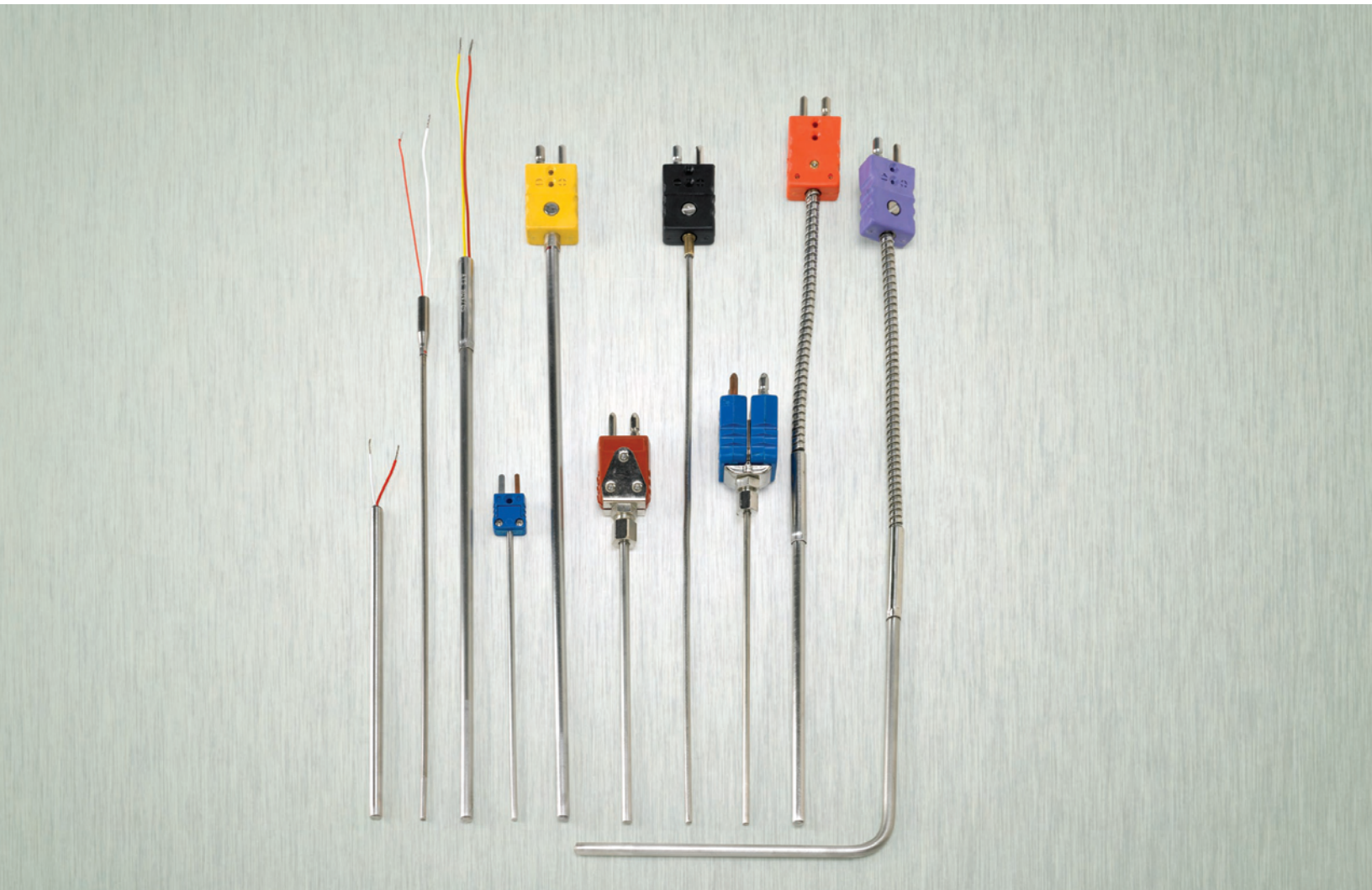


TC40 Industrial Thermocouple Sensor



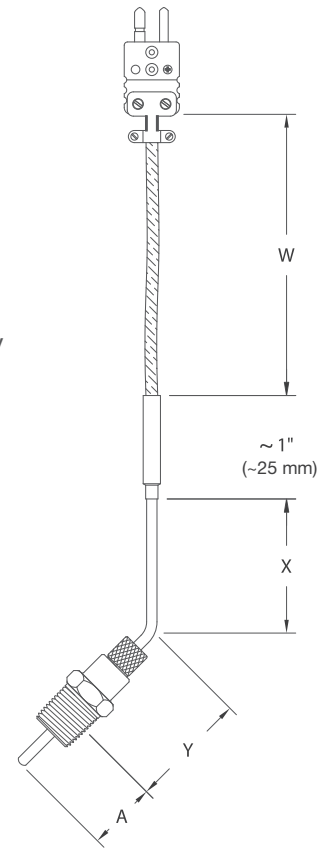
TC40 Industrial Thermocouple Sensor

TC40 series thermocouples are custom industrial sensors designed to suit all applications where metal sheathed thermocouples are required. An extensive range of elements, terminations, and process connections can be individually selected for the appropriate application. With their flexibility and the small diameters in which they are available, TC40 thermocouples can be used in locations that are not easily accessible.

Applications:

TC40 series sensors are suitable for all industrial and commercial applications including:

- Automotive industries
- Chemical and petrochemical industries
- Engine cylinder heads and oil sumps
- Energy and power plant technology
- Furnaces, kilns, ovens and boilers
- Heat treating
- Incinerators
- Machinery, plant and tank measurement
- Plastics and rubber industries
- Power and utilities
- Pulp and paper
- Smelting
- Turbines
- Water and wastewater treatment



TC40 - Industrial Thermocouple Sensor

Sensor Element:	<ul style="list-style-type: none"> ■ Type K (NiCr-Ni), ■ Type J (Fe-CuNi), ■ Type E (NiCr-CuNi), ■ Type N (NiCrSi-NiSi), ■ Type T (Cu-CuNi)
Temperature range:	-200 °C to +1260 °C (depending upon element)
Number of sensors:	<ul style="list-style-type: none"> ■ 2-wire single circuit ■ 4-wire dual circuit
Classification tolerance:	<ul style="list-style-type: none"> ■ Class 2 and class 1 per DIN EN 60584 ■ ISA standard and special to ANSI MC96.1-1982
Measuring point:	Ungrounded, grounded, or exposed
Electrical approvals:	ATEX/IEC, NAMUR
Options:	<ul style="list-style-type: none"> ■ Lengths and diameters standard or customer specific ■ Calibration - single point and multiple points ■ Material traceability of the thermocouple alloys, metal sheath and mineral insulation ■ Selectable accuracy tolerance ■ Special designs and materials ■ Intrinsically safe version: ATEX, NAMUR (EEx-i) ■ Non-sparking version: ATEX (EEx-n) ■ Inline transition ■ Retractable cord ■ Strain relief spring

Features:

- The sensor can be mounted into a process with the use of a fixed fitting, compression fitting, union nut, swivel nut or a spring-loaded bushing.
- The sensor has electrical approvals for intrinsic safety, ingress protection and general purpose areas.
- Electrical authorities that have registered these approvals include ATEX/IEC and NAMUR.
- The thermocouple sensors are available with a variety of sheath materials including austenitic 300 series and ferritic 400 series stainless steels, corrosion resistant and high temperature oxidation resistant alloys.
- Sensor diameters range from 0.020 inch to 0.375 inch and 0.5 mm to 8 mm.
- Thermocouple temperature ranges are dependent on the sheath & conductor diameter, element calibration, and sheath material.
- Terminations include stripped leads, standard or mini plugs & jacks, spade lugs, or Lemosa plugs.
- Termination accessories include cord grip, braze adapter, cable or wire clamps, hex crimp adapters, or compression adapters.
- If required the metal sheath can be formed during manufacture or by the installer.
- Extension cable is available in a variety of insulation and jacket materials. These include interlocking flexible armour, braided stainless steel, fibreglass, PTFE (Teflon®), PVC and Silicon.



Highlighted items are North American standards. Consult factory for balance.

TC40

Create your product part number by selecting the appropriate assembly items from each of the categories below. Enter the item code into the applicable box to generate the part number.



1 2 3 4 5 6 7 8

Part Number TC40-XXXXXXXX-XXXX-XXXX-XXXXXXXXXXXXXXXXXXXX-XX

1 Unit of measure	
Code	
I	Imperial
M	Metric
2 Electrical approval	
A	EEx-i (ATEX) gas, acc. to directive 94/9/EC
B	EEx-i (ATEX) gas/dust, acc. to directive 94/9/EC
H	EEx-n (ATEX) acc. to directive 94/9/EC
D	EEx-i, confirmation NAMUR NE24
Z	Without
3 Sensor design	
0	Straight
4	45 degree bend
9	90 degree bend

4 Fitting style	
A	Fixed fitting, threaded hex bushing
B	Compression fitting with stainless steel ferrule
C	Compression fitting with Teflon® ferrule
D	Compression fitting, spring loaded, with stainless steel ferrule
E	Compression fitting, spring loaded, with Teflon® ferrule
I	Fixed fitting, double threaded hex bushing
L	Spring loaded bushing without oil seal
K	Spring loaded bushing with oil seal
G	Union nut
H	Swivel nut
Z	Without

5 Thread size	
K	1/2 NPT
J	3/4 NPT
N	1/4 NPT
X	3/8 NPT
W	1/8 NPT
F	G 1/2 B
C	G 3/4 B
R	G 1/4 B
D	G 1/8 B
P	M14 x 1.5
O	M18 x 1.5
Z	Without

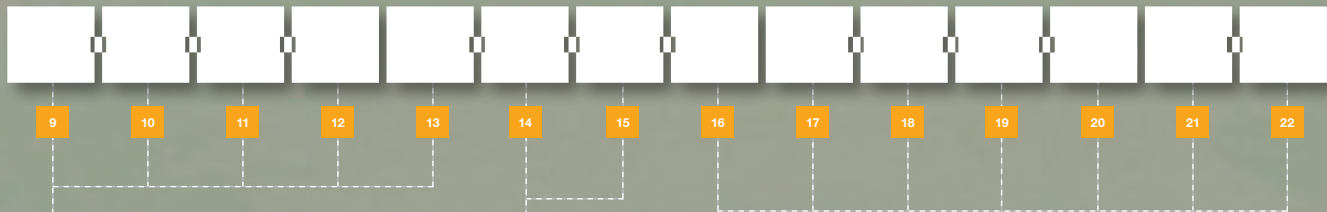
6 Fitting material	
A	Stainless steel 316 (1.4401)
B	Stainless steel 316 Ti (1.4571)
Z	Without

7 Sensor diameter	
1	1/4 inch / 0.250 inch (6.35 mm)
4	3/16 inch / 0.188 inch (4.75 mm)
2	1/8 inch / 0.125 inch (3.17 mm)
5	1/16 inch / 0.063 inch (1.59 mm)
8	3/8 inch / 0.375 inch (9.53 mm)
7	1/25 inch / 0.040 inch (1.02 mm)
6	1/50 inch / 0.020 inch (0.51 mm)
D	6.0 mm
B	3.0 mm
C	4.5 mm
Q	1.6 mm
N	1.5 mm
P	1.0 mm
O	0.5 mm
A	2.0 mm
E	8.0 mm

8 Sheath material	
P	Stainless steel 316 / 316 L (1.4401 / 1.4435)
O	Stainless steel 310 (1.4841)
J	Inconel® 600 (2.4816)
T	Stainless steel 446 (1.4762)
I	Hastelloy® X (2.4665)
H	Hastelloy® C276 (2.4819)



Note: Some configurations are unavailable. Your WIKA sales person will notify you if you have made an incorrect selection



9 Element

1	Type K (NiCr-Ni) / 0...+1260 °C
2	Type K (NiCr-Ni) / 0...+600 °C
3	Type J (Fe-CuNi) / 0...+760 °C
4	Type J (Fe-CuNi) / 0...+300 °C
5	Type N (NiCrSi-NiSi) / 0...+1260 °C
6	Type N (NiCrSi-NiSi) / 0...+600 °C
7	Type E (NiCr-CuNi) / 0...+870 °C
8	Type E (NiCr-CuNi) / 0...+400 °C
9	Type T (Cu-CuNi) / -200...+370 °C

10 Number of sensors

1	Single
2	Dual

11 Classification tolerance

8	ISA standard to ANSI MC96.1-1982
9	ISA special to ANSI MC96.1-1982
2	Class 2 per DIN EN 60584
1	Class 1 per DIN EN 60584

12 Measuring point

1	Ungrounded
2	Grounded
3	Exposed

13 Lead wire insulation

N	PVC jacket
O	PVC jacket, shielded
D	PVC armour over Teflon®
J	Silicon jacket
M	Silicon jacket, shielded
T	Teflon® jacket
L	Teflon® jacket, shielded
S	Stainless steel braid over Teflon®
G	Teflon® armour over Teflon®
F	Individual Teflon® leads
B	Armoured Teflon®
H	Fibreglass jacket
E	Teflon® armour over fibreglass
K	Stainless steel braid over fibreglass
C	Individual fibreglass leads
A	Armoured fibreglass
P	ML-cable conductor wire

14 Termination

1	Stripped leads
2	Spade lugs
3	Standard plug 2-pin (male)
4	Mini plug 2-pin (male)
A	High temperature standard plug 2-pin (male)
B	High temperature mini plug 2-pin (male)
5	Standard jack 2-pin (female)
6	Mini jack 2-pin (female)
7	Standard solid pin plug 2-pin (male)
F	Lemoso plug size 1 S (male)
G	Lemoso plug size 2 S (male)
I	Lemoso plug size 1 S (female)
J	Lemoso plug size 2 S (female)

15 Termination accessories

F	Cord grip
A	Braze adapter
C	Cable clamp
D	Cable clamp and weatherproof boot
E	Dual compression adapter
G	Hex crimp adapter
H	Hex crimp adapter and weatherproof boot
I	Compression adapter
J	Compression adapter and weatherproof boot
K	Wire clamp
L	Wire clamp and weatherproof boot
M	Mini wire clamp
Z	Without

16 Miscellaneous options

S	Strain relief spring
R	Retractable cord
I	Inline transition
Z	Without

17 W-Dimension (W)

*****	Please specify (e.g. 84 mm = 00084) (e.g. 9.5 inch = 00095)
ZZZZZ	Without

18 X-Dimension (X)

****	Please specify (e.g. 84 mm = 0084) (e.g. 9.5 inch = 0950)
ZZZZ	Without

19 Y-Dimension (Y)

****	Please specify (e.g. 84 mm = 0084) (e.g. 9.5 inch = 0095)
ZZZZ	Without

20 A-Dimension (A)

*****	Please specify (e.g. 84 mm = 00084) (e.g. 9.5 inch = 00950)
-------	--

21 Certificates

1	Quality certificates
Z	Without

22 Additional order details

T	Additional text
Z	Without

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