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**Product data sheet**
**6ES7231-7PD22-0XA0**


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**SIMATIC S7-200, T/C INPUT MOD. EM 231, FOR S7-22X CPU ONLY, 4 AI, +/-80 MV AND THERMOCOUPLE TYPE J,K,S,T,R,E,N; 15BIT+VORZ.**
**Current consumption**

from load voltage L+ (without load), max. 60 mA

from backplane bus 5 V DC, max. 87 mA

**Power losses**

Power loss, typ. 1.8 W

**Connection method**

Plug-in I/O terminals No

**Analog inputs**

Number of analog inputs 4

Cable length, shielded, max. 100 m ; to the sensor

Loop resistance cable 100 Ω

Updating time (all channels) 405 ms

[nicht versorgt: TAK\_ABT164\_001\_000]

Voltage Yes

Current No

Thermocouple Yes

Resistance thermometer No

Resistance No

**Input ranges (rated values), voltages**

-80 mV to +80 mV Yes

Input resistance (-80 mV to +80 mV) 1 MΩ

**Input ranges (rated values), thermoelements**

Type E Yes

Type J Yes

Input resistance (type J) 1 MΩ

Type K Yes

Input resistance (Type K) 1 MΩ

Type N Yes

Input resistance (Type N)	1 M $\Omega$
Type R	Yes
Input resistance (Type R)	1 M $\Omega$
Type S	Yes
Input resistance (Type S)	1 M $\Omega$
Type T	Yes
Input resistance (Type T)	1 M $\Omega$
Voltage input	
permissible input voltage for voltage input (destruction limit), max.	30 V
Analog value creation	
Measurement principle	Sigma Delta
Integrations and conversion time/ resolution per channel	
Resolution with overrange (bit including sign), max.	16 bit ; Temperature 0.1 °C / 0.1 °F
Interference voltage suppression for interference frequency f1 in Hz	85 dB at 50 / 60 / 400 Hz
Displayable conversion value range	
bipolar signals	-27,648 to +27,648
Errors/accuracies	
cold connection point	+/-1.5 °C
Repeat accuracy in settled status at 25 °C (relative to input area)	+/- 0,05 %
Operational limit in overall temperature range	
Voltage, relative to output area	+/- 0,1 %
Interference voltage suppression for f = n x (f1 +/- 1%), f1 = interference frequency	
common mode voltage, max.	120 V ; AC
Common mode interference, min.	120 dB ; at 120 V AC
Interrupts/diagnostics/status information	
Diagnostics indication LED	
Group error SF (red)	Yes
external fault EXTf (red)	Yes
Galvanic isolation	
Galvanic isolation analog inputs	
Galvanic isolation analog inputs	Yes

## Permissible potential difference

between inputs and MANA (UCM)	500 V AC
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between M internally and the inputs	500 V AC
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## Dimensions and weight

## Dimensions

Width	71.2 mm
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Height	80 mm
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Depth	62 mm
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## Weight

Weight, approx.	210 g
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Status	Nov 3, 2010
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