

## PROSESSIVASTUSLÄMPÖTILA-ANTURI

TR12-B

TR12B-14381341  
PT100 3-johdin -50-500°C NL=150, 150x6mm

- Mittausalueet -196-600°C
- Vaihdeettava mittaosa
- 4-20mA+Hart ulostulo optiolla
- ATEX optio
- Digitaalinen näyttö optiona



### TUOTEKUVAUS

TR12-B sarjan vastuslämpötila-anturi voidaan liittää lukuisiin suojataskumalleihin. Vaihdeettavissa oleva, jousiviritetty mittaosa ja jousen pidennetty liikerata mahdollistavat liittämisen monenlaisiin liitäntäpäämalleihin.

Lämpötila-antureihin on saatavilla laaja valikoima mahdollisia anturien ja liitäntäpäiden yhdistelmiä, mittapään pituuksia, kaulan pituuksia, suojataskuliitäntöjä jne., jotka sopivat minkä tahansa kokoiseen suojataskuun ja mihin tahansa käyttökohteeseen.

### TEKNISET TIEDOT

<b>Aineen kanssa kosketuksissa olevien osien materiaali</b>	Ruostumaton teräs 316Ti
<b>Asennussyvyys</b>	150 mm
<b>IP-luokka</b>	IP66
<b>Kaulan pituus</b>	0,15 m
<b>Max. käyttölämpötila</b>	500 °C
<b>Max. ympäristön lämpötila</b>	80 °C
<b>Min. käyttölämpötila</b>	-50 °C
<b>Min. ympäristön lämpötila</b>	-40 °C
<b>Mitta-alueen aloitusarvo</b>	0 °C
<b>Mitta-alueen loppuarvo</b>	150 °C
<b>Pistokkeen halkaisija</b>	6 mm
<b>Rungon materiaali</b>	Alumiini

### Specifications

<b>Output signal PT100</b>													
Temperature range	Measuring range: -200 ... +400 °C												
Measuring element	PT100 measuring resistor												
Connection method	1 x 2-wire 1 x 3-wire 1 x 4-wire 2 x 2-wire 2 x 3-wire 2 x 4-wire												
Tolerance value of the measuring element <sup>1)</sup> per EN 60751	<table border="1"> <tr> <th>Class</th> <th>Wire-wound</th> <th>Thin film</th> </tr> <tr> <td>Class B</td> <td>+196 ... -490 °C</td> <td>±0 ... -500 °C</td> </tr> <tr> <td>Class A</td> <td>+100 ... +490 °C</td> <td>±0 ... -300 °C</td> </tr> <tr> <td>Class AA</td> <td>-50 ... +250 °C</td> <td>±0 ... 150 °C</td> </tr> </table>	Class	Wire-wound	Thin film	Class B	+196 ... -490 °C	±0 ... -500 °C	Class A	+100 ... +490 °C	±0 ... -300 °C	Class AA	-50 ... +250 °C	±0 ... 150 °C
Class	Wire-wound	Thin film											
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<b>Output signal 4 ... 20 mA, HART<sup>®</sup> protocol, FOUNDATION<sup>™</sup> Fieldbus and PROFIBUS<sup>®</sup> PA</b>				
Transmitter (variable version)				
Model T13	Model T12	Model T11	Model T10	TF12
Data sheet	TS 12.61	TS 12.04	TS 12.01	TS 12.01
Output	4 ... 20 mA	HART <sup>®</sup> protocol	FOUNDATION <sup>™</sup> Fieldbus and PROFIBUS <sup>®</sup> PA	
Connection method	1 x 2-wire, 3-wire or 4-wire			
Measuring current	< 0.2 mA	< 0.3 mA	< 0.2 mA	< 0.3 mA
Explosion protection	Optional	Optional	Standard	Standard

<b>Measuring insert (replaceable)</b>	
Material	Stainless steel 1.4571, 316L, 316L
Diameter	Standard: 3 mm / 1/8 inch, 6 mm (with sleeve) Option (on request): 1/8 inch / (3.17 mm), 1/4 inch (6.35 mm), 3/8 inch (9.52 mm)
Spring travel	approx. 20 mm
Response time	t <sub>90</sub> < 10 s t <sub>90</sub> < 20 s (measuring insert diameter 6 mm). The thermowell required for operation increases the response time dependent upon the actual parameters for the thermowell and the process.

<b>Neck tube</b>	
Material	Stainless steel 1.4571, 316, 316L
Connection thread to the thermowell	<ul style="list-style-type: none"> <li>Ø 1/2 B</li> <li>Ø 3/4 B</li> <li>1/2 NPT</li> <li>3/4 NPT</li> </ul>
Connection thread to the head	<ul style="list-style-type: none"> <li>M20 x 1.5 with counter nut</li> <li>1/2 NPT</li> </ul>
Neck length	<ul style="list-style-type: none"> <li>min. 150 mm, standard neck length</li> <li>200 mm</li> <li>250 mm</li> <li>other neck lengths on request</li> </ul>

### Thermowell selection



### Specifications

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Class AA	-50 ... +250 °C	±0 ... 150 °C											

<b>Output signal 4 ... 20 mA, HART<sup>®</sup> protocol, FOUNDATION<sup>™</sup> Fieldbus and PROFIBUS<sup>®</sup> PA</b>				
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Model T13	Model T12	Model T11	Model T10	TF12
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Output	4 ... 20 mA	HART <sup>®</sup> protocol	FOUNDATION <sup>™</sup> Fieldbus and PROFIBUS <sup>®</sup> PA	
Connection method	1 x 2-wire, 3-wire or 4-wire			
Measuring current	< 0.2 mA	< 0.3 mA	< 0.2 mA	< 0.3 mA
Explosion protection	Optional	Optional	Standard	Standard

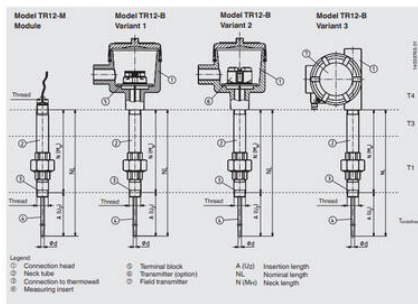
<b>Measuring insert (replaceable)</b>	
Material	Stainless steel 1.4571, 316L, 316L
Diameter	Standard: 3 mm / 1/8 inch, 6 mm (with sleeve) Option (on request): 1/8 inch / (3.17 mm), 1/4 inch (6.35 mm), 3/8 inch (9.52 mm)
Spring travel	approx. 20 mm
Response time	t <sub>90</sub> < 10 s t <sub>90</sub> < 20 s (measuring insert diameter 6 mm). The thermowell required for operation increases the response time dependent upon the actual parameters for the thermowell and the process.

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Neck length	<ul style="list-style-type: none"> <li>min. 150 mm, standard neck length</li> <li>200 mm</li> <li>250 mm</li> <li>other neck lengths on request</li> </ul>

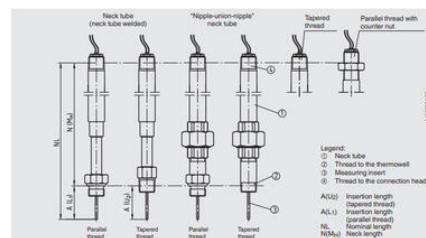
### Thermowell selection



### Components model TR12



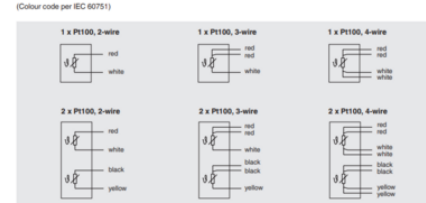
### Neck tube versions



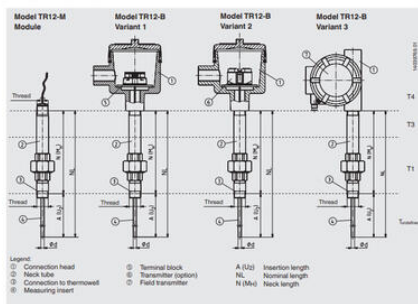
### Connection head

Model	Material	Cable outlet	Ingress protection	Explosion protection	Cap	Surface
1/4000 F	Aluminum	1/2 NPT, 1/2 NPT, M20 x 1.5	IP68 <sup>1)</sup>	Without, Ex I, Ex d	Screw-on lid	Blue, lacquered <sup>1)</sup>
1/4000 S	Stainless steel	1/2 NPT, 1/2 NPT, M20 x 1.5	IP68 <sup>1)</sup>	Without, Ex I, Ex d	Screw-on lid	Black
5/6000	Aluminum	2 x 1/2 NPT, 2 x 1/2 NPT, 2 x M20 x 1.5	IP68 <sup>1)</sup>	Without, Ex I, Ex d	Screw-on lid	Blue, lacquered <sup>1)</sup>
7/8000 W	Aluminum	1/2 NPT, 1/2 NPT, M20 x 1.5	IP68 <sup>1)</sup>	Without, Ex I, Ex d	Screw-on lid	Blue, lacquered <sup>1)</sup>
7/8000 S	Stainless steel	1/2 NPT, 1/2 NPT, M20 x 1.5	IP68 <sup>1)</sup>	Without, Ex I, Ex d	Screw-on lid	Black

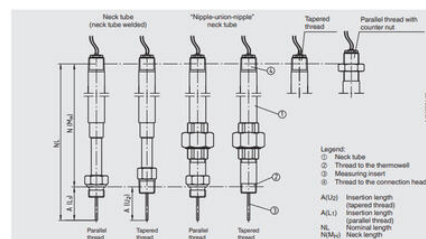
### Electrical connection



### Components model TR12



### Neck tube versions



### Connection head

Model	Material	Cable outlet	Ingress protection	Explosion protection	Cap	Surface
1/4000 F	Aluminum	1/2 NPT, 1/2 NPT, M20 x 1.5	IP68 <sup>1)</sup>	Without, Ex I, Ex d	Screw-on lid	Blue, lacquered <sup>1)</sup>
1/4000 S	Stainless steel	1/2 NPT, 1/2 NPT, M20 x 1.5	IP68 <sup>1)</sup>	Without, Ex I, Ex d	Screw-on lid	Black
5/6000	Aluminum	2 x 1/2 NPT, 2 x 1/2 NPT, 2 x M20 x 1.5	IP68 <sup>1)</sup>	Without, Ex I, Ex d	Screw-on lid	Blue, lacquered <sup>1)</sup>
7/8000 W	Aluminum	1/2 NPT, 1/2 NPT, M20 x 1.5	IP68 <sup>1)</sup>	Without, Ex I, Ex d	Screw-on lid	Blue, lacquered <sup>1)</sup>
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### Electrical connection

