10 V to +10 V)	100 k Ω
• -2.5 V to +2.5 V	Yes
• Input resistance (-2.5 V to +2.5 V)	100 k Ω
• -5 V to +5 V	Yes
• Input resistance (-5 V to +5 V)	100 k Ω
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
• Input resistance (0 to 20 mA)	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
Cable length	
• shielded, max.	100 m

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

Encoder	
Connection of signal encoders	
• 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

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

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

Protocols	
Bus protocol/transmission protocol	PROFIBUS DP

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

• Bus fault BF (red)	Yes
Potential separation	
between electronic block and PROFIBUS DP	Yes
Potential separation analog inputs	
• Potential separation analog inputs	No
Permissible potential difference	
between the inputs (UCM)	max. ±10 V
Between the inputs and MANA (UCM)	max. ±1 V
Degree and class of protection	
Degree of protection acc. to EN 60529	IP20
Ambient conditions	
Ambient temperature during operation	
• horizontal installation, min.	0 °C
• horizontal installation, max.	60 °C; 41 °C for other mountings
Air pressure acc. to IEC 60068-2-13	
• permissible range, lower limit	795 hPa
• permissible range, upper limit	1 080 hPa
Relative humidity	
• Operation, min.	15 %
• Operation, max.	95 %; RH class 2 in accordance with IEC 1131-2
Vibrations	
• 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)
Shock testing	
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27; half-sine, 15 g, 11 ms
Connection method	
Design of electrical connection for the inputs and outputs	Screw-type and spring-loaded terminals, permanent wiring; 3 and 4-wire connection
Dimensions	
Width	160 mm; EB and TB
Height	130 mm; EB and TB
Depth	60 mm; EB and TB
Weights	
Weight, approx.	550 g; EB and TB
last modified:	04/19/2018