SIMATIC S7-200 EM 231

Product Data Sheet

6ES7231-7PD22-0XA0

Four-channel Thermocouple Input Module

THERMOCOUPLE INPUT CHANNELS	SUPPORTED THERMOCOUPLE TYPES	MILLIVOLT INPUT RANGE	INPUT RESISTANCE
4	**E, J, K, N, R, S, T**	**+/-80 mV**	**1 Mohm**

Siemens 6ES7231-7PD22-0XA0 is the EM 231 four-channel thermocouple input module for SIMATIC S7-200 S7-22x controllers. It accepts thermocouple types E, J, K, N, R, S and T as well as a +/-80 mV input range. The sigma-delta conversion presents signed 16-bit values, with temperature values represented in increments of 0.1 degrees C or F.

01 TECHNICAL DATA

Thermocouple input channels	4
Supported thermocouple types	E, J, K, N, R, S, T
Millivolt input range	+/-80 mV
Input resistance	1 Mohm
Maximum shielded cable	100 m
Maximum loop resistance	100 ohms
Conversion method	Sigma-delta
Resolution	16 bits including sign
Temperature representation	0.1 degrees C or F
All-channel update time	405 ms

02 ADDITIONAL PRODUCT DATA

Maximum input voltage before destruction	30 V
L+ current consumption	60 mA
Backplane 5 V current	87 mA
Typical dissipation	1.8 W
Cold-junction compensation error	+/-1.5 degrees C

03 PRODUCT FUNCTION

All four channels update within the documented 405 ms interval. The input arrangement has a 1 Mohm resistance, permits a maximum 100-ohm loop resistance and supports shielded signal cables up to 100 m. Its electronics draw 60 mA from L+ and 87 mA from the 5 V backplane, while typical dissipation is 1.8 W; the documented cold-junction compensation error is +/-1.5 degrees C.

04 SYSTEM COMPATIBILITY

Follow the thermocouple terminal polarity and the specified cold-junction arrangement. Keep the shielded cable length within 100 m and the sensor loop resistance within 100 ohms. Route low-level thermocouple wiring away from switching power conductors, and retain the reference and shielding connections shown in the installation documentation.

05 REFERENCE

Siemens 6ES7231-7PD22-0XA0 official product data; applicable specification pages.

AMIKON PRODUCT SUPPORT

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