

# Electronic temperature



*CombiSeries* –  
Safe and convenient process  
monitoring and control.



**CombiTemp® TFRN**



**CombiTemp® TFRH**



**CombiTemp® TFR5**

General Data	CombiTemp® TFRN	CombiTemp® TFRH	CombiTemp® TFR5
General Data	<ul style="list-style-type: none"> <li>■ Industrial RTD temperature sensor</li> <li>■ Optional display: <i>CombiView</i>® DFON</li> <li>■ Threaded process connections</li> <li>■ 4 ... 20 mA, HART® or Pt100-output</li> </ul>	<ul style="list-style-type: none"> <li>■ Hygienic RTD temperature sensor</li> <li>■ Optional display: <i>CombiView</i>® DFON</li> <li>■ Hygienic process connections</li> <li>■ 4 ... 20 mA, HART® or Pt100-output</li> </ul>	<ul style="list-style-type: none"> <li>■ Room temperature or out-door temperature sensor</li> <li>■ Can be used for remote temperature reading</li> <li>■ Optional display: <i>CombiView</i>® DFON</li> <li>■ Wall or pipe mounted</li> <li>■ Housing and sensor in stainless steel</li> </ul>
Industries	Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery	Food & Beverage Laboratory & Medical Water / Waste Water	Oil & Gas / Chemical, Water / Waste Water Energy Transport & Logistics Machinery Food & Beverage
Measuring ranges	-50 ... +400 °C	-50 ... +250 °C	Ambient -30 ... 80 °C (with DFON display)
Sensor element	Pt100	Pt100	Pt100
Accuracy	DIN A 1/1 DIN B 1/1, 1/3, 1/6	DIN A 1/1 DIN B 1/1, 1/3, 1/6	DIN A 1/1 DIN B 1/1, 1/3, 1/6
Wetted parts material	AISI 316L (1.4404)	AISI 316L (1.4404)	N/A
Versatile options for process connection	Tube without connection G1/2 male DIN 3852 G1/2 male ISO 228-1 R1/2 male ISO 7/1 1/2"-14 NPT male	G1/2 B Hygienic 3 A DN38 Hygienic DN25/DN38 Clamp, 3-A DN51 Clamp, 2" 3-A Varivent® type N	N/A
Display	<i>CombiView</i> ® DFON and BattTemp (optional)	<i>CombiView</i> ® DFON and BattTemp (optional)	<i>CombiView</i> ® DFON and BattTemp (optional)
Protection rating	IP 67 IP 69K	IP 67 IP 69K	IP 67
Approvals	ATEX II 1G, Ex ia IIC T5 ATEX II 3G, Ex nA II T5	3-A ATEX II 1G, Ex ia IIC T5 ATEX II 3G, Ex nA II T5	ATEX II 1G, Ex ia IIC T5/T6 ATEX II 3G, Ex nA II T5

To measure temperature accurately is a question of proper sensor placement. With Baumer you can always rely on competent advice.



TE2



TCR6



ETTN, YTTN

General Data	<ul style="list-style-type: none"> <li>■ Compact and light weight</li> <li>■ -50 ... +250 °C transmitter</li> <li>■ 4 ... 20 mA or Pt100 output</li> </ul>	<ul style="list-style-type: none"> <li>■ Industrial RTD temperature sensor</li> <li>■ High level of modularity</li> <li>■ Available with 4 ... 20 mA, HART or Pt100 / Pt1000 output</li> </ul>	<ul style="list-style-type: none"> <li>■ Switching outputs</li> <li>■ On site configuration</li> <li>■ Suitable for hazardous areas</li> <li>■ Ideal for safety circuits</li> <li>■ Robust design for rugged industrial environment</li> </ul>
Industries	Food & Beverage Laboratory & Medical Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery	Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery	Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery
Measuring ranges	-50 ... +250 °C	-50 ... 400 °C	Display range -200 ... +400 °C
Sensor element	Pt100	Pt100 / Pt1000	Pt1000
Accuracy	DIN A 1/1 DIN B 1/1, 1/3, 1/6	DIN A 1/1 DIN B 1/1, 1/3, 1/6	DIN B 1/1
Wetted parts material	AISI 316L (1.4404) (PEEK)	AISI 316L (1.4404)	AISI 316L (1.4404)
Versatile options for process connection	Process connections G1/2" male nipple G1/2 B Hygienic M12 x 1.5 Hygienic M12 x 1.5 Hygienic cone Conical sensor G1/4" DIN 3852-E DN25/DN38 clamp Triclamp® 1/2", 3/4" 3-A DN38	Tube without connection G1/2 Male DIN 3852 A/E R1/2 Male ISO 7/1 1/2"-14 NPT Male M18, M20 G1/2, G3/4, G1 male rotating G1/2, G3/4 female union	Without union G 1/4 G 1/2 1/4 NPT 1/2 NPT
Display	No	No	4 digit 7-segment LED (red)
Protection rating	M12: IP 67 DIN 43650: IP 65	IP 65	IP 67
Approvals	3-A	ATEX II 1G, Ex ia IIC T5/T6 ATEX II 3G, Ex nA II T5	ATEX I M1 Ex ia I ATEX II 1G Ex ia IIC T6 to T5

User configurable transmitters for head mounting.



**FlexTop 2202**



**FlexTop 2203**



**FlexTop 2204**

General Data	<ul style="list-style-type: none"> <li>■ In-head transmitter for <i>CombiTemp</i>® or OEM applications</li> <li>■ User configurable</li> </ul>	<ul style="list-style-type: none"> <li>■ In-head transmitter for OEM applications</li> <li>■ User configurable</li> </ul>	<ul style="list-style-type: none"> <li>■ In-head transmitter for OEM applications</li> <li>■ User configurable</li> </ul>
Industries	Food & Beverage Laboratory & Medical Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery	Food & Beverage Laboratory & Medical Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery	Food & Beverage Laboratory & Medical Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery
Supply	8 ... 35 VDC	8 ... 35 VDC	8 ... 35 VDC
Accuracy	< 0.25 °C (Pt100)	< 4 ... 5 °C	< 0.25 °C (Pt500)
Measuring range	-200 ... +850 °C	-100 ... +1820 °C -10 ... 100 mV	-100 ... +160 °C 0 ... 1000 Ohm
Input	Pt100, 2-, 3-, 4 wire	T/C and mV	Pt500 and Ohm
Output	4 ... 20 mA	4 ... 20 mA	4 ... 20 mA
Protection rating	IP 40	IP 40	IP 40
Approvals	Ex ia IIC T5/T6, ATEX II 1G Ex nA II T5, ATEX II 3G	Ex ia IIC T5/T6, ATEX II 1G Ex nA II T5, ATEX II 3G	Ex ia IIC T5/T6, ATEX II 1G Ex nA II T5, ATEX II 3G

Transmitters with your individual logo and in your individual housing color.



FlexTop 2211



FlexTop 2221

General Data	<ul style="list-style-type: none"> <li>■ In-head transmitter for <i>CombiTemp</i>® or OEM applications</li> <li>■ User configurable</li> </ul>	<ul style="list-style-type: none"> <li>■ In-head transmitter for <i>CombiTemp</i>® or OEM applications</li> <li>■ User configurable</li> </ul>
Industries	Food & Beverage Laboratory & Medical Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery	Food & Beverage Laboratory & Medical Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery
Supply	6.5 ... 35 VDC / 8 ... 35 VDC	6.5 ... 35 VDC / 8 ... 35 VDC
Accuracy	< 0.1 °C (Pt100)	< 0.1 °C (Pt100)
Measuring range	RTD: -200 ... +850 °C T/C: -270 ... +2300 °C Ohm: 0 ... 2200 Ω	RTD: -200 ... +850 °C T/C: -270 ... +2300 °C Ohm: 0 ... 2200 Ω
Input	RTD T/C mV and Ohm	RTD T/C mV and Ohm
Output	4 ... 20 mA	4 ... 20 mA and HART®
Protection rating	IP 40	IP 40
Approvals	Ex ia IIC T5/T6, ATEX II 1G Ex nA II T5, ATEX II 3G	Ex ia IIC T5/T6, ATEX II 1G Ex nA II T5, ATEX II 3G

Precise and reliable temperature measurement.



**Conical sensor**

**Cable sensor**

General Data	<ul style="list-style-type: none"> <li>■ Compact and light weight</li> <li>■ Hygienic cable sensor</li> <li>■ Pt100 output</li> </ul>	<ul style="list-style-type: none"> <li>■ Cable sensor with standard or air sensor</li> <li>■ Cable length according to customer specification</li> <li>■ Various Pt100 and Pt1000 elements available</li> </ul>
Industries	Food & Beverage Laboratory & Medical Water / Waste Water	Oil & Gas / Chemical Energy Transport & Logistics Machinery
Measuring ranges	-50 ... +205 °C	-50 ... +205 °C
Sensor element	Pt100	Pt100 Pt1000
Accuracy	DIN A 1/1 DIN B 1/1, 1/3, 1/6	DIN A 1/1 DIN B 1/1, 1/3, 1/6
Wetted parts Material	AISI 316L (1.4404)	AISI 316Ti (1.4571)
Versatile options for process connection	G1/8 union, conical	
Protection rating	IP 65	IP 65

When temperature measurement is crucial.



FlexTemp 2301



FlexTemp 2311



FlexTemp 2321

General Data	<ul style="list-style-type: none"> <li>■ Rail mounted transmitter</li> <li>■ Damping and status indication configurable</li> </ul>	<ul style="list-style-type: none"> <li>■ Rail mounted transmitter</li> <li>■ Damping and status indication configurable</li> </ul>	<ul style="list-style-type: none"> <li>■ Rail mounted transmitter</li> <li>■ Damping and status indication configurable</li> </ul>
Industries	Food & Beverage Laboratory & Medical Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery	Food & Beverage Laboratory & Medical Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery	Food & Beverage Laboratory & Medical Oil & Gas / Chemical Water / Waste Water Energy Transport & Logistics Machinery
Input	Pt100	RTD, T/C, mV and R	RTD, T/C, mV and R
Output	4 ... 20 mA	4 ... 20 mA	4 ... 20 mA and HART®
Measuring range	-200 ... +850 °C	RTD: -200 ... +850 °C T/C: -270 ... 2300 °C Ohm: 0 ... 2200 Ω	RTD: -200 ... +850 °C T/C: -270 ... 2300 °C Ohm: 0...2200 Ω
Accuracy	> 0,25°C (Pt100)	< 0.1°C (Pt100)	< 0.1°C (Pt100)
Supply	8 ... 35 VDC	6.5 ... 35 VDC	8 ...35 VDC
Protection rating	Housing: IP 30 Terminals: IP 10	Housing: IP 30 Terminals: IP 10	Housing: IP 30 Terminals: IP 10