

TEM-EX-C



Figure: TEM-EX-C*

- ▶ Robust and safe temperature transducer for general mining applications
- ▶ In combination with the Kirchgaesser multi channel signal converter and display unit COMBA-EX or signal converter CON-EX respectively the device is used to measure temperatures in liquid and gaseous media.
- ▶ Housing: Stainless steel (Connector: plastic)
- ▶ The temperature measuring ranges are selectable in the range of -20°C to +150°C according to the table of versions (other measuring ranges are available on request).
- ▶ Sensor: Semiconductor
- ▶ Process connection: Thread G1½ (selectable sensor length)
- ▶ Electrical connection: Hirschmann surface mounted connector type G4
- ▶ There are pre-fabricated connection cables type VCG (1 ... 30 m) available to connect TEM-EX-C with a Kirchgaesser signal converter.
- ▶ The power supply is provided by the Kirchgaesser signal converter.
- ▶ Marking according to 94/9/EC: I M1 Ex ia I (KDB 08ATEX209)

Ordering information **TEM-EX**

10	Device version	
	C Transducer to connect with a Kirchgaesser signal converter	
20	Process connection	
	1 G½ thread	
	9 Special version, to be specified	
30	Length of sensor	
	0100 100 mm	
	0160 160 mm	
	0230 230 mm	
	0360 360 mm	
	0510 510 mm	
	_____ Length of sensor (mm) after consulting	
	9999 Special version, to be specified	
40	Measuring range (lower limit) *1	
	A -20°C	
	C -10°C	
	D -5°C	
	E 0°C	
	Y Special version, to be specified	
50	Measuring range (upper limit) *1	
	B +20°C	
	C +30°C	
	D +40°C	
	E +50°C	
	F +60°C	
	G +70°C	
	K +100°C	
	M +120°C	
	P +150°C	
	Y Special version, to be specified	
60	Accuracy class	
	A Max. $\pm 0.2K$ from measurement value (upper range value $\leq +60^\circ C$)	
	B Max. $\pm 0.5\%$ of end value ($+60^\circ C < \text{upper range value}$)	
	Y Special version, to be specified	
70	Electrical connection	
	G Hirschmann surface mounted connector type G4	
	Y Special version, to be specified	

*1 See table for selectable combinations of lower and upper limits!

Complete order code:

TEM-EX- **C**

Selectable measuring ranges ^{*2}

Lower limit (40)	Upper limit (50)	Measuring range
A	B	-20°C ... +20°C
A	C	-20°C ... +30°C
A	D	-20°C ... +40°C
C	B	-10°C ... +20°C
C	C	-10°C ... +30°C
C	D	-10°C ... +40°C
D	B	-5°C ... +20°C
D	C	-5°C ... +30°C
D	D	-5°C ... +40°C
E	D	0°C ... +40°C
E	E	0°C ... +50°C
E	F	0°C ... +60°C
E	G	0°C ... +70°C
E	K	0°C ... +100°C
E	M	0°C ... +120°C
E	P	0°C ... +150°C

^{*2} Other temperature ranges can be selected optionally!

Ordering information connection cable **VC*-***

10	Type of connector
	G Hirschmann connector type G4
20	Length of cable
	— Length of connection cable [m], max. 30 m

Complete order code:

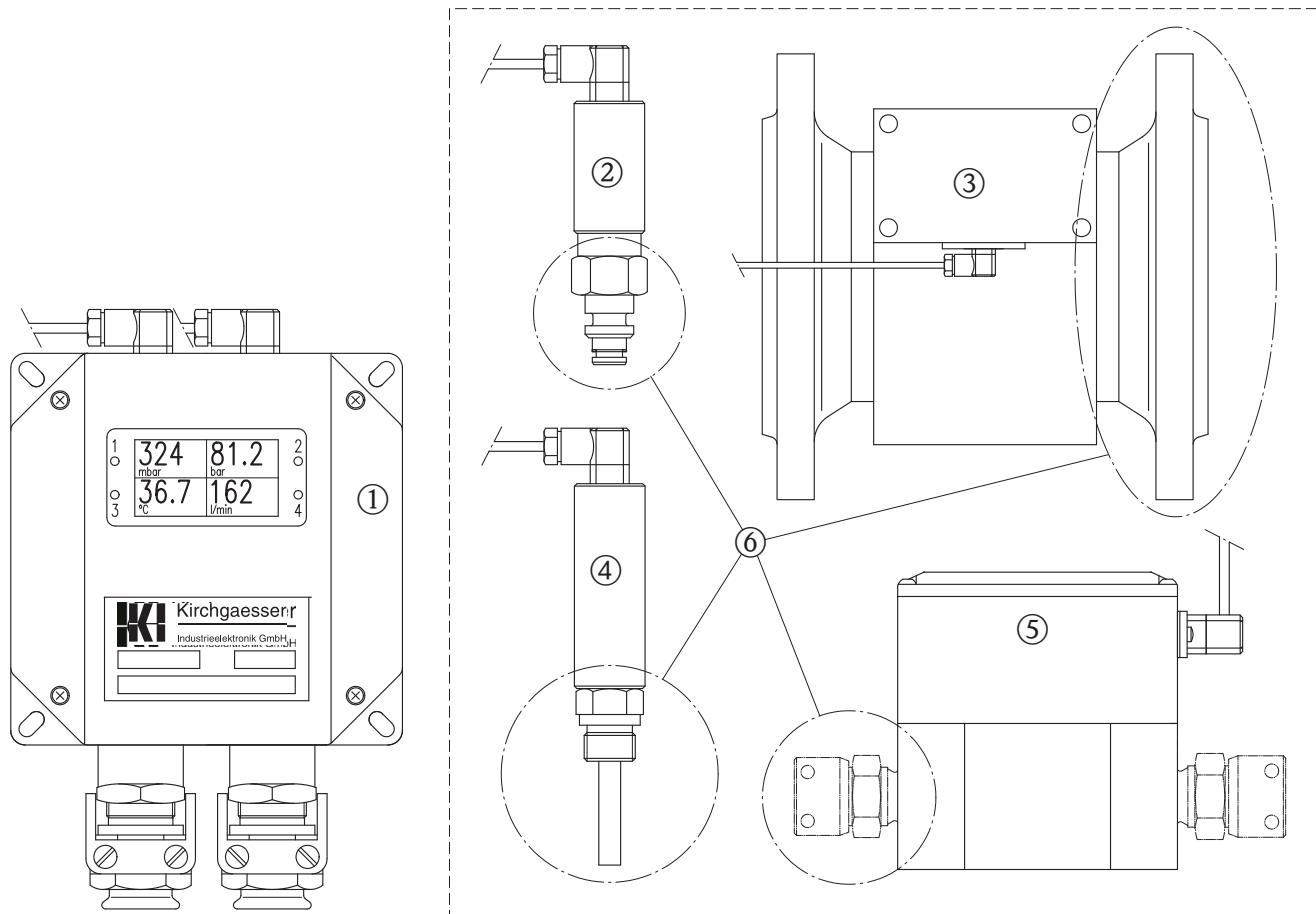
VC -

Measuring system:

The measuring system consists of the temperature transducer type TEM-EX-C and a Kirchgaesser multi channel signal converter and display unit COMBA-EX or signal converter CON-EX respectively.

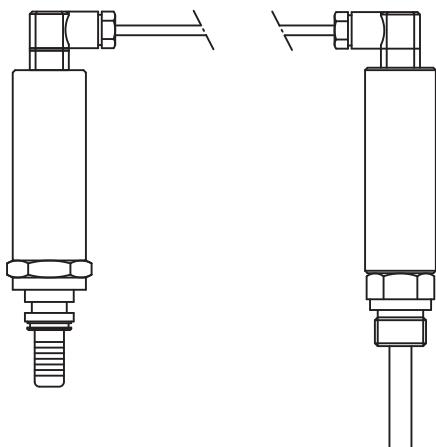
The transducer TEM-EX-C is available with different sensor lengths, please refer the ordering information for further details.

TEM-EX-C with the multi channel signal converter and display unit COMBA-EX



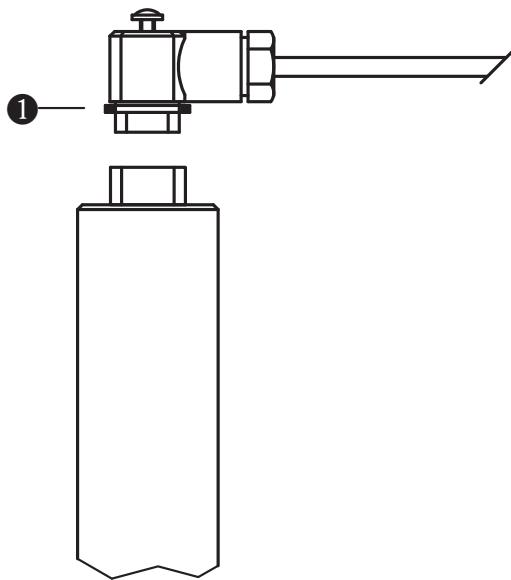
- Any combination of TEM-EX-C ④ and/or transducers type PEM-EX-C ② (pressure), type MID-EX-GC ③ (high flow) and/or type MID-EX-C ⑤ (small flow) can be connected with COMBA-EX ①.
- The individual transducers are available with different process connections ⑥.
- The connection cable type VCG with a maximum length of 30 m is not a part of the package and has to be ordered separately.

TEM-EX-C with the signal converter CON-EX



- The connection cable type VCG with a maximum length of 30 m is not a part of the package and has to be ordered separately.

Installation:



Warning!

Please take notice of the sealing ① of the connector!

Technical data (general):

- Measuring principle:
Temperature-sensitive semiconductor sensor
- Material
 - Housing: Stainless steel
 - Connector: Plastic
- Weight:
Depending on length of sensor (0.35 kg at 100 mm sensor length)
- Protection according to EN 60529:
IP 65
- Protection according to EN 60079-0:
Ex ia I
- Nominal pressure:
Max. 100 bar
- Process connection:
Thread G $\frac{1}{2}$
- Ambient temperature:
 $-20^{\circ}\text{C} \leq \text{Ta} \leq +70^{\circ}\text{C}$
- Process temperature:
 $-20^{\circ}\text{C} \leq \text{Tp} \leq +150^{\circ}\text{C}$

Technical data (electrical):

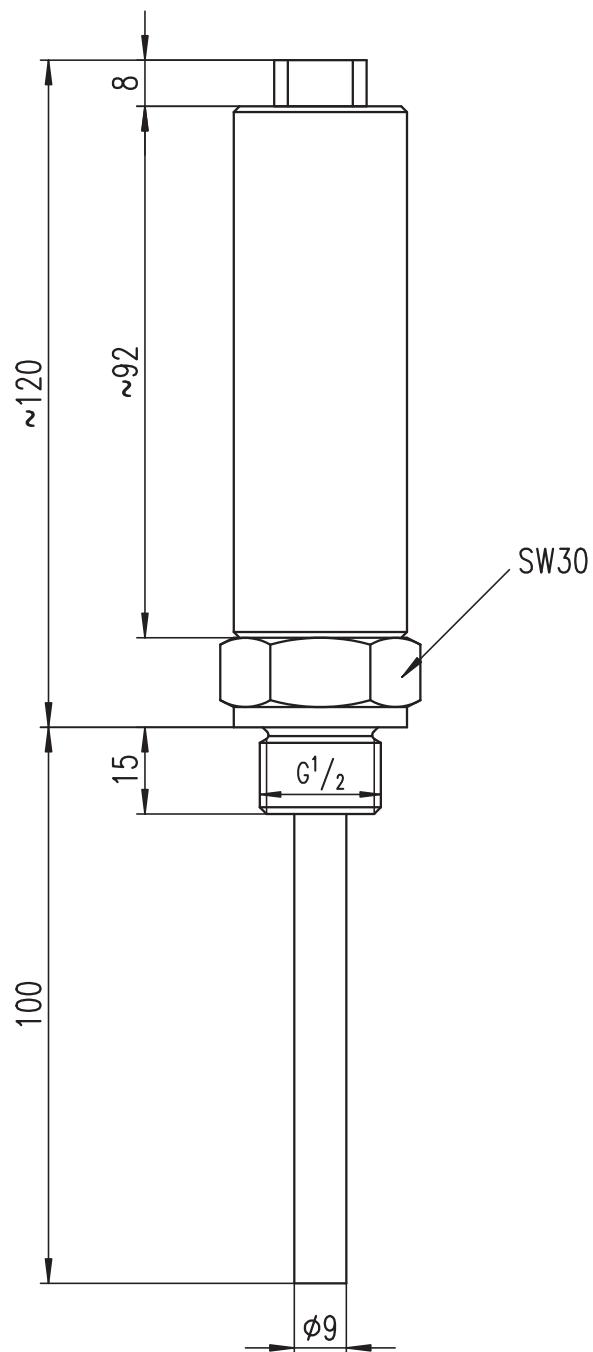
- Power supply:
Provided by the Kirchgaesser signal converter
- Current consumption:
12 mA
- Output signal:
Serial
- Internal inductances:
Negligible
- Internal capacitances:
Negligible

Note!

- The device is approved and certified according to GB3836.1 and GB3836.4 for the use in China mining, the certification numbers are **J2013330** and **J2013327** (COMBA-EX).
- The temperature transducer TEM-EX-C is designed for connection with the Kirchgaesser multi channel signal converter and display unit COMBA-EX (see ka053000en) or signal converter CON-EX (see ka058000en). If you need a single device with independent output signal, please take a look on our TEM-EX-L (see ka055200en).

Dimension sheet:

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Scale 1:1

TEM-EX-C10100***G

Drawn	Date	Name
Checkd.		
Apprvd.		

KI Kirchgaesser
 Industrielektronik GmbH

1.1	Text removed	06.11.14	MK
Rev.	Changes	Date	Name

2-055000-00-05-M

 Sheet
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Rev. 1.1

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