

SIMATIC DP, electronics module for ET200iSP, 4 AI, TC, for connection of thermo- couples (voltage measurement)



Figure similar

| Input current | |
|---|--|
| Current consumption, typ. | 17 mA |
| from supply voltage L+, max. | 30 mA |
| Power loss | |
| Power loss, typ. | 0.4 W |
| Analog inputs | |
| Number of analog inputs | 4 |
| Cycle time (all channels) max. | 320 ms; 66 ms basic conversion time x 4 channels with interference frequency suppression 60 Hz, 80 ms basic conversion time x 4 channels with interference frequency suppression 50 Hz |
| Technical unit for temperature measurement adjustable | Yes |
| Input ranges (rated values), voltages | |
| • -80 mV to +80 mV | Yes |
| • Input resistance (-80 mV to +80 mV) | 1 000 kΩ |
| Input ranges (rated values), thermocouples | |

| | |
|---|--|
| • Type B | Yes |
| • Input resistance (Type B) | 1 000 k Ω |
| • Type C | Yes |
| • Input resistance (Type C) | 1 000 k Ω |
| • Type E | Yes |
| • Input resistance (Type E) | 1 000 k Ω |
| • Type J | Yes |
| • Input resistance (type J) | 1 000 k Ω |
| • Type K | Yes |
| • Input resistance (Type K) | 1 000 k Ω |
| • Type L | Yes |
| • Input resistance (Type L) | 1 000 k Ω |
| • Type N | Yes |
| • Input resistance (Type N) | 1 000 k Ω |
| • Type R | Yes |
| • Input resistance (Type R) | 1 000 k Ω |
| • Type S | Yes |
| • Input resistance (Type S) | 1 000 k Ω |
| • Type T | Yes |
| • Input resistance (Type T) | 1 000 k Ω |
| • Type U | Yes |
| • Input resistance (Type U) | 1 000 k Ω |
| Thermocouple (TC) | |
| Temperature compensation | |
| — internal temperature compensation | Yes; via supplied TC sensor module |
| — external temperature compensation with compensations socket | Yes; via temperature value, acquired by an analog module of the same ET 200iSP station |
| Characteristic linearization | |
| • parameterizable | Yes |
| — for thermocouples | Yes |
| Cable length | |
| • shielded, max. | 50 m |
| Analog value generation for the inputs | |
| Measurement principle | integrating (Sigma-Delta) |
| Integration and conversion time/resolution per channel | |
| • Resolution with overrange (bit including sign), max. | 16 bit |
| • Integration time, parameterizable | Yes |
| • Basic conversion time, including integration time (ms) | 80 ms at 50 Hz; 66 ms at 60 Hz |
| — additional conversion time for wire-break monitoring | 5 ms |

| | |
|--|----------------------|
| • Interference voltage suppression for interference frequency f1 in Hz | 50 / 60 Hz |
| Smoothing of measured values | |
| • parameterizable | Yes; in 4 stages |
| • Step: None | Yes; 1x cycle time |
| • Step: low | Yes; 4x cycle time |
| • Step: Medium | Yes; 32x cycle time |
| • Step: High | Yes; 64x cycle time |
| Errors/accuracies | |
| Linearity error (relative to input range), (+/-) | 0.015 % |
| Temperature error (relative to input range), (+/-) | 0.02 %/K |
| Crosstalk between the inputs, min. | -50 dB |
| Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) | 0.01 % |
| Operational error limit in overall temperature range | |
| • Voltage, relative to input range, (+/-) | 0.15 % |
| Basic error limit (operational limit at 25 °C) | |
| • Voltage, relative to input range, (+/-) | 0.1 % |
| Interference voltage suppression for $f = n \times (f1 \pm 1 \%)$, f1 = interference frequency | |
| • Series mode interference (peak value of interference < rated value of input range), min. | 70 dB |
| • Common mode interference, min. | 90 dB |
| Interrupts/diagnostics/status information | |
| Alarms | |
| • Diagnostic alarm | Yes; Parameterizable |
| • Limit value alarm | Yes; Parameterizable |
| Diagnostic messages | |
| • Diagnostic information readable | Yes |
| Diagnostics indication LED | |
| • Group error SF (red) | Yes |
| Potential separation | |
| Potential separation analog inputs | |
| • between the channels | Yes; Functional |
| • between the channels and backplane bus | Yes |
| Standards, approvals, certificates | |
| CE mark | Yes |
| Highest safety class achievable in safety mode | |
| • Performance level according to ISO 13849-1 | none |
| • SIL acc. to IEC 61508 | No |
| Use in hazardous areas | |

- Type of protection acc. to EN 50020 (CENELEC)
- Type of protection acc. to KEMA

II2 G (1) GD Ex ib[ia] IIC T4 and I M2 Ex ib[ia] I

04 ATEX 1246

Dimensions

| | |
|--------|----------|
| Width | 30 mm |
| Height | 129 mm |
| Depth | 136.5 mm |

Weights

| | |
|-----------------|-------|
| Weight, approx. | 230 g |
|-----------------|-------|

last modified: 08/16/2019