

# C-DIAS Temperature Sensing Module

## CAI 888



with 8 temperature inputs 0 – 800 °C  
8 digital outputs +24 V

This analog input module is used for the recording of temperatures. The following thermocouple inputs can be connected:

FeCuNi (J) ... 0 – 600 °C  
NiCr-Ni (K) ... 0 – 800 °C  
FeCu-Ni (L) ... 0 – 600 °C

In addition, there are eight digital +24 V outputs (positive switching) available.

### Analog Channel Specifications

Number of channels	8	
Measurement range	Type J (0 – 600 °C; 0 – 33.1 mV) Type K (0 – 800 °C; 0 – 33.3 mV) Type L (0 – 600 °C; 0 – 33.7 mV)	
Measurement value	0 – 6000 or 0 – 8000	Open input delivers -2147483631
Resolution	0.15 °C / 12 Bits	
Conversion time per channel	1 ms	
Applicable sensor type according to DIN 43710	FeCuNi (Typ J) NiCrNi (Typ K) FeCuNi (Typ L)	
Input filter	0.5 s	Low pass 3 system
Common-mode range	±10 V	
Sensor type for cold junction	KTY10-62	
Cold junction	-20 – +80 °C	
Precision of Analog channel measurement	±0.70 % of the maximum measurement value (with use of KTY10-62 terminal compensation sensors)	

### Digital Outputs

Number of outputs	8	
Protection against short-circuiting	Yes	
Maximum permissible constant current / channel	0.5 A	
Maximum total current	4 A (100% of on-time)	
Voltage drop over power supply (output active)	≤ 0.16 V	
Residual current (inactive)	≤ 10 µA	
Switch-on delay time	≤ 100 µs	
Switch-off delay time	≤ 150 µs	
Max. Braking energy per output	1 J	

### Electrical Requirements

Current supply of the digital outputs (X6)	18 – 30 V DC	
Current consumption supply of the digital outputs (X6)	Corresponds to the load on the digital outputs plus 45 mA	
Supply of the C-DIAS bus	+5 V and +24 V	
Current consumption on the C-DIAS bus (+5 V supply)	Typically 70 mA	Maximum 90 mA
Current consumption on the C-DIAS bus (+24 V current supply)	Typically 30 mA	Maximum 40 mA

### Article Number and Miscellaneous

Article number	12-009-888	
Hardware version	2.x	
Connector set	CKL 043, article number: 12-600-043	

### Environmental Conditions

Storage temperature	-20 – +85 °C	
Operating temperature	0 – +60 °C	
Humidity	0 – 95 %, non condensing	
EMV stability	In accordance with EN 61000-6-2 (industrial)	
EMV noise emission	In accordance with EN 61000-6-4 (industrial)	
Shock resistance	EN 60068-2-27	150 m/s <sup>2</sup>
Protection Type	EN 60529	IP20