

LAIPALLINEN TERMEOLEMENTTI

TC10-F

TC10F-14369121

K Tyyppi -40-1200°C 160x12mm DN40 form 2F

- Mittaelementti tyyppille K, J, E, N ja T
- Mitta-alue -40-1200°C
- Hitsattu putki laipalla
- Vaihdeettava mittaosa



TUOTEKUVAUS

TC10-F-sarjan termoelementit on saatavilla standardien DIN EN ja ASME mukaisia laippoja. Nämä lämpötilamittapääät sopivat nestemäisille ja kaasumaisille väliaineille, joita käytetään kohtalaisella mekaanisella kuormalla. Mukana putkimateriaalista valmistettu TW40-mallinen suojatasku.

TEKNISET TIEDOT

Aineen kanssa kosketuksissa olevien osien materiaali	Ruostumaton teräs 316Ti
Asennussyvyys	160 mm
IP-luokka	IP65
Kaulan pituus	0,065 m
Kytinkotelon materiaali	Inconel - 600
Max. käyttölämpötila	1200 °C
Max. painealue	16 bar
Max. termostaatin käyttölämpötila	80 °C
Min. käyttölämpötila	-40 °C
Min. termostaatin käyttölämpötila	-40 °C
Pistokkeen halkaisija	12 mm
Rungon materiaali	Alumiini
Sisähalkaisija	7 mm

Connection head

■ European designs per EN 50446 / DIN 43735



Model	Material	Cable entry thread size	Ingress protection (max.)	Cap	Surface	Connection to neck tube
BS	Aluminum	M20 x 1.5 or 1/4 NPT	IP65, IP68	Flat cap with 2 screws	Blue, lacquered	M24 x 1.5, 1/4 NPT
BS2	Aluminum	M20 x 1.5 or 1/4 NPT	IP65, IP68	Spherical hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5, 1/4 NPT
BS2-H	Aluminum	M20 x 1.5 or 1/4 NPT	IP65, IP68	Raised hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5, 1/4 NPT
BS2-H (2x cable outlet)	Aluminum	2 x M20 x 1.5 or 2 x 1/4 NPT	IP65, IP68	Raised hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5
BS2-H / DH10	Aluminum	M20 x 1.5 or 1/4 NPT	IP65	Raised hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5, 1/4 NPT
BS5	Aluminum	M20 x 1.5 or 1/4 NPT	IP65	Spherical hinged cover with clamping lever	Blue, lacquered	M24 x 1.5, 1/4 NPT
BS5-H	Aluminum	M20 x 1.5 or 1/4 NPT	IP65	Raised hinged cover with clamping lever	Blue, lacquered	M24 x 1.5, 1/4 NPT
BVS	Stainless steel	M20 x 1.5	IP65	Physician-cast screw-on lid	Blank, electropolished	M24 x 1.5
BS2-K	Plastic	M20 x 1.5 or 1/4 NPT	IP65	Spherical hinged cover with cylinder head screw	Black	M24 x 1.5
BS2-HK	Plastic	M20 x 1.5 or 1/4 NPT	IP65	Raised hinged cover with cylinder head screw	Black	M24 x 1.5

Model	Explosion protection	Ex (gas) Zone 0, 1, 2	Ex (dust) Zone 20, 21, 22	Ex nA (gas) Zone 3	Ex (dust) Zone 22
BS	X	X	-	-	-
BS2	X	X	X	X	X
BS2-H	X	X	X	X	X
BS2-H (2x cable outlet)	X	X	X	X	X
BS2-H / DH10	X	X	X	X	X
BS5	X	X	X	X	X
BS5-H	X	X	X	X	X
BVS	X	X	X	X	X
BS2-K	X	X	X	X	X
BS2-HK	X	X	X	X	X

Protection tube designs in accordance with DIN 43772

Protection tube	Material	Protection tube Ø	Suitable for measuring insert Ø	Connection to head
Straight, form 2F DIN 43772	Stainless steel 1.4571	9 x 1 mm 11 x 2 mm 12 x 2.5 mm 14 x 2.5 mm	6 mm	M24 x 1.5 (rotatable threaded connection, male nut)
Tapered, form 3F DIN 43772	Stainless steel 1.4571	12 x 2.5 mm, tapered to 9 mm	6 mm	M24 x 1.5 (rotatable threaded connection, male nut)

Protection tube designs in line with DIN 43772, weld-on solid tip

Protection tube	Material	Protection tube Ø	Suitable for measuring insert Ø	Connection to head
Tapered, weld-on solid tip, in line with DIN 43772, non-standard design	Stainless steel 1.4571	9 x 1 mm, tapered to 6 mm 11 x 2 mm, tapered to 6 mm 12 x 2.5 mm, tapered to 6 mm	3 mm	M24 x 1.5 (rotatable threaded connection, male nut)

Protection tube designs in line with DIN 43772, wetted parts: special material, gilder flange: stainless steel

Protection tube	Material	Protection tube Ø	Suitable for measuring insert Ø	Connection to head
Straight, in line with form 2F DIN 43772, non-standard design	2.4360 (Nirocor®) / stainless steel 2.4619 (Hastelloy C276) / stainless steel 2.4602 (Hastelloy C4) / stainless steel 3.7035 (Titan Grade 2) / stainless steel	13.7 x 2.2 mm	6 mm with sleeve Ø 8 mm / 8 mm	M24 x 1.5 (rotatable threaded connection, male nut)

Protection tube designs in line with DIN 43772, tantalum cover with tantalum flange disc, carrier protection tube: stainless steel

Protection tube	Material	Protection tube Ø	Suitable for measuring insert Ø	Connection to head
Straight, in line with form 2F DIN 43772, non-standard design	Tantalum / stainless steel	11 x 2 mm, tantalum cover 12 x 0.4 mm 15 x 3 mm, tantalum cover 16 x 0.4 mm	6 mm	M24 x 1.5 (rotatable threaded connection, male nut)
Tapered, in line with form 3F DIN 43772, non-standard design	Tantalum / stainless steel	12 x 2.5 mm, tantalum cover 13 x 0.4 mm	6 mm	M24 x 1.5 (rotatable threaded connection, male nut)

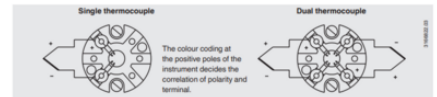
Cable entry



The pictures show examples of connection heads.

Cable entry	Cable entry threaded size
Standard cable entry	M20 x 1.5 or 1/4 NPT
Plastic cable gland (cable Ø 6 ... 10 mm)	M20 x 1.5 or 1/4 NPT
Nickel-plated brass cable gland (cable Ø 7 ... 12 mm)	M20 x 1.5 or 1/4 NPT
Stainless steel cable gland (cable Ø 7 ... 12 mm)	M20 x 1.5 or 1/4 NPT
Plain threaded	M20 x 1.5 or 1/4 NPT
2 x M20 x 1.5	M20 x 1.5
Junction box M12 x 1 (4-pin)	M20 x 1.5
Sealing plugs for transport	M20 x 1.5 or 1/4 NPT

Electrical connection



Connection head

■ European designs per EN 50446 / DIN 43735



Model	Material	Cable entry thread size	Ingress protection (max.)	Cap	Surface	Connection to neck tube
BS	Aluminum	M20 x 1.5 or 1/4 NPT	IP65, IP68	Flat cap with 2 screws	Blue, lacquered	M24 x 1.5, 1/4 NPT
BS2	Aluminum	M20 x 1.5 or 1/4 NPT	IP65, IP68	Spherical hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5, 1/4 NPT
BS2-H	Aluminum	M20 x 1.5 or 1/4 NPT	IP65, IP68	Raised hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5, 1/4 NPT
BS2-H (2x cable outlet)	Aluminum	2 x M20 x 1.5 or 2 x 1/4 NPT	IP65, IP68	Raised hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5
BS2-H / DH10	Aluminum	M20 x 1.5 or 1/4 NPT	IP65	Raised hinged cover with cylinder head screw	Blue, lacquered	M24 x 1.5, 1/4 NPT
BS5	Aluminum	M20 x 1.5 or 1/4 NPT	IP65	Spherical hinged cover with clamping lever	Blue, lacquered	M24 x 1.5, 1/4 NPT
BS5-H	Aluminum	M20 x 1.5 or 1/4 NPT	IP65	Raised hinged cover with clamping lever	Blue, lacquered	M24 x 1.5, 1/4 NPT
BVS	Stainless steel	M20 x 1.5	IP65	Physician-cast screw-on lid	Blank, electropolished	M24 x 1.5
BS2-K	Plastic	M20 x 1.5 or 1/4 NPT	IP65	Spherical hinged cover with cylinder head screw	Black	M24 x 1.5
BS2-HK	Plastic	M20 x 1.5 or 1/4 NPT	IP65	Raised hinged cover with cylinder head screw	Black	M24 x 1.5

Model	Explosion protection	Ex (gas) Zone 0, 1, 2	Ex (dust) Zone 20, 21, 22	Ex nA (gas) Zone 3	Ex (dust) Zone 22
BS	X	X	-	-	-
BS2	X	X	X	X	X
BS2-H	X	X	X	X	X
BS2-H (2x cable outlet)	X	X	X	X	X
BS2-H / DH10	X	X	X	X	X
BS5	X	X	X	X	X
BS5-H	X	X	X	X	X
BVS	X	X	X	X	X
BS2-K	X	X	X	X	X
BS2-HK	X	X	X	X	X

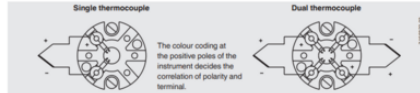
Cable entry



The pictures show examples of connection heads.

Cable entry	Cable entry threaded size
Standard cable entry	M20 x 1.5 or 1/4 NPT
Plastic cable gland (cable Ø 6 ... 10 mm)	M20 x 1.5 or 1/4 NPT
Nickel-plated brass cable gland (cable Ø 6 ... 12 mm)	M20 x 1.5 or 1/4 NPT
Stainless steel cable gland (cable Ø 7 ... 12 mm)	M20 x 1.5 or 1/4 NPT
Plain threaded	M20 x 1.5 or 1/4 NPT
2 x M20 x 1.5	M20 x 1.5
Junction box M12 x 1 (4-pin)	M20 x 1.5
Sealing plugs for transport	M20 x 1.5 or 1/4 NPT

Electrical connection



Protection tube designs in accordance with DIN 43772

Protection tube	Material	Protection tube Ø	Suitable for measuring insert Ø	Connection to head
Straight, form 2F DIN 43772	Stainless steel 1.4571	9 x 1 mm 11 x 2 mm 12 x 2.5 mm 14 x 2.5 mm	6 mm	M24 x 1.5 (rotatable threaded connection, male nut)
Tapered, form 3F DIN 43772	Stainless steel 1.4571	12 x 2.5 mm, tapered to 9 mm	6 mm	M24 x 1.5 (rotatable threaded connection, male nut)

Protection tube designs in line with DIN 43772, weld-on solid tip

Protection tube	Material	Protection tube Ø	Suitable for measuring insert Ø	Connection to head
Tapered, weld-on solid tip, in line with DIN 43772, non-standard design	Stainless steel 1.4571	9 x 1 mm, tapered to 6 mm 11 x 2 mm, tapered to 6 mm 12 x 2.5 mm, tapered to 6 mm	3 mm	M24 x 1.5 (rotatable threaded connection, male nut)

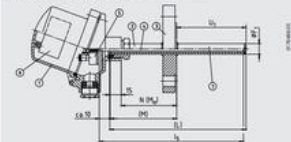
Protection tube designs in line with DIN 43772, wetted parts: special material, gilder flange: stainless steel

Protection tube	Material	Protection tube Ø	Suitable for measuring insert Ø	Connection to head
Straight, in line with form 2F DIN 43772, non-standard design	2.4360 (Nirocor®) / stainless steel 2.4619 (Hastelloy C276) / stainless steel 2.4602 (Hastelloy C4) / stainless steel 3.7035 (Titan Grade 2) / stainless steel	13.7 x 2.2 mm	6 mm with sleeve Ø 8 mm / 8 mm	M24 x 1.5 (rotatable threaded connection, male nut)

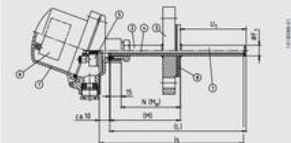
Protection tube designs in line with DIN 43772, tantalum cover with tantalum flange disc, carrier protection tube: stainless steel

Protection tube	Material	Protection tube Ø	Suitable for measuring insert Ø	Connection to head
Straight, in line with form 2F DIN 43772, non-standard design	Tantalum / stainless steel	11 x 2 mm, tantalum cover 12 x 0.4 mm 15 x 3 mm, tantalum cover 16 x 0.4 mm	6 mm	M24 x 1.5 (rotatable threaded connection, male nut)
Tapered, in line with form 3F DIN 43772, non-standard design	Tantalum / stainless steel	12 x 2.5 mm, tantalum cover 13 x 0.4 mm	6 mm	M24 x 1.5 (rotatable threaded connection, male nut)

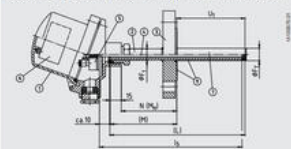
Version: Flanged protection tube from standard material



Version: Flange from standard material, protection tube and flange disc from special materials



Version: Flanged protection tube from standard material with tantalum cover



- Legend:
- ① Connection head
 - ② Neck tube
 - ③ Flange
 - ④ Measuring insert (TC10-A)
 - ⑤ Terminal block/terminal (optional)
 - ⑥ Transmitter (optional)
 - ⑦ Protection tube
 - ⑧ Flange disc from special material
 - ⑨ Tantalum cover
- S, L Overall length of protection tube
L Measuring insert length
U1 Protection tube insertion length
U2 Protection tube insertion length in accordance with DIN 43772
d F1 Protection tube diameter
d F2 Outer diameter of tantalum cover
N Neck length
N (dF2) Neck length
R Neck tube length