

## Specifications for the Ex temperature assemblies

**Connection head:**  
BUZ-T  
BUZ-H  
BUZ-HK  
AXD  
SXD

**Sensor wire connection:**  
1x Pt100; 2-, 3- or 4-wire  
2x Pt100; 2-, 3- or 4-wire  
1x type J, K  
2x type J, K

**Insert/class:**  
Cl. B, A, 1/3 DIN B TF  
Cl. A, 1/10 DIN B WW  
Cl. A vibration-proof  
Cl. 1 for thermocouple

**Transmitters:**  
TT 10, 30, 50, 51, 60 C  
TT 30, 31, 51 R

**ATEX II 1G Ex ia IIC T6 Ga**  
TR/TC-100  
TRA/TCA-P10, -S11, -S12, -F13  
TRA/TCA-P14, -T30, -TF31  
TRA/TCA-TS32, -TF33, -S34  
TRA/TCA-TS35, -TS36, -TS37  
TRA/TCA-S50, -TS52, -TS53  
TRA/TCA-TS54, -TF55, -TF56  
TRA/TCA-TF57, -TW58, -TW59  
TRA/TCA-P40, -S41, -F42

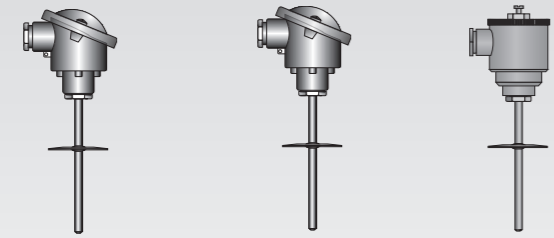
**ATEX II 1/2 G Ex ia IIC T6 Ga/Gb**  
TRA/TCA-S11, -S12, -F13, -T30  
TRA/TCA-TF31, -TS32, -TF33  
TRA/TCA-TS35, -TS36, -TS37, -TS52  
TRA/TCA-TS53, -TS54, -TF55, -TF56  
TRA/TCA-TF57, -TW58, -TW59  
TRA/TCA-S41, -F42

**ATEX II 1D Ex ia IIIC T140°C Da IP65**  
TRA/TCA-P10, -S11, -S12, -F13  
TRA/TCA-T30, -TF31  
TRA/TCA-TS32, -TF33  
TRA/TCA-TS35, -TS36, -TS37  
TRA/TCA-TS52, -TS53  
TRA/TCA-TS54, -TF55, -TF56  
TRA/TCA-TF57, -TW58, -TW59  
TRA/TCA-P40, -S41, -F42  
TRA/TCA-S34, -S50 <sup>1)</sup>

**ATEX II 1D Ex ia IIIC T175°C Da IP65**  
TRA/TCA-P14

<sup>1)</sup> only together with a thermowell

## VTH1/VGP2 Hygienic temperature assemblies



TRA-H10

TRA-H20

TRA-H30



TTP 200

TTP 300

TTP 400

### Configure it Online configuration tool

Online configuration tool enables you to configure any KROHNE transmitter to handle your application in a few simple steps.



[www.krohne-direct.com](http://www.krohne-direct.com)

## VTS9 Measuring inserts

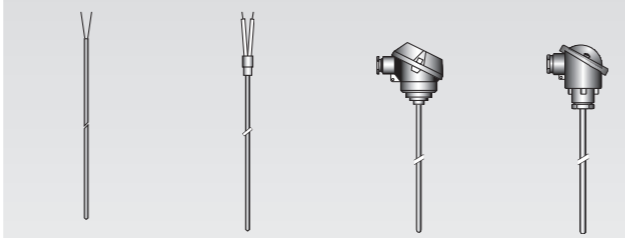


TR/TC-100

TR/TC-100

TR/TC-100

## VTC2 Mineral insulated thermocouples

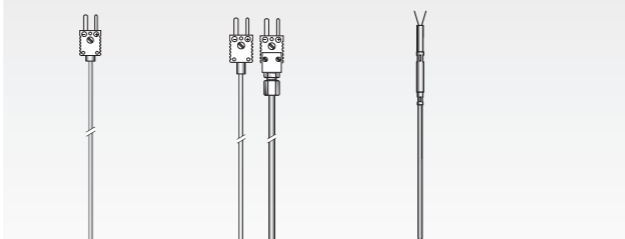


TCA-M10

TCA-M20

TCA-M30

TCA-M40

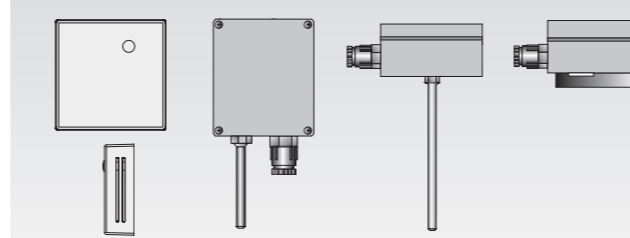


TCA-M50

TCA-M60

TCA-M70

## VTE1 HVAC temperature sensors



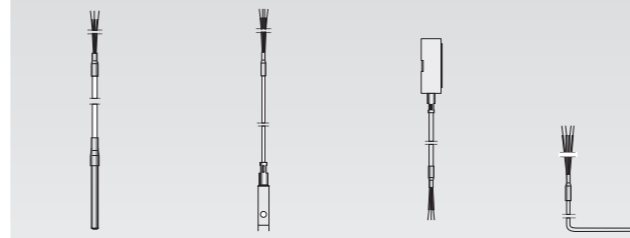
TRA-V10

TRA-V20

TRA-V30

TRA-V40

## VTE2 Cable sensors



TRA-W10

TRA-W20

TRA-W30

TRA-W40



TRA-W50

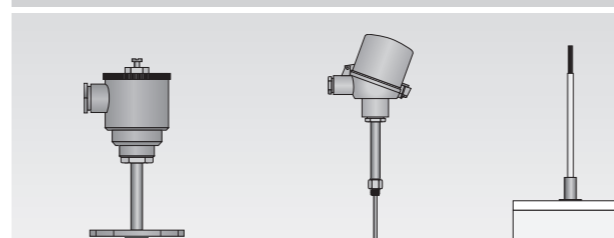
TRA-W60

TRA-W70

TRA-W80

TRA-W90

## VTE3 Temperature assemblies for advanced requirements



TRA-G10

TRA-G20

TRA-G30

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Further information:  
[www.krohne.com/temperature](http://www.krohne.com/temperature)  
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[www.krohne.com](http://www.krohne.com)



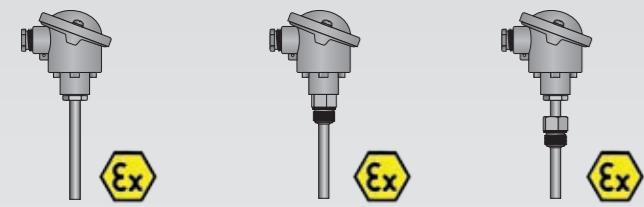
► achieve more

## OPTITEMP portfolio for the temperature measurement

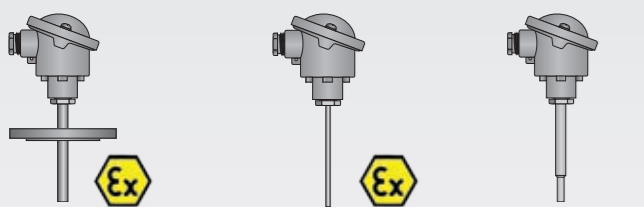


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Temperature Measurement  
Since 1939

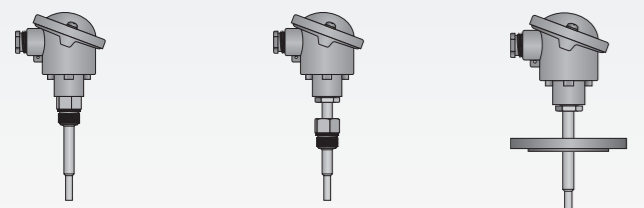
## VTS1 Industrial temperature assemblies



TRA/TCA-P10 Form 2      TRA/TCA-S11      TRA/TCA-S12 Form 2G

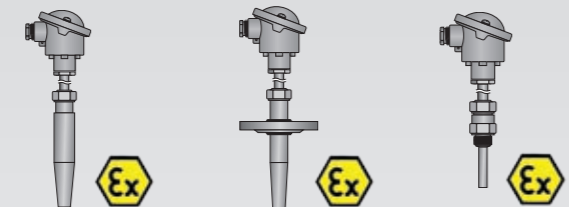


TRA/TCA-F13 Form 2F      TRA/TCA-P14      TRA/TCA-P20

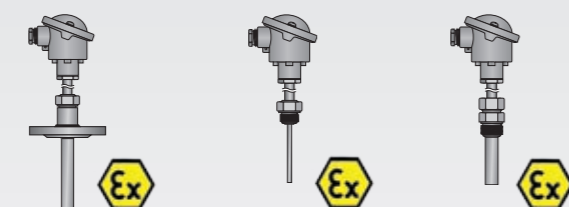


TRA/TCA-S21      TRA/TCA-S22      TRA/TCA-F23

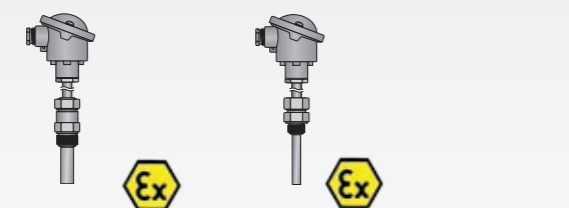
## VTS2 Temperature assemblies for advanced requirements (DIN standard)



TRA/TCA-T30 Form 4      TRA/TCA-TF31 Form 4F      TRA/TCA-TS32 Form 5

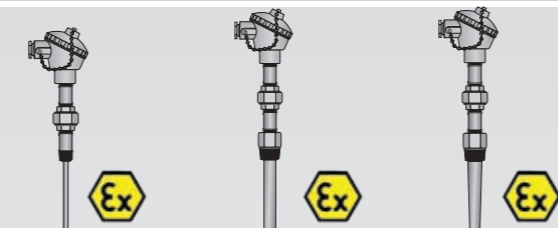


TRA/TCA-TF33      TRA/TCA-S34      TRA/TCA-TS35 Form 8

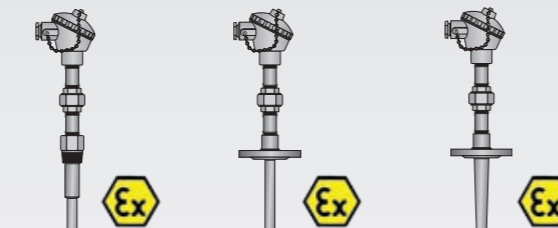


TRA/TCA-TS36 Form 7      TRA/TCA-TS37 Form 9

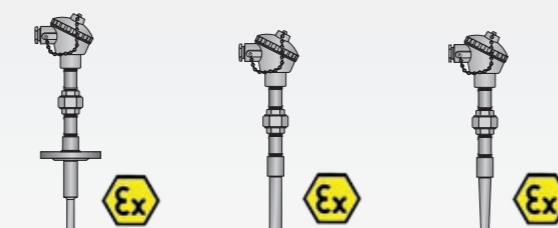
## VTS3 Temperature assemblies for advanced requirements (ASME standard)



TRA/TCA-S50      TRA/TCA-TS52      TRA/TCA-TS53

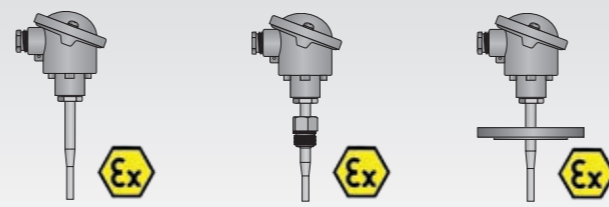


TRA/TCA-TS54      TRA/TCA-TF55      TRA/TCA-TF56



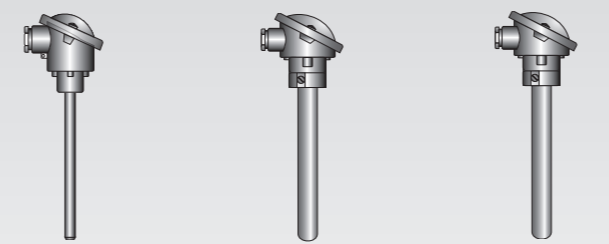
TRA/TCA-TF57      TRA/TCA-TW58      TRA/TCA-TW59

## VTS4 Industrial temperature assemblies

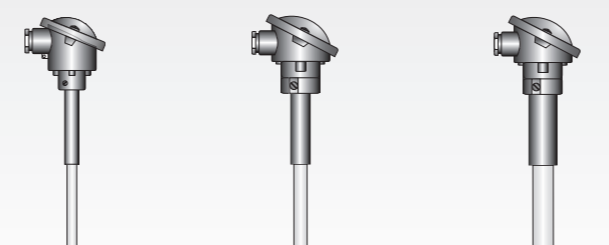


TRA/TCA-P40 Form 3      TRA/TCA-S41 Form 3G      TRA/TCA-F42 Form 3F

## VTC1 High temperature assemblies (+600...+1600 °C / +1112...+2912 °F)

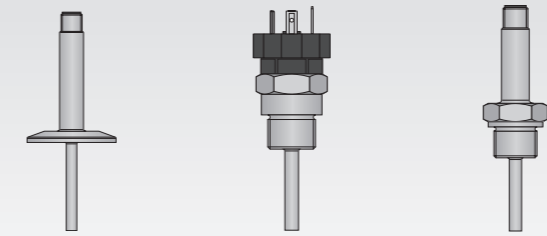


TCA-P60      TCA-P61      TCA-P62



TCA-P63      TCA-P64      TCA-P65

## Compact sensors



TRA-C10      TRA-C20      TRA-C30

## Transmitters

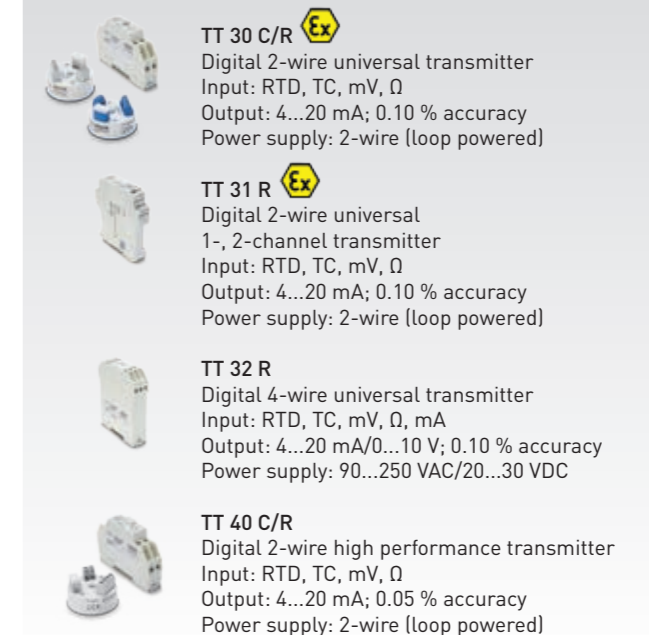


**TT 10 C/R**   
Analogue adjustable 2-wire RTD/TC transmitter  
Input: Pt100; 3-wire; Type J, L, T, K, N  
Output: 4...20 mA; 0.15 % accuracy  
Power supply: 2-wire (loop powered)

**TT 11 C/R**   
Analogue adjustable 3-wire RTD transmitter  
Input: Pt100, Pt1000; 3-wire  
Output: 0...10 V; 0.15 % accuracy  
Power supply: 15...30 VDC; 3-wire

**TT 20 C**   
Analogue PC-programmable 2-wire RTD transmitter  
Input: Pt100; 3-wire  
Output: 4...20 mA; 0.10 % accuracy  
Power supply: 2-wire (loop powered)

## Isolated transmitters



**TT 30 C/R**   
Digital 2-wire universal transmitter  
Input: RTD, TC, mV,  $\Omega$   
Output: 4...20 mA; 0.10 % accuracy  
Power supply: 2-wire (loop powered)

**TT 31 R**   
Digital 2-wire universal 1-, 2-channel transmitter  
Input: RTD, TC, mV,  $\Omega$   
Output: 4...20 mA; 0.10 % accuracy  
Power supply: 2-wire (loop powered)

**TT 32 R**   
Digital 4-wire universal transmitter  
Input: RTD, TC, mV,  $\Omega$ , mA  
Output: 4...20 mA/0...10 V; 0.10 % accuracy  
Power supply: 90...250 VAC/20...30 VDC

**TT 40 C/R**   
Digital 2-wire high performance transmitter  
Input: RTD, TC, mV,  $\Omega$   
Output: 4...20 mA; 0.05 % accuracy  
Power supply: 2-wire (loop powered)

## Smart transmitters



**TT 50 C/R**   
Universal 2-wire HART® transmitter  
Input: RTD, TC, mV,  $\Omega$   
Output: 4...20 mA; 0.10 % accuracy; HART®  
Power supply: 2-wire (loop powered)

**TT 51 C/R**   
High performance 2-wire HART® transmitter  
Input: RTD, TC, mV,  $\Omega$   
Output: 4...20 mA; 0.05 % accuracy; HART®, SIL2  
Power supply: 2-wire (loop powered)

**TT 60 C/R**   
Universal PROFIBUS® PA transmitter  
Input: RTD, TC, mV,  $\Omega$   
Output: PROFIBUS® PA; 0.10 % accuracy  
Power supply: 2-wire (bus-powered)

## OPTITEMP TT51 The new transmitter at a glance



[optitempTT51.krohne.com](http://optitempTT51.krohne.com)

