



SIMATIC DP, ELECTRONIC MODULE 2 AI | HIGH FEATURE FOR ET 200S, 15 MM WIDE, CYCLE TIME PER MODULE: 0.5MS, +/- 20MA; 15 BIT + SIGN, 4 .. 20MA; 15 BIT, OPERATIONAL LIMITS +/- 0.1% WITH LED SF (GROUP FAULT)

### Supply voltage

#### Load voltage L+

- |                               |      |
|-------------------------------|------|
| • Rated value (DC)            | 24 V |
| • Reverse polarity protection | Yes  |

### Input current

- |   |       |
|---|-------|
| from load voltage L+ (without load), max. | 48 mA |
| from backplane bus 3.3 V DC, max.         | 10 mA |

### Output voltage

#### Power supply to the transmitters

- |                       |     |
|-----------------------|-----|
| • present             | Yes |
| • short-circuit proof | Yes |

### Power losses

- |                  |       |
|------------------|-------|
| Power loss, typ. | 1.2 W |
|------------------|-------|

### Address area

#### Address space per module

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

### Analog inputs

- |   |  |
|---|--|
| Number of analog inputs   | 2  |
| permissible input current for current input (destruction limit), max. | 50 mA  |
| Cycle time (all channels) max.  | 0.5 ms; 0.5 ms for 2 channels without noise suppression, 18 / 21 ms per channel with noise suppression |

### Input ranges

• Voltage	No
• Current	Yes
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
<b>Input ranges (rated values), currents</b>	
• -20 mA to +20 mA	Yes
• 4 mA to 20 mA	Yes
<b>Cable length</b>	
• shielded, max.	200 m
<b>Analog value creation</b>	
Measurement principle	Sigma Delta
<b>Integration and conversion time/resolution per channel</b>	
• Resolution with overrange (bit including sign), max.	16 bit; as required
• Integration time, parameterizable	Yes
• Interference voltage suppression for interference frequency f1 in Hz	60 / 50 Hz / no
• Conversion time (per channel)	0.04 ms; Without noise suppression 17/20 ms per channel with error
<b>Smoothing of measured values</b>	
• Parameterizable	Yes; In 4 stages: 1 x, 4 x, 16 x, 32 x cycle time
• Step: None	Yes; 1 x
• Step: low	Yes; 4 x
• Step: Medium	Yes; 16 x
• Step: High	Yes; 32 x
<b>Encoder</b>	
<b>Connection of signal encoders</b>	
• for current measurement as 2-wire transducer — Burden of 2-wire transmitter, max.	750 Ω
<b>Errors/accuracies</b>	
Linearity error (relative to input range), (+/-)	0.03 %
Temperature error (relative to input range), (+/-)	0.003 %/K
Crosstalk between the inputs, min.	-100 dB
Repeat accuracy in steady state at 25 °C (relative to input area), (+/-)	0.01 %
<b>Operational limit in overall temperature range</b>	
• Current, relative to input area, (+/-)	0.1 %; 0.2% without interference frequency suppression
<b>Basic error limit (operational limit at 25 °C)</b>	
• Current, relative to input area, (+/-)	0.05 %; 0.1% without interference frequency suppression
Interference voltage suppression for $f = n \times (f_1 \pm 1 \%)$ , $f_1 =$ interference frequency	

- Series mode interference (peak value of interference < rated value of input range), min. 90 dB
- common mode voltage (USS < 2.5 V) , min. 100 dB

### Isochronous mode

Isochronous operation (application synchronized up to terminal) Yes

### Interrupts/diagnostics/status information

#### Alarms

- Hardware interrupt Yes

#### Diagnostic messages

- Diagnostic functions Yes
- Wire break Yes; Measuring range 4 to 20 mA only
- Group error Yes
- Overflow/underflow Yes

#### Diagnostics indication LED

- Group error SF (red) Yes

### Parameter

Remark	12 bytes, 4 bytes in compatibility mode
Diagnosis: wire break	Disable / enable
Measurement type/range	deactivated / +/-20 mA / 4 to 20 mA
Group diagnostics	Disable / enable
Overflow/underflow	Disable / enable

### Galvanic isolation

#### Galvanic isolation analog inputs

- between the channels No; however, increased permissible potential difference between the inputs.
- between the channels and the backplane bus Yes
- between the channels and the load voltage L+ Yes

### Dimensions

Width	15 mm
Height	81 mm
Depth	52 mm

### Weights

Weight, approx. 45 g

**last modified:** 12.03.2015