



# GÜNTHER<sup>GmbH</sup>

Temperaturmesstechnik



**Product category 00-TMT  
Thermocouple Assemblies  
with Metal Protective Tube**

## 00-TMT

### Thermocouple Assemblies with Metal Protective Tube



#### 00-TMT

#### Thermocouple Assemblies with Metal Protective Tube

Straight line thermocouple assemblies with metal protective tubes are used, depending on the properties of the protective tube, for common temperature measurements in liquid, gaseous or plastic mediums up to a temperature of 1200°C.

The protective fittings of this product line are composed of seam welded or seamlessly drawn metal tubing. Depending on the application, GÜNTHER GmbH has over 40 different, partly high-alloyed materials in a large array of measurements in stock. The tips for the protective tubes are closed either through hot forming or welded shut with a bottom blank.

Tapered measuring tips may be used in this product line in order to shorten the reaction time. For prolonging the holding time, strengthening the wall thickness and utilization of ceramic inner tubing are possible.

All internationally prevalent thermocouple pairs, detachable process connectors (for example mobile flanges or threaded sleeves) and connection heads are employed.

The selected thermocouple and/or protective tube material with the lowest permissible operating temperature defines the maximum operating temperature of the entire thermocouple assembly.

Thermoelectric voltages and tolerances of our thermocouples are pursuant to DIN EN 60584, Class 1. For specialised thermal sensors, whose construction and components require technical clarification, we engineer customized solutions. Please contact us about your specific application requirements in reference to material and assembly and we will develop your optimized individual solution.

**Further technical information for this product line is available on our website:**

<http://www.guenther.eu/en/products/thermocouples/00-tmt/thermocouples-with-metal-protection-tube-and-thermocouple>

#### Application Examples for

#### Thermocouple Assemblies with Metal Protective Tube:



Waste Recycling / Incineration



Glass Industry



Plant- and Machine Construction



Steel and Iron Industry



Automobile Industry



Industrial Furnace Construction



Aluminium and Nonferrous Metal Industry



Cement and Building Material Industry



Energy Production



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**1 Connection Head**

A	B
AUS	BUS
AUZ	BUZ
AUZH	BUZH
AUSH	BBK

**2 Protective Tube (Materials)**

St. 35.8	Mat. No. 1.0305
Kanthal	
Stainless Steel	Mat. No. 1.4301
Stainless Steel	Mat. No. 1.4571
X18Cr N 28	Mat. No. 1.4749
X10Cr Al 24	Mat. No. 1.4762
X15CrNi Si 25 20	Mat. No. 1.4841
Inconel	Mat. No. 2.4816
Heat Resistant Steel	Mat. No. 1.4893

**3 Process Connector (Detachable)**

Flange
Threaded Socket
Flange / Counter Flange

**4 Ceramic Inner Tubing**

C610	TEP
C799 (gas-tight)	Aluminium Oxide

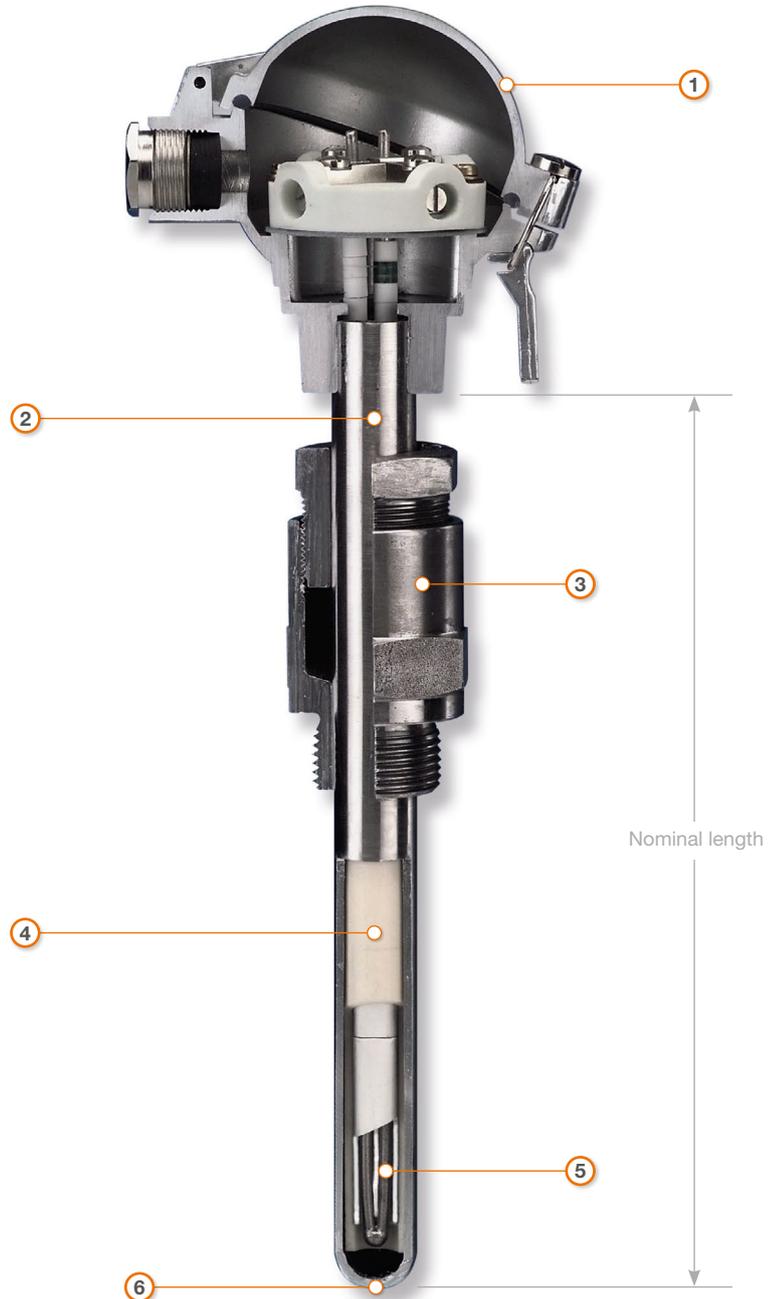
**5 Thermocouple**

Type R	PtRh13-Pt
Type S	PtRh10-Pt
Type B	PtRh30-PtRh6
Type K	NiCr-Ni
Type J	Fe-CuNi
Type L	Fe-CuNi
Type C	WRe5-WRe26
Type N	Nicrosil-Nisil
Type D	WRe3-WRe25

**6 Configuration**

Fast Response Time:
Tapered Protective Tube
Protective Sheath Diameter: 6-15 mm

Example of a common implementation in this product line



Individual Solutions such as, for example materials, process connectors, accessories, etc. not listed here, are often viable.

Please contact us for further information!

**00 - TMT // Thermocouples with a metal protection tube and a built-in thermocouple**

Metal protection tube + thermocouple   -           -

**Protection tube (dimensions)**

		Special sizes:	
15 x 2	mm	1	12 x 1.5 mm
22 x 2	mm	2	15 x 1.3 mm
24 x 3	mm	3	11 x 1.5 mm
26 x 4	mm	4	10 x 1.5 mm
			9 x 1 mm

**Protection tube (material)**

St 35.8	Mat. no. 1.0305	1
Kanthal AF		2
Stainless steel	Mat. no. 1.4301	3
Stainless steel	Mat. no. 1.4571	4
X18Cr N 28	Mat. no. 1.4749	5
X10Cr Al 24	Mat. no. 1.4762	6
X15CrNi Si 25 20	Mat. no. 1.4841	7
Inconel	Mat. no. 2.4816	8
Heat-res. steel	Mat. no. 1.4893	9

**Inner tube**

None		0
C610	gastight ceramic	1
C799	Aluminium oxide	2

**Sensor point**

Not tapered	0	Tapered to 10 mm	5
Tapered to 15 mm	1	Tapered to 8 mm	6
Tapered to 12 mm	2		
Tapered to 9 mm	3		
Tapered to 6 mm	4	Tapered, other	9

**Head**

A	1	B	6
AUS	2	BUS	7
AUZ	3	BUZ	8
AUZH	4	BUZH	9
AUSH	5	BBK	0

**Thermocouple**

Type R	PtRh13-Pt	1
Type S	PtRh10-Pt	2
Type B	PtRh30-PtRh6	3
Type K	NiCr-Ni	4
Type J	Fe-CuNi	5
Type L	Fe-CuNi	6
Type C	WRe5-WRe26	7
Type N	Nicrosil-Nisil	8
Type D	WRe3-WRe25	9

**Thermocouple**

Standard	1	Standard (testable)	2
Double	3	Double (testable)	4
Triple	5		

**Fastening**

None	0
Stop flange	1
Mounting thread	2
Flange/counter flange	3

Custom designs:

-         -

Consecutive no.

Nominal length / mm

Nominal length / mm



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