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BC-PT8_xxx-000 PT100/1000 interface to CAN

Features

- Measurement of the temperature using the temperature dependence from the electrical resistance.
- Amplifies up-to 8 connected PT100/1000 sensors and outputs the temperature value onto the CAN-Bus.
- This module is characterized by a high temperature range of –200°C up to 850°C. Therefore it can be used for measurements in the climatic chamber up to measurements of the exhaust gas temperature.
- The modular building ensures a maximum of flexibility.
- Single modules can be combined into a group of modules (e.g. in a temperature test stand). You can screw a unlimited number of single boxes together.

Single temperature PT100/1000 box

Technical specifications

Electrical characteristics

Power supply.....	8-18	V dc
Current consumption@12V.....	90	mA
Channels (temperature PT100/1000).....	8	
Temperature range.....	-200 - 800	°C

Connections

CAN IN (Binder 712, 5PM).....	1	
CAN OUT (Binder 712, 5PF).....	1	
PT100/1000 resistor (Binder 719,4PF).	8	
kind of connection:		
standard.....	Two-wire circuit	
optional.....	Four-wire circuit	

Mechanical characteristics

Dimensions.....	100 x 55 x 30	mm
Weight.....	190	g
Housing material.....	aluminium	
Shock.....	40	G
.....	10	ms
Vibration tested at.....	12	G
.....	1000	Hz

Environmental data

Ambient operating range.....	0 to +70	°C
Humidity.....	5 to 95	%

Ordering information

Art.No.:

PT 100 interface to CAN	BC-PT8_100-000
PT 1000 interface to CAN	BC-PT8_1000-000

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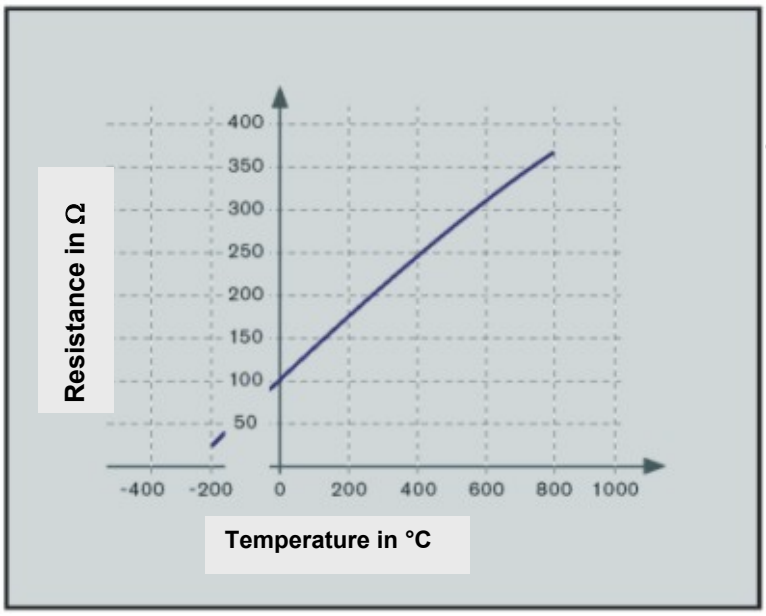
BC-PT8-xxx-000 PT100/1000 interface to CAN

Measurement principle PT100 element

Measurement of the temperature by using the temperature dependence of the electrical resistance of metals. This increases with rising temperature. It's so called PTC (positives temperature coefficient).
The nominal value of a PT100-Sensor amounts to 100Ω@0 °C.



PT100 (Platin) with positives temperature coefficient

$$\alpha = \frac{R_{100} - R_0}{100 \times R_0}$$

R_{100} = restistance @100°C

R_0 = restistance @0°C (nominal resistance)

α=0.00385055°C^{-1}

Connector layout

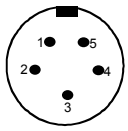
CAN-line (Standard)

CAN-line Binder 712, 5pin

Pin	Name	Description	Color (standard)
1	CAN H	CAN Bus High	white
2	CAN L	CAN Bus Low	green
3	GND	Ground	black
4	n.c.	Not connected	-
5	Vext	Power IN (8-18V)	red

Connector type

CAN IN



Binder 712, 5 PM
(front side)

CAN OUT

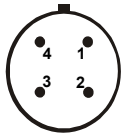
Binder 712, 5 PF
(front side)

Analog (PT100 / PT1000 application)

Analog-line Binder 719, 4pin

Pin	Name		Description		Color (standard)
1		V-		Four wire circuit	blue
2		V+		Four wire circuit	red
3	IN-	IN-	Two-wire circuit	Four wire circuit	white
4	IN+	IN+	Two-wire circuit	Four wire circuit	brown

Plug at module

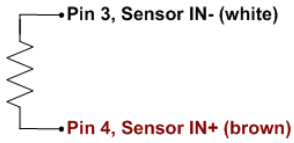


Binder 719, 4 PF
(front side)

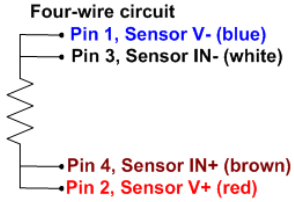
Mating plug

Binder 719, 4 PM
(front side)

Two-wire circuit



Four-wire circuit



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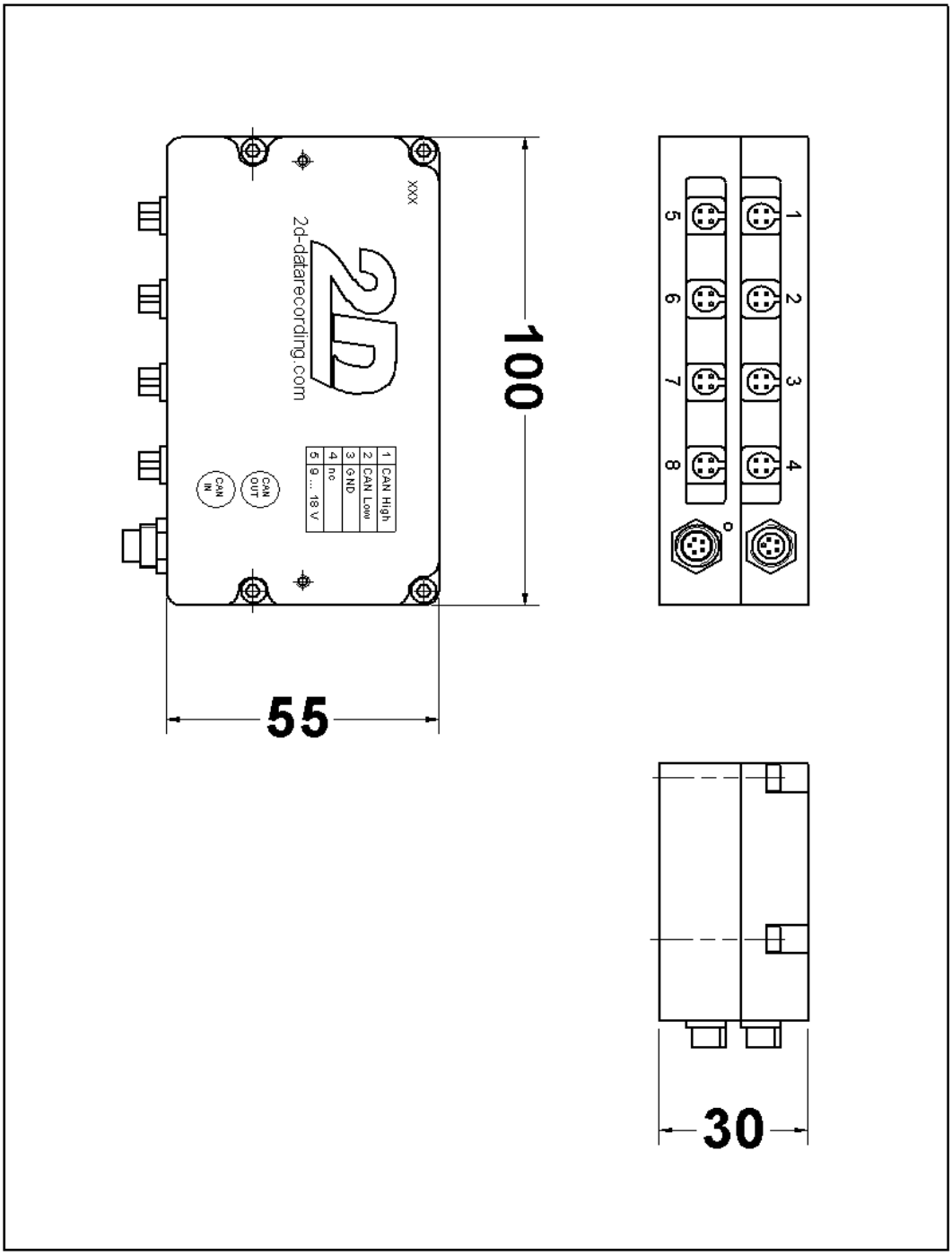
Dimensions + Diagram of connections



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