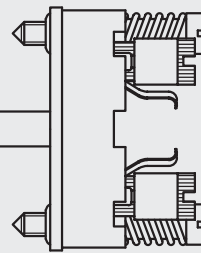


# Industrial thermocouple

FOR USE WITH THERMOWELLS

**TCCC-TCCB-TCCA-TCFA**  
**CONFIGURATIONS**

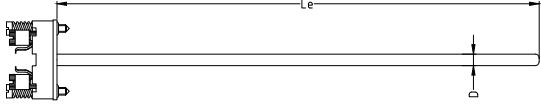
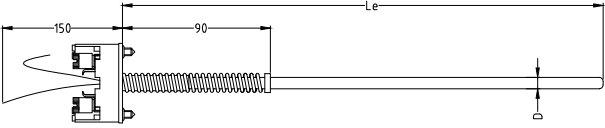
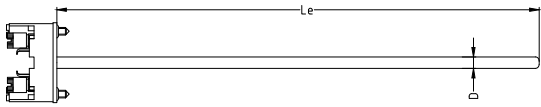
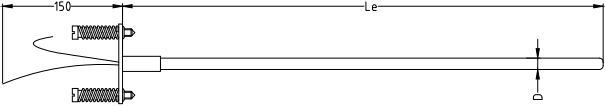
**Ex ia TC**



**RODAX**<sup>o</sup>  
new temperature solutions

Product series TCRI/WI

**Table 1: Measuring inserts main models**

	<b>Terminal</b>	<b>Total spring</b>	
<b>TCCC</b>	Ceramic spring loaded terminal block 2/4/6 or 8 terminals	10 mm  We recommend a spring loading of +/-5 mm	
<b>TCCB</b>	Hi-tech spring loaded thermoplast (moisture and shock proof) terminal block 2/4 or 6 terminals	40 mm  We recommend a spring loading of +/-20 mm	
<b>TCCA</b>	Hi-tech spring loaded thermoplast (moisture and shock proof) terminal block 2/4 or 6 terminals	10 mm  We recommend a spring loading of +/-5 mm	
<b>TCFA</b>	Spring loaded mounting plate with flying leads of 150 mm	10 mm  We recommend a spring loading of +/-5 mm	

**Features assembly**

High quality thermocouple element with MgO mineral insulated metal sheathed cable, providing excellent stability and reproducibility.

The unique properties make this basic element ideally suited for a wide variety of applications up to 1200 °C depending on thermocouple type and metal sheath.

The thermocouple element is fully bendable.

**Table 2: Equipment for potentially explosive atmospheres**

**Certification**

<b>A</b>	ATEX
<b>I</b>	IECEX
<b>G</b>	GOST-R

**Explosive atmosphere**

<b>G</b>	Gas
<b>D</b>	Dust

**Table 3: Measuring inserts details**

## Details

- Thermocouple types: J/K/T/E/N/S/R/B
- Thermocouple standards: EN/IEC 60584 and/or ANSI MC96-1
- Minimum insulation resistance: 1000 MOhm at 500VDC,  $T_{amb}=20\text{ °C}$
- Conductors: thermocouple material
- Metal sheath: see table

## TC Type

J	K	T	E	N
Fe – CuNi	NiCr – NiAl	Cu – CuNi	NiCr – CuNi	NiCrSi – NiSi
±1.5 between -40 °C and 375 °C or ±0.004xT °C	±1.5 between -40 °C and 375 °C or ±0.004xT °C	±0.5 between -40 °C and 125 °C or ±0.004xT °C	±1.5 between -40 °C and 375 °C or ±0.004xT °C	±1.5 between -40 °C and 375 °C or ±0.004xT °C

## Colour code

ANSI	IEC	Other
ANSI – MC96-1	EN/IEC 60584-1	

## TC element

S	D	T
Single thermocouple	Dual thermocouple	Triple thermocouple

## Diameter ØD

D3	D3,2	D4,5	D4,8	D6	D6,35	D8	D9,53	D12,7	Other diameters on request
3,0 mm	3,2 mm	4,5 mm	4,8 mm	6,0 mm	6,35 mm	8,0 mm	9,53 mm	12,7 mm	

## Sheath material

M2102	M2107	M2110	M0601	M0701	M0704	M0809
SS304	SS316 Standard for TC J/T	SS310	Inconel 600 Standard for TC K	Alloy 800H	Alloy 825	Hastelloy X

## Hot junction

<b>I</b>	Individually isolated	Hot junction electrically isolated from and shielded by the sheath.
<b>CI</b>	Commonly isolated	Multiple hot junctions joined to one hot junction electrically isolated from and shielded by the sheath.
<b>DI</b>	Dually isolated	Hot junction electrically isolated from and shielded by the sheath. For dual and triple: all circuits isolated from each other and from the sheath.
<b>G</b>	Grounded	Hot junction welded to the sheath.

**Table 4: Certification possibilities**

## Certificates

Following tests and certificates are possible and are either done in-house or done by an external party.

Code	Certificates
<b>Q04210</b>	Functional test report sensor
<b>Q04230</b>	Calibration report (measuring points to be indicated) E.g. 100/200 °C
<b>Q05220</b>	Calibration report by accredited calibration lab retraceable (measuring points to be indicated)
<b>Q05230</b>	Calibration report by accredited calibration lab ISO/IEC 17025 (BELAC) (measuring points to be indicated)
<b>Q02040</b>	Test report EN10204-2.2
<b>Q04250</b>	Transmitter programming. Range and burn-out settings to be indicated




## Addenda

### Thermal data related to product series TCRI/WI

The maximum process temperature  $T_p$  (in °C) and the relation to the temperature class is as follows:

<b>Maximum process temperature <math>T_p</math> (°C)</b>	75	90	125	190	285	435	>435
<b>Temperature class (°C)</b>	T6	T5	T4	T3	T2	T1	$T_p+10$
<b>Maximum surface temperature <math>T</math> of the Assembly (°C)</b>	85	100	135	200	300	450	$T_p+10$

### Certificates for product series TCRI/WI

<b>ATEX 2014/34/EU</b>	ATEX EU-type examination certificate 18ATEX0060 X	
<b>IECEX 02</b>	IECEX DEK 18.0032 X	
<b>GOST-R</b>	GOST EAC RU C-BE.ГБ05B.00211	

## HOW TO ORDER (example)

Code		Example	Your code
<b>Main model</b>	See table 1	KCA	
<b>Certification</b>	See table 2	A	
<b>Explosion atmosphere</b>	See table 2	G	
<b>TC type</b>	See table 3	K	
<b>Colour code</b>	See table 3	IEC	
<b>TC element</b>	See table 3	S	
<b>Diameter ØD</b>	See table 3	D6	
<b>Sheath material</b>	See table 3	M0601	
<b>Hot junction</b>	See table 3	I	
<b>Insertion length Le</b>	In mm	Le400	
<b>Options (transmitters, etc.)</b>			

Ordering code example:

KCA A G K IEC S D6 M0601 I Le400

**For all options: please contact Rodax**

© 2018

Santvoortbeeklaan 33, 2100 Antwerp - Belgium

T +32 (0)3 360 90 00

E [quotationdesk@rodax-europe.com](mailto:quotationdesk@rodax-europe.com)

[www.rodax-europe.com](http://www.rodax-europe.com)

**RODAX**<sup>°</sup>  
new temperature solutions

TCC-Exia-TC GB 201810