

Analog Input / Output Modules



PTAI216 Temperature Input Module

The temperature recording module PTAI216 has four analog input channels and 12 inputs for Pt100/Pt1000 sensors.

- 4 analog inputs $\pm 10\text{ V}$ / $\pm 1\text{ V}$ / 0 to 20 mA
- 12 inputs for Pt100/Pt1000 sensors
- Single-ended or differential inputs for analog signals
- 2-wire inputs for Pt100/Pt1000 sensors
- Resolution 14 bit (AI) / 12 bit (Pt100/Pt1000)
- Sample time 2.5 ms (AI) / 480 ms (Pt100/Pt1000)
- Channels galvanically isolated from system
- wire break detection for the inputs
- Monitoring of the external power supply

Item	Item No.
PTAI216	00010708-00
PTAI216 CC	00017456-00

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PTAI216	
Voltage inputs	
Quantity	Max. 4
Input type	Single-ended or differential
Input voltage	± 1 V or ± 10 V
Input impedance	> 33 k Ω
Input filter	170 Hz (low pass 1st order)
Digital resolution	14 bit
Allowed common mode voltage	Max. ± 1 V
Error at operating temperature	± 1 V: 25 °C \rightarrow ± 0.5 % ± 1 V: 0 to +60 °C \rightarrow ± 0.5 % ± 1 V: -30 to +60 °C \rightarrow ± 0.5 % ± 10 V: 25 °C \rightarrow ± 0.1 % ± 10 V: 0 to +60 °C \rightarrow ± 0.15 % ± 10 V: -30 to +60 °C \rightarrow ± 0.3 %
Cross-talk attenuation	> 60 dB
Sample time	2.5 ms
Current inputs	
Quantity	Max. 4
Input current	0 to 20 mA
Input impedance	243 Ω
Digital resolution	14 bit
Max. input current	35 mA (destruction limit)
Error at operating temperature	0 to 20 mA: 25 °C \rightarrow ± 0.2 %* 0 to 20 mA: 0 to +60 °C \rightarrow ± 0.2 %* 0 to 20 mA: -30 to +60 °C \rightarrow ± 0.3 %*
Sample time	2.5 ms
Pt100/Pt1000* inputs	
Quantity	12
Input type	2-wire technology
Temperature range	-100 to +300 °C
Constant current via sensor	Pt100: 3 mA Pt1000: 0.3 mA
Digital resolution	12 bit
Value of the LSB	0.1 K
Averaging	Over 16 values per 480 ms
External power supply	
Galvanic isolation from system	500 V
Voltage range	18 to 34 VDC
Current consumption internal	Normally 70 mA at 24 VDC

* only applies for DC in the input current range 20 mA

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PTAI216		
Approvals / Certificates		
General	CE, UL/cUL, CCC	
Marine	GL/DNV, LR, ABS, BV	
Ambient conditions	Standard	ColdClimate (✱)
Operating temperature	-30 to +60 °C	
Rel. humidity operation	5 to 95 % without condensation	5 to 95 % with condensation
Storage temperature	-40 to +85 °C	
Rel. humidity storage	5 to 95 % with condensation	
Pollution degree	2 (without condensation; according to IEC 60664-1)	2 (according to IEC 60664-1)

Order Codes PTAI216		
Item	Item No.	Description
PTAI216	00010708-00	Temp.-recording module; 12x Pt100/1000; 4x In ±10V ±1V 20mA; 14bit; 0.25 %; isolated
PTAI216 CC	00017456-00	Like PTAI216; ColdClimate (✱)
Accessories		
SS-PTAI216 B+C	00012010-50	Terminal set Phoenix screw side (1x KZ 51/02; 4x SS 35/14) with labeling strip and coding elements
SV-PTAI216 B+C	00010870-50	Terminal set Phoenix screw frontside (1x SV 51/02; 4x SS 35/14) with labeling strip and coding elements
KS-PTAI216 B+C*	00012599-50	Terminal set cage clamp small (1x KZ 51/02; 4x KS 35/14) with labeling strip and coding elements → not for new developments
KZ-PTAI216 B+C	00026126-00	Terminal set Phoenix cage clamp (1x KZ 51/02; 4x KZ 35/14) with labeling strip and coding elements

* Item is discontinued and replaced by KZ-AIO288 B+C (00026126-00).