



SIMATIC DP, ELECTRONIC MODULE FOR ET 200S, 2 AO U, 15 MM WIDTH, +/-10 V; 13 BIT + SIGN, 1..5V; 12BIT, CYCLE TIME < 1 MS WITH LED SF (GROUP FAULT)

### 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. | 130 mA |
| from backplane bus 3.3 V DC, max.         | 10 mA  |

### Power losses

- |                  |     |
|------------------|-----|
| Power loss, max. | 2 W |
|------------------|-----|

### Address area

#### Address space per module

- |                                  |        |
|----------------------------------|--------|
| • Address space per module, max. | 4 byte |
|----------------------------------|--------|

### Analog outputs

- |   |        |
|---|--------|
| Number of analog outputs                    | 2      |
| Voltage output, short-circuit protection    | Yes    |
| Voltage output, short-circuit current, max. | 25 mA  |
| Cycle time (all channels) max.              | 1.5 ms |

#### Output ranges, voltage

- |                  |     |
|------------------|-----|
| • 1 V to 5 V     | Yes |
| • -10 V to +10 V | Yes |

#### Connection of actuators

- |   |   |
|---|---|
| • for voltage output two-wire connection  | Yes; Without compensation of the line resistances |
| • for voltage output four-wire connection | Yes   |

<b>Load impedance (in rated range of output)</b>	
• with voltage outputs, min.	1 kΩ
• with voltage outputs, capacitive load, max.	1 μF
<b>Destruction limits against externally applied voltages and currents</b>	
• Voltages at the outputs towards MANA	15 V; max. 15 V continuous; 75 V for max. 1 s (mark to space ratio 1:20)
• Current, max.	50 mA; DC
<b>Cable length</b>	
• shielded, max.	200 m
<b>Analog value generation for the outputs</b>	
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	14 bit; 1 to 5 V: 12 bits, +/-10 V: 13 bits + sign
<b>Settling time</b>	
• for resistive load	0.1 ms
• for capacitive load	0.5 ms
• for inductive load	0.5 ms
<b>Errors/accuracies</b>	
Output ripple (based on output area, bandwidth 0 to 50 kHz), (+/-)	0.02 %
Linearity error (relative to output range), (+/-)	0.02 %
Temperature error (relative to output range), (+/-)	0.01 %/K
Repeat accuracy in steady state at 25 °C (relative to output area), (+/-)	0.05 %
<b>Operational limit in overall temperature range</b>	
• Voltage, relative to output area, (+/-)	0.4 %
<b>Basic error limit (operational limit at 25 °C)</b>	
• Voltage, relative to output area, (+/-)	0.2 %
<b>Interrupts/diagnostics/status information</b>	
Substitute values connectable	Yes; 0 to 65535 (range of values must be within the rated range)
<b>Diagnostic messages</b>	
• Short circuit	Yes
• Group error	Yes
<b>Diagnostics indication LED</b>	
• Group error SF (red)	Yes
<b>Parameter</b>	
Remark	7 byte
Output type/range	deactivated / 1 to 5 V / +/- 10 V
Diagnosis: short circuit	Disable / enable
Group diagnostics	Disable / enable
Behavior on CPU/Master STOP	Output current and de-energized/substitute a value/keep last value

## Potential separation

### Galvanic isolation analog outputs

- |  |     |
|--|-----|
| • between the channels                         | No  |
| • between the channels and the backplane bus   | Yes |
| • between the channels and the load voltage L+ | Yes |

## Permissible potential difference

between MANA and M internally (UISO)	75V DC/60V AC
--------------------------------------	---------------

## Dimensions

Width	15 mm
Height	81 mm
Depth	52 mm

## Weights

Weight, approx.	40 g
-----------------	------

**last modified:** 23.04.2015