



# GÜNTHER<sup>GmbH</sup>

Temperaturmesstechnik



**Product category 08-TMP  
Thermocouples with  
Noble Metal Protective Tube**

## 08-TMP

### Thermocouple Assemblies with Noble Metal Protective Tube



GÜNTHER GmbH has been a supplier of Thermocouples for over 40 years to the following sectors of the glass industry:

- Container Glass
- Fibreglass
- Sheet Glass
- Glass Wool
- Dinnerware Glass
- Dinnerware Glass
- Medical Glass

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

<http://www.guenther.eu/en/products/thermocouples/08-tmp/thermocouples-with-precious-metal-protective-sleeves>

#### 08-TMP

#### Thermocouple Assemblies with Noble Metal Protective Tube

Straight line Thermocouple Assemblies with Noble Metal Protective Tube (08-TMP) are used in the glass industry for temperature measurement in glass melting. The applied protection tubes consist of alloyed noble metals. In order to meet the extreme environment conditions, only high grade materials are used in production.

A large selection of various dimensions and platinum alloys are available from stock in order to ensure fast delivery times. Aside from alloying with other metals such as iridium and rhodium, we offer dispersion-hardened protection tubes and platinum coated ceramic pipes.

Thermocouples are available as required, in single, double or triple element version.

Also, GÜNTHER GmbH will deliver bubbler pipes or glass level probes in various versions according to customer specifications.

Thermoelectric voltages and tolerances are pursuant to DIN EN 60584, class 1 for thermocouple types S and R, class 2 for thermocouple type B.

#### Operation temperature

#### for platinum-rhodium/platinum thermocouples

Type	Diameter	Maximum Temperature
S	0,35 mm	1350 °C
S	0,50 mm	1600 °C
R	0,35 mm	1350 °C
R	0,50 mm	1600 °C
B	0,35 mm	1600 °C
B	0,50 mm	1800 °C



Visit us online at: [www.guenther.eu](http://www.guenther.eu)



**1 Connection Head**

A	B
AUS	BUS
AUZ	BUZ
AUZH	BUZH
AUSH	BBK

**2 Process Connector (detachable)**

Flange
Threaded Socket
Flange / Counter Flange

**3 Protection Tube (Materials)**

C610
C799
C530

**4 Inner Tube**

C610	TEP
C799 (Gas-Tight)	Aluminium Oxide

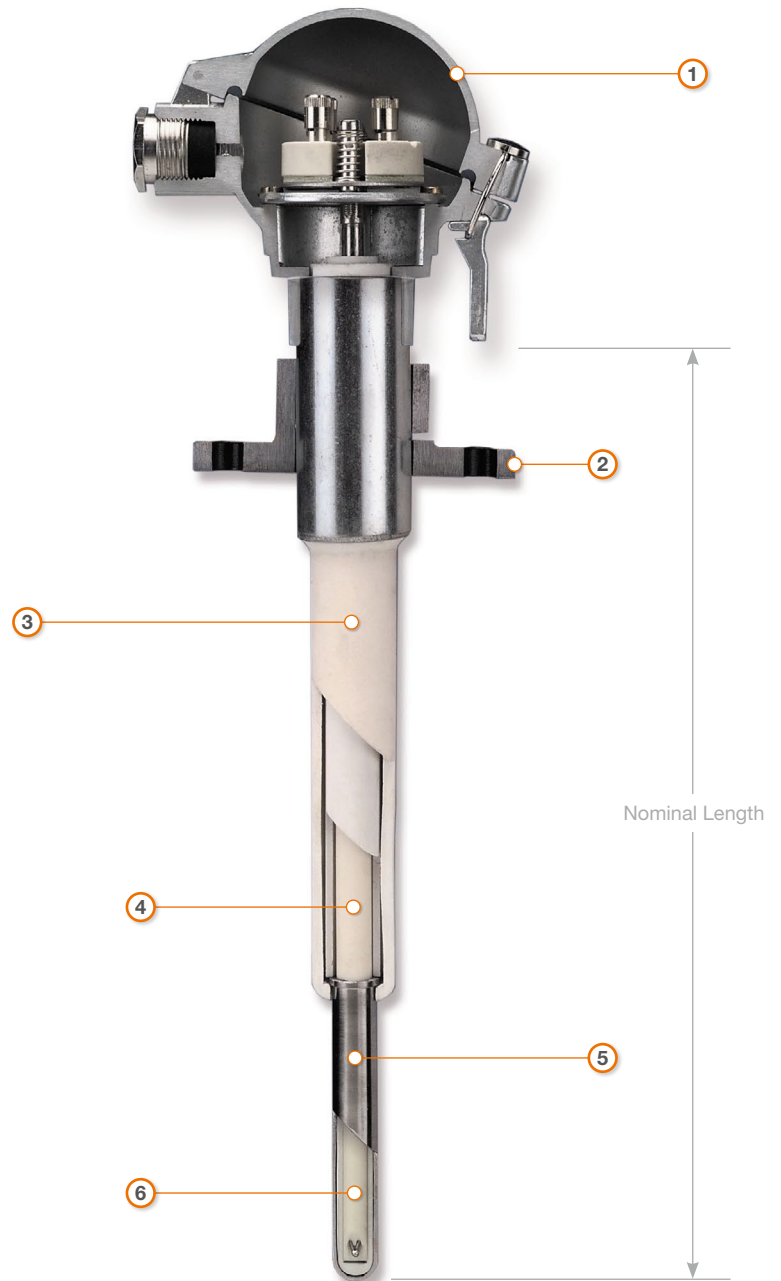
**5 Noble Metal Protection Tube**

PtRh90/10	9,1 x 0,3 mm
PtRh90/10	9,1 x 0,5 mm
PtRh90/10	6,5 x 0,5 mm
PtRh90/10	9,0 x 0,4 mm
PtRh85/15	7,3 x 0,4 mm
PtRh80/20	9,1 x 0,5 mm
PtRh90/10	9,0 x 0,5 mm

**6 Thermocouple**

Type R	PtRh13-Pt
Type S	PtRh10-Pt
Type B	PtRh30-PtRh6

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!

**08 - TMP // Straight thermocouples with a precious metal protective sleeve**

Thermocouples with PtRh protective sleeves

0 8 -

/

<b>Protection tube (dimensions / material)</b>	7 x 4 mm	C799	<b>0</b>
	10 x 7 mm	C610	<b>1</b>
	10 x 6 mm	C799	<b>2</b>
	15 x 11 mm	C610	<b>3</b>
	15 x 10 mm	C799	<b>4</b>
	16 x 12 mm	C610	<b>5</b>
	24 x 19 mm	C610	<b>6</b>
	24 x 18 mm	C799	<b>7</b>
	16 x 12 mm	C530	<b>8</b>
	16 x 12 mm	C799	<b>9</b>

Nominal length

Visible length of the PtRh protective sleeve

<b>Inner tube</b>	None	<b>0</b>
	C530 Porous ceramic material (on request)	<b>1</b>
	C610 gastight ceramic	<b>2</b>
	C799 Aluminium oxide	<b>3</b>

<b>Holding tube (visible length)</b>	<b>1.0305</b>	<b>1.4571</b>	<b>1.4762</b>	<b>1.4841</b>
15x 2 50 mm	<b>05</b>	<b>75</b>	-	-
15 x 2 60 mm	<b>06</b>	<b>76</b>	<b>26</b>	<b>36</b>
15 x 2 80 mm	<b>07</b>	<b>77</b>	<b>27</b>	<b>37</b>
15 x 2 100 mm	<b>08</b>	<b>78</b>	<b>28</b>	<b>38</b>
15 x 2 150 mm	<b>09</b>	<b>79</b>	<b>29</b>	<b>39</b>
15 x 2 200 mm	<b>10</b>	<b>80</b>	<b>30</b>	<b>40</b>
22 x 2 100 mm	<b>11</b>	<b>81</b>	<b>31</b>	<b>41</b>
22 x 2 150 mm	<b>12</b>	<b>82</b>	<b>32</b>	<b>42</b>
22 x 2 200 mm	<b>13</b>	<b>83</b>	<b>33</b>	<b>43</b>
22 x 2 250 mm	<b>14</b>	<b>84</b>	<b>34</b>	<b>44</b>
22 x 2 300 mm	<b>15</b>	<b>85</b>	<b>35</b>	<b>45</b>
28.3 x 1.5 80 mm	<b>16</b>	-	-	-
28.3 x 1.5 180 mm	<b>17</b>	-	-	-
32 x 2 50 mm	<b>18</b>	<b>88</b>	-	<b>48</b>
32 x 2 100 mm	<b>19</b>	<b>89</b>	-	<b>49</b>
32 x 2 150 mm	<b>20</b>	<b>90</b>	-	<b>70</b>
32 x 2 200 mm	<b>21</b>	<b>91</b>	-	<b>71</b>
32 x 2 250 mm	<b>22</b>	<b>92</b>	-	<b>72</b>
<b>Alloy 600 (mat. no. 2.4816)</b>		<b>Kanthal</b>		
22 x 2 200 mm	<b>61</b>	15 x 1.3	100 mm	<b>51</b>
22 x 2 300 mm	<b>62</b>	15 x 1.3	150 mm	<b>52</b>
22 x 2 400 mm	<b>63</b>	15 x 1.3	200 mm	<b>53</b>
22 x 2 500 mm	<b>64</b>			
30 x 2.5 230 mm	<b>65</b>	Individual		<b>00</b>
30 x 2.5 400 mm	<b>66</b>	No holding tube		<b>99</b>

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

<b>Thermocouple</b>	Type R	1x	PtRh13-Pt	Standard	<b>1</b>
	Type R	2x	PtRh13-Pt	Double	<b>2</b>
	Type R	3x	PtRh13-Pt	Triple	<b>3</b>
	Type S	1x	PtRh10-Pt	Standard	<b>4</b>
	Type S	2x	PtRh10-Pt	Double	<b>5</b>
	Type S	3x	PtRh10-Pt	Triple	<b>6</b>
	Type B	1x	PtRh30-PtRh6	Standard	<b>7</b>
	Type B	2x	PtRh30-PtRh6	Double	<b>8</b>
	Type B	3x	PtRh30-PtRh6	Triple	<b>9</b>

<b>Protective sleeves</b>	PtRh90/10	9.1 x 0.3 mm	<b>1</b>
	PtRh90/10	9.1 x 0.5 mm	<b>2</b>
	PtRh90/10	6.5 x 0.5 mm	<b>3</b>
	PtRh90/10	9.0 x 0.8 mm	<b>4</b>
	PtRh85/15	7.3 x 0.4 mm	<b>5</b>
	PtRh80/20	9.1 x 0.5 mm	<b>6</b>
	PtRh90/10	9.0 x 0.5 mm	<b>7</b>
	Other		<b>9</b>

<b>Fastening</b>	None	<b>0</b>	Mounting thread	<b>2</b>
	Flange	<b>1</b>	Flange/counter flange	<b>3</b>



**GÜNTHER GmbH**  
Temperaturmesstechnik

**Bauhofstraße 12**  
**D-90571 Schwaig**

**Tel.**  
+49 (0)911 / 50 69 95-0  
**Fax**  
+49 (0)911 / 50 69 95-55

**E-Mail**  
info@guenther.eu  
**Internet**  
www.guenther.eu

Custom designs:

0 8 -

9 9 0 8 x x x x -

/

Consecutive no.

Nominal length / mm