

*** SPARE PART*** SIMATIC DP, ELECTRONIC MODULE
 ANALOG, FOR ET 200B, W=160MM, 4AO 0(4)...20MA; +/- 10V, 11
 BIT, 12 MBIT/S

General information

Usable terminal block	TB8
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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, max.	200 mA; Logic
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Power loss

Power loss, typ.	2.4 W
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Analog outputs

Number of analog outputs	4
Voltage output, short-circuit protection	Yes; Electronic; max. 1 output in parallel
Voltage output, short-circuit current, max.	25 mA
Current output, no-load voltage, max.	18 V

Output ranges, voltage

- | | |
|------------------|-----|
| • 0 to 10 V | Yes |
| • -10 V to +10 V | Yes |

Output ranges, current

- | | |
|-----------------|-----|
| • 0 to 20 mA | Yes |
| • 4 mA to 20 mA | Yes |

Connection of actuators

- | | |
|---|-----|
| • for voltage output two-wire connection | Yes |
| • for voltage output four-wire connection | Yes |
| • for current output two-wire connection | Yes |

Load impedance (in rated range of output)

- | | |
|---|--------------|
| • with voltage outputs, capacitive load, max. | 1 μ F |
| • with current outputs, max. | 300 Ω |
| • with current outputs, inductive load, max. | 1 mH |

Cable length

- | | |
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| • shielded, max. | 100 m |
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Analog value generation for the outputs

Integration and conversion time/resolution per channel	
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<ul style="list-style-type: none"> Resolution with overrange (bit including sign), max. 	11 bit; Two's complement
<ul style="list-style-type: none"> Conversion time (per channel) 	1 ms
Settling time	
<ul style="list-style-type: none"> for resistive load 	0.1 ms
<ul style="list-style-type: none"> for capacitive load 	3.3 ms
<ul style="list-style-type: none"> for inductive load 	0.5 ms
Errors/accuracies	
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.05 %
Linearity error (relative to output range), (+/-)	0.05 %
Temperature error (relative to output range), (+/-)	0.02 %/K
Crosstalk between the outputs, min.	40 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.05 %
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> Voltage, relative to output range, (+/-) 	0.05 %
<ul style="list-style-type: none"> Current, relative to output range, (+/-) 	1 %
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> Voltage, relative to output range, (+/-) 	0.2 %
<ul style="list-style-type: none"> Current, relative to output range, (+/-) 	0.3 %
Interfaces	
PROFIBUS DP	
<ul style="list-style-type: none"> Transmission rate, max. 	12 Mbit/s
Protocols	
Bus protocol/transmission protocol	PROFIBUS DP
Interrupts/diagnostics/status information	
Alarms	
<ul style="list-style-type: none"> Diagnostic alarm 	Yes; Parameterizable
Diagnostics indication LED	
<ul style="list-style-type: none"> RUN LED 	Yes
<ul style="list-style-type: none"> Bus fault BF (red) 	Yes
Potential separation	
between electronic block and PROFIBUS DP	Yes
Potential separation analog outputs	
<ul style="list-style-type: none"> Potential separation analog outputs 	No
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> horizontal installation, min. 	0 °C
<ul style="list-style-type: none"> horizontal installation, max. 	60 °C; 40 °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
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