



## SNÍMAČE TEPLoty TR10-B

Série TR10-B

TR10B-14364745

Snímec teploty PT100 2-trád -50-500°C 150x6mm G1/2  
NL=50mm

- PT100, PT1000
- Teplota -196 až 600°C
- Připojení M, NPT
- Média voda, plyny, oleje
- ATEX, IECEx, SIL2, DNV GL

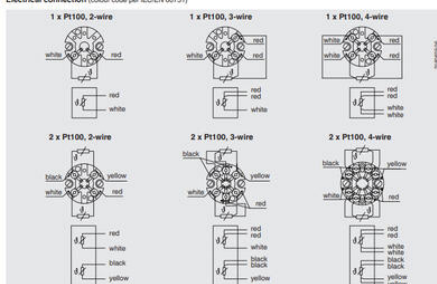


### POPIS PRODUKTU

## SPECIFIKACE

Insertion length	150 mm
Materiál kontaktní části	Nerez ocel 316Ti
Materiál těla	Hliník
Neck length	0,05 m
Plug diameter	6 mm
Provozní teplota max.	500 °C
Provozní teplota min.	-50 °C
Teplota okolí do	80 °C
Teplota okolí od	-40 °C
Třída krytí	IP65

Electrical connection (colour code per IEC-EN 60751)



### Connection head

■ European designs per EN 50446 / DIN 43735



Model	Material	Cable entry thread size	Ingress protection (IP)	Cap	Surface	Connection to neck tube
BS	Aluminum	M20 x 1.5 or 1/2 NPT	IP65, IP68	Flat cap with 2 screws	Blue, lacquered	M24 x 1.5, 1/2 NPT
BSZ	Aluminum	M20 x 1.5 or 1/2 NPT	IP65, IP68	Spherical hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5, 1/2 NPT
BSZ-H	Aluminum	M20 x 1.5 or 1/2 NPT	IP65, IP68	Flanged hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5, 1/2 NPT
BSZ-H (2 cable outlet)	Aluminum	2 x M20 x 1.5 or 2 x 1/2 NPT	IP65, IP68	Flanged hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5
BSZ-H (2 cable outlet)	Aluminum	M20 x 1.5 or 1/2 NPT	IP65	Spherical hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5, 1/2 NPT
BSZ	Aluminum	M20 x 1.5 or 1/2 NPT	IP65	Flanged hinged cover with clamping lever	Blue, lacquered	M24 x 1.5, 1/2 NPT
BSZ-H	Aluminum	M20 x 1.5 or 1/2 NPT	IP65	Flanged hinged cover with clamping lever	Blue, lacquered	M24 x 1.5, 1/2 NPT
BSZ-HK	Aluminum	M20 x 1.5 or 1/2 NPT	IP65	Flanged hinged cover with clamping lever	Black	M24 x 1.5, 1/2 NPT
BSZ-H	Aluminum	M20 x 1.5 or 1/2 NPT	IP65	Flanged hinged cover with clamping lever	Black, electroplated	M24 x 1.5, 1/2 NPT
BSZ-K	Aluminum	M20 x 1.5 or 1/2 NPT	IP65	Flanged hinged cover with clamping lever	Black	M24 x 1.5, 1/2 NPT
BSZ-HK	Aluminum	M20 x 1.5 or 1/2 NPT	IP65	Flanged hinged cover with clamping lever	Black	M24 x 1.5, 1/2 NPT

Model	Explosion protection					
	without	Ex (gas) Zone 0, 1, 2	Ex (dust) Zone 20, 21, 22	Ex (gas) Zone 2	Ex (dust) Zone 22	Ex (gas) Zone 2
BS	x	x	-	-	-	-
BSZ	x	x	x	x	x	x
BSZ-H	x	x	x	x	x	x
BSZ-H (2 cable outlet)	x	x	x	x	x	x
BSZ-H (2 cable outlet)	x	x	-	-	-	-
BSZ	x	x	-	-	-	-
BSZ-H	x	x	-	-	-	-
BSZ-HK	x	x	-	-	-	-
BSZ-H	x	x	-	-	-	-
BSZ-K	x	x	-	-	-	-
BSZ-HK	x	x	-	-	-	-

### Cable entry



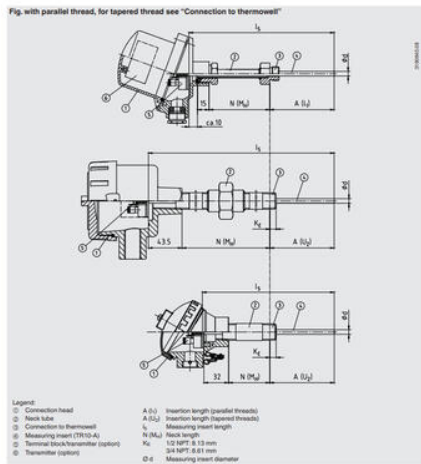
The picture shows examples of connection heads.

Cable entry	Cable entry thread size
Standard cable entry	M20 x 1.5 or 1/2 NPT
Plastic cable gland (cable Ø ≤ 10 mm)	M20 x 1.5 or 1/2 NPT
Nickel-plated brass cable gland (cable Ø ≤ 12 mm)	M20 x 1.5 or 1/2 NPT
Stainless steel cable gland (cable Ø ≤ 12 mm)	M20 x 1.5 or 1/2 NPT
Plain threaded	M20 x 1.5 or 1/2 NPT
2 x plain threaded	2 x M20 x 1.5 or 2 x 1/2 NPT
Junction box M12 x 1 (4-pin)	M20 x 1.5
Sealing plugs for transport	M20 x 1.5 or 1/2 NPT

Cable entry	Colour	Ingress protection (max.)	Min./max. ambient temperature	Explosion protection without			
				Ex (gas) Zone 0, 1, 2	Ex (dust) Zone 20, 21, 22	Ex (gas) Zone 2	Ex (dust) Zone 22
Standard cable entry	Black	IP65	-40 ... +80 °C	x	-	-	-
Plastic cable gland	Black or grey	IP65, IP68	-40 ... +80 °C	x	-	-	-
Plastic cable gland, Ex e	Light blue	IP65, IP68	-30 ... +80 °C (standard) -40 ... +70 °C (optional)	x	-	-	-
Plastic cable gland, Ex e	Black	IP65, IP68	-30 ... +80 °C (standard) -40 ... +70 °C (optional)	x	-	-	-
Nickel-plated brass cable gland	Black	IP65, IP68	-40 °F ... -40 ... +80 °C	x	-	-	-
Nickel-plated brass cable gland, Ex e	Black	IP65, IP68	-40 °F ... -40 ... +80 °C	x	x	x	x
Stainless steel cable gland	Black	IP65, IP68	-40 °F ... -40 ... +80 °C	x	x	x	x
Stainless steel cable gland, Ex e	Black	IP65, IP68	-40 °F ... -40 ... +80 °C	x	x	x	x
Plain threaded	-	IP60	-	x	x	x	x
2 x plain threaded	-	IP60	-	x	x	x	x
Junction box M12 x 1 (4-pin)	-	IP60	-40 ... +80 °C	x	x	x	x
Sealing plugs for transport	Transparent	-	-40 ... +80 °C	-	-	-	-

### Components model TR10-B

Fig. with parallel thread, for tapered thread see "Connection to thermowell"

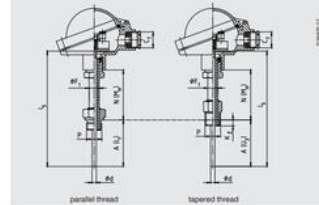


Legend:  
 ① Connection head  
 ② Neck tube  
 ③ Connection to thermowell  
 ④ Measuring insert (TR10-A)  
 ⑤ Terminal block/thermowell (optional)  
 ⑥ Thermowell (optional)  
 A (0,1) Insertion length (parallel threads)  
 A (0,2) Insertion length (tapered threads)  
 l<sub>1</sub> Measuring insert length  
 N (M<sub>16</sub>) Neck length  
 K<sub>1</sub> 1/2 NPT Ø 8.13 mm  
 Ø 4 NPT Ø 8.1 mm  
 Ø d Measuring insert diameter

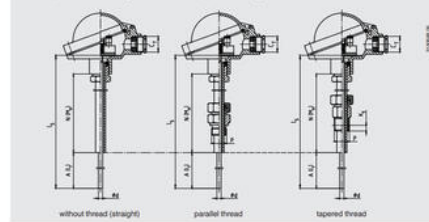
### Neck tube

Neck tube design

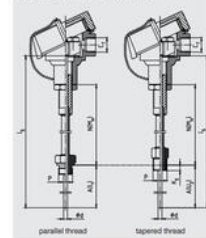
Neck tube per DIN 43772



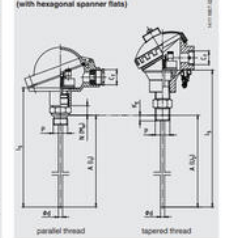
Neck tube per DIN 43772, straight, with/without compression fitting



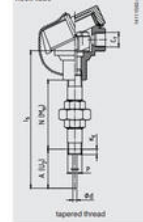
Neck tube, with counter nut to head



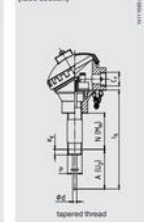
Double threaded hex bushing (with hexagonal spanner flats)



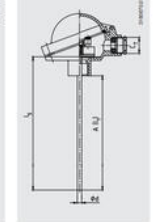
"Nipple-union-nipple" neck tube



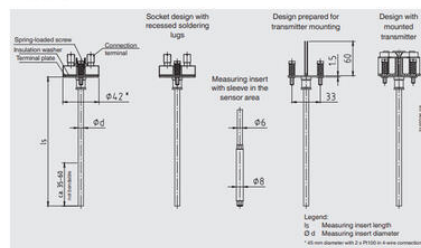
Double threaded hex bushing (tube section)



Without neck tube

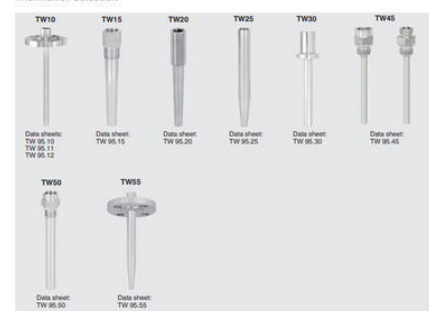


### Dimensions in mm



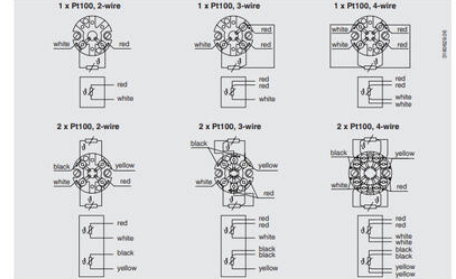
Measuring insert diameter Ø d in mm	Index per DIN 43735	Tolerance in mm	Sheath material	
			Standard design	Recessed soldering lugs
3	Standard	±0.05	1.4571, 316L, Ti	1.4571
4	Standard	±0.1	1.4571, 316L, Ti	1.4571
6 (6 mm with sleeve)	Standard	±0.2	1.4571, 316L, Ti	1.4571
8	Standard	±0.2	1.4571, 316L, Ti	1.4571

### Thermowell selection



Model	Data sheet
TW10	TW 95.10
TW15	TW 95.11 TW 95.12
TW20	TW 95.20
TW25	TW 95.25
TW30	TW 95.30
TW45	TW 95.45
TW50	TW 95.50
TW55	TW 95.55

### Electrical connection (colour code per IEC/EN 60751)



### Connection head

■ European designs per EN 50466 / DIN 43735



Model	Material	Cable entry thread size	Ingress protection (IP65)	Cap	Surface	Connection to neck tube
BS	Aluminum	M20 x 1.5 or 1/2 NPT <sup>1)</sup>	IP65, IP68	Flat cap with 2 screws	Blk. lacquered <sup>2)</sup>	M24 x 1.5, 1/2 NPT
BSZ	Aluminum	M20 x 1.5 or 1/2 NPT <sup>1)</sup>	IP65, IP68	Spherical hinged cover with cylinder head screw	Blk. lacquered <sup>2)</sup>	M24 x 1.5, 1/2 NPT
BSZ-H	Aluminum	M20 x 1.5 or 1/2 NPT <sup>1)</sup>	IP65, IP68	Raised hinged cover with cylinder head screw	Blk. lacquered <sup>2)</sup>	M24 x 1.5, 1/2 NPT
BSZ-H (2 cable outlet)	Aluminum	2 x M20 x 1.5 or 2 x 1/2 NPT <sup>1)</sup>	IP65, IP68	Raised hinged cover with cylinder head screw	Blk. lacquered <sup>2)</sup>	M24 x 1.5
BSZ-HV (DIN 43735)	Aluminum	M20 x 1.5 or 1/2 NPT <sup>1)</sup>	IP65	Raised hinged cover with cylinder head screw	Blk. lacquered <sup>2)</sup>	M24 x 1.5, 1/2 NPT
BS5	Aluminum	M20 x 1.5 or 1/2 NPT <sup>1)</sup>	IP65	Spherical hinged cover with clamping lever	Blk. lacquered <sup>2)</sup>	M24 x 1.5, 1/2 NPT
BS5-H	Aluminum	M20 x 1.5 or 1/2 NPT <sup>1)</sup>	IP65	Raised hinged cover with clamping lever	Blk. lacquered <sup>2)</sup>	M24 x 1.5, 1/2 NPT
BV5	Stainless steel	M20 x 1.5 <sup>1)</sup>	IP65	Precision-cast screw cap	Black, electropolished	M24 x 1.5
BSZ-K	Plastic	M20 x 1.5 or 1/2 NPT <sup>1)</sup>	IP65	Spherical hinged cover with cylinder head screw	Black	M24 x 1.5
BSZ-HK	Plastic	M20 x 1.5 or 1/2 NPT <sup>1)</sup>	IP65	Raised hinged cover with cylinder head screw	Black	M24 x 1.5

Model	Explosion protection				
	without	Ex (gas) Zone 0, 1, 2	Ex (dust) Zone 20, 21, 22	Ex nA (gas) Zone 2	Ex to (dust) Zone 22
BS	x	x	-	-	-
BSZ	x	x	x	x	x
BSZ-H	x	x	x	x	x
BSZ-H (2 cable outlet)	x	x	x	x	x
BSZ-HV (DIN 43735)	x	x	-	-	-
BS5	x	x	-	-	-
BS5-H	x	x	-	-	-
BV5	x	x	-	-	-
BSZ-K	x	x	-	-	-
BSZ-HK	x	x	-	-	-

### Cable entry

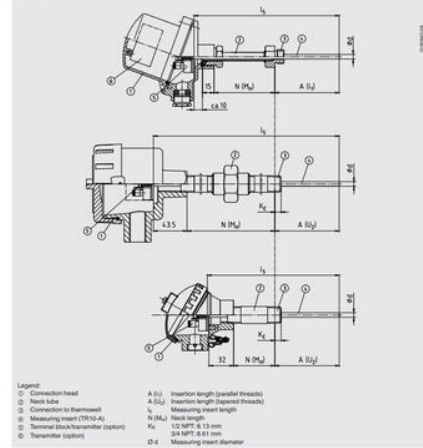


The pictures show examples of connection heads.

Cable entry	Colour	Ingress protection (max.)	Min. max. ambient temperature	Explosion protection without	Ex I (gas) Zone 0, 1, 2	Ex II (gas) Zone 20, 21, 22	Ex nA (gas) Zone 2	Ex to (dust) Zone 22
Standard cable entry <sup>1)</sup>	Black	IP65	-40...+80 °C	x	-	-	-	-
Plastic cable gland <sup>2)</sup>	Black or grey	IP65, IP68	-40...+80 °C	x	-	-	-	-
Plastic cable gland, Ex e <sup>3)</sup>	Light blue	IP65, IP68	-20...+80 °C (standard), -40...+70 °C (option)	x	x	x	-	-
Nickel-plated brass cable gland, Ex e <sup>3)</sup>	Black	IP65, IP68	-20...+80 °C (standard), -40...+70 °C (option)	x	-	-	x	-
Nickel-plated brass cable gland	Black	IP65, IP68	-40...+80 °C	x	x	x	x	x
Nickel-plated brass cable gland, Ex e <sup>3)</sup>	Black	IP65, IP68	-40...+80 °C	x	x	x	x	x
Stainless steel cable gland	Black	IP65, IP68	-40...+80 °C	x	x	x	x	x
Stainless steel cable gland, Ex e <sup>3)</sup>	Black	IP65, IP68	-40...+80 °C	x	x	x	x	x
Plain threaded <sup>4)</sup>	-	IP60	-	x	x <sup>5)</sup>	x <sup>5)</sup>	x <sup>5)</sup>	x <sup>5)</sup>
2 x plain threaded <sup>4)</sup>	-	IP60	-	x	x <sup>5)</sup>	x <sup>5)</sup>	x <sup>5)</sup>	x <sup>5)</sup>
Junction box M12 x 1 (4-pin) <sup>6)</sup>	-	IP60	-40...+80 °C	x	x <sup>5)</sup>	x <sup>5)</sup>	-	-
Sealing plugs for transport	Transparent	-	-40...+80 °C	-	-	-	-	-

### Components model TR10-B

Fig. with parallel thread, for tapered thread see "Connection to thermowell"

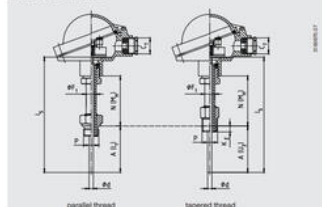


Legend:  
 ① Connection head  
 ② Neck tube  
 ③ Connection to thermowell  
 ④ Measuring insert (TR10-A)  
 ⑤ Terminal block (transmitter option)  
 ⑥ Thermowell (option)  
 A (0.0) Insertion length (parallel threads)  
 A (0.2) Insertion length (tapered threads)  
 L Measuring insert length  
 N (M) Neck length  
 K 1/2 NPT, Ø 8.1 mm  
 Ø d Measuring insert diameter

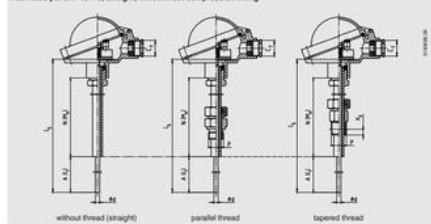
### Neck tube

Neck tube designs

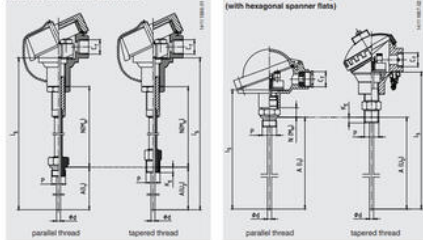
Neck tube per DIN 43772



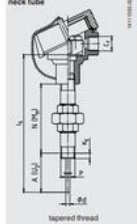
Neck tube per DIN 43772, straight, with/without compression fitting



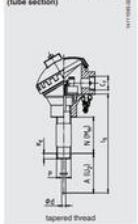
Neck tube, with counter nut to head



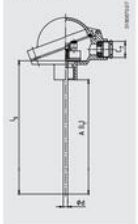
"Nipple-union-nipple" neck tube



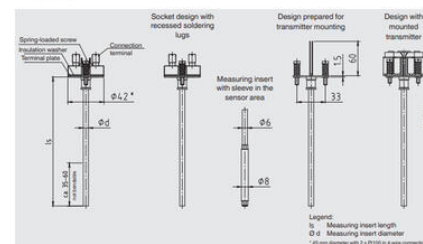
Double threaded hex bushing (tube section)



Without neck tube



### Dimensions in mm



Measuring insert diameter Ø d in mm	Index per DIN 43735	Tolerance in mm	Sheath material	Standard design	Increased soldering legs
3	Standard	±0.10	1.4571, 316L, Ti	1.4571	1.4571
6	Standard	0...0	1.4571, 316L, Ti	1.4571	1.4571
8 (8 mm with sleeve)	Standard	0...0	1.4571, 316L, Ti	1.4571	1.4571
8	Standard	0...0	1.4571, 316L, Ti	1.4571	1.4571

### Thermowell selection

