Sheath Resistance Thermometers according to IEC 751

- Measuring ranges: -20 ... +600 °C
- Flexible and vibration-proof
- Fast response times
- Enclosing tube made of stainless steel 1.4571
- Pt 100 sensor category B (category A optional)
- Connection: cable, connector or connection head form MA
- Custom immersion lengths

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Model:
TWM...

01/1004/Ko/10

Description

Sheath resistance thermometers comprise a thin-walled and flexible sheathed cable made of stainless steel. The cable contains low resistance inner wires made of copper embedded in pressed fireproof magnesium oxide. The temperature sensor is connected to the inner wires and fitted in a protective tube. Protective tube and sheathed cable are welded together.
Good heat transfer between protective tube and temperature sensor allows fast response times and high measuring accuracies.
The vibration-proof design assures long service life.
The flexible probe tube allows temperature measurements at locations that are difficult to access.

The minimum bend radius is 5 x outer diameter. Pt 100 temperature sensors according to IEC 751, category B are used as standard.

Applications

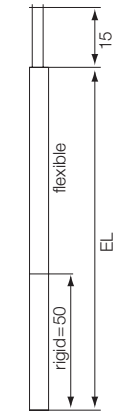
Because of their characteristics sheath resistance thermometers are used in difficult measurement applications with strong vibrations as well as at all measuring positions where flexibility and ease of replacement are needed.
Areas of application are to be found in chemical plants, power stations, motors, as well as in machine construction and building installations and in general industrial applications.

Upon request:

- Sheath resistance thermometers with diameters 1.0; 1.6; 1.9; 2.0; 4.5 and 5.0
- Other tolerance categorys

Sheath resistance thermometer

with (uninsulated) connection leads



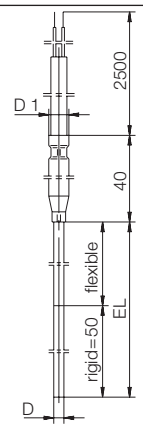
Enclosing tube made of stainless steel 1.4541,
tip made of stainless steel 1.4571
Temperature range: -20 ... +600 °C

Model number	Sheath Ø	Immersion length	Sensor type/category	Wiring	Connection cable
TWM-822	1.5 mm	**..300..**=300 mm **..xxx..**=Special length	**..1..**= 1 x Pt 100, category B **..2..**= 2 x Pt 100, category B (not for Ø 1.5 mm and 3-/4-wire)	**..2..**= 2-wire **..3..**= 3-wire* **..4..**= 4-wire* *(not for Ø 1.5 mm)	**..0**= blank wires
TWM-832	3.0 mm				
TWM-862	6.0 mm				

Please specify special lengths "EL" in writing

Sheath resistance thermometer

thermometer with reinforcing sleeve and silicone insulated connecting lead 0.22 mm²



Enclosing tube made of stainless steel 1.4541, tip made of stainless steel 1.4571
Connecting lead: silicone 0.22 mm² with reinforcing sleeve
Standard cable length: 2500 mm, others upon request
Temperature range: -20 ... +600 °C

Model number	Sheath Ø	Immersion length	Sensor type/category	Wiring	Connection cable
TWM-822..	1.5 mm	**..100..**=100 mm **..200..**=200 mm **..300..**=300 mm **..500..**=500 mm **..xxx..**=Special length	**..1..**= 1 x Pt 100, category B **..2..**= 2 x Pt 100, category B (not for Ø 1.5 mm and 3-/4-wire)	**..2..**= 2-wire **..3..**= 3-wire* **..4..**= 4-wire* *(not for Ø 1.5 mm)	**..S**= silicone cable
TWM-832..	3.0 mm				
TWM-862..	6.0 mm				

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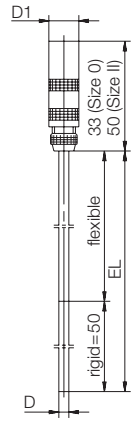
Sheath resistance thermometer

with LEMOSA coupling[1], gas- and watertight encapsulated



Enclosing tube made of stainless steel 1.4541, tip made of stainless steel 1.4571
LEMOSA coupling for diameter 1 to 2 mm = size 0
for diameter 3 mm = size 1 / for diameter 4 to 6 mm = size 2
Temperature range: -20 ... +600 °C

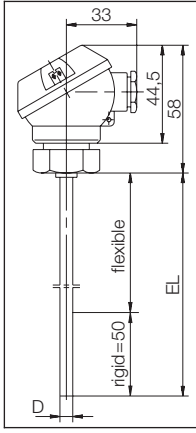
Model number	Sheath Ø	Immersion length	Sensor type/category[2]	Wiring[2]	Connection cable
TWM-822..	1.5 mm	**..100..**=100 mm **..200..**=200 mm **..300..**=300 mm **..500..**=500 mm **..xxx..**=Special length	**..1..**= 1 x Pt 100, category B **..2..**= 2 x Pt 100, category B (not for Ø 1.5 mm)	**..2..**= 2-wire **..3..**= 3-wire* **..4..**= 4-wire* *(not for Ø 1.5 mm)	**..L**= LEMOSA-coupling[1]
TWM-832..	3.0 mm				
TWM-862..	6.0 mm				

Please specify special lengths "EL" in writing

[1] Also availaible with LEMOSA-connector [2] Important: max. 4-pin

Sheath resistance thermometer

with connection head form MA without thread



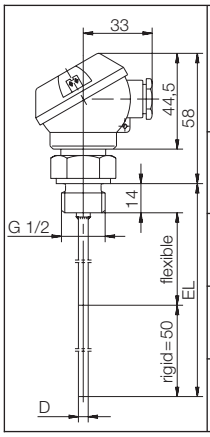
Enclosing tube made of stainless steel 1.4541,
tip made of stainless steel 1.4571
Temperature range: -20 ... +600 °C

Model number	Sheath Ø	Immersion length	Sensor type/category	Wiring	Connection cable
TWM-822..	1.5 mm	**..100..**=100 mm **..200..**=200 mm **..300..**=300 mm **..500..**=500 mm **..xxx..**=Special length	**..1..**= 1 x Pt 100, category B **..2..**= 2 x Pt 100, category B (not for Ø 1.5 mm and 3-/4-wire)	**..2..**= 2-wire **..3..**= 3-wire* **..4..**= 4-wire* *(not for Ø 1.5 mm)	**..M**= Head form MA
TWM-832..	3.0 mm				
TWM-862..	6.0 mm				

Please specify special lengths "EL" in writing

Sheath resistance thermometer

with connection head form MA with fixed G 1/2 thread



Enclosing tube made of stainless steel 1.4541, tip made of stainless steel 1.4571
Thread made of stainless steel 1.4571
Temperature range: -20 ... +600 °C

Model number	Sheath Ø	Immersion length	Sensor type/category	Wiring	Connection cable
TWM-122..	1.5 mm	**..102..**=100 mm **..202..**=200 mm **..302..**=300 mm **..502..**=500 mm **..xx2..**=Special length	**..1..**= 1 x Pt 100, category B **..2..**= 2 x Pt 100, category B (not for Ø 1.5 mm and 3-/4-wire)	**..2..**= 2-wire **..3..**= 3-wire* **..4..**= 4-wire* *(not for Ø 1.5 mm)	**..M**= Head form MA
TWM-132..	3.0 mm				
TWM-162..	6.0 mm				

Please specify special lengths "EL" in writing

Plug connections for resistance thermometers

The connection between resistance thermometer and connecting lead must have negligible contact resistance, so that the measuring signal is not invalidated. This is achieved with gold-plated contacts. The plug connection is locked and thus secured against vibration.

Lemo coupling

Service: brass chromium plated
Contacts: brass gold-plated
Temperature range: -60/+260 °C

Size	2-pin sheath Ø mm	Order numbers	4-pin sheath Ø mm	Order numbers
0	1- 2	**TUZ-S710**	1 - 2	**TUZ-S720**
1	3	**TUZ-S711**	3	**TUZ-S721**
2	4 - 6	**TUZ-S712**	4 - 6	**TUZ-S722**

Lemo mating connector

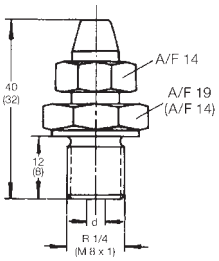
Service: brass chromium plated
Contacts: brass gold-plated
Temperature range: -60/+260 °C

Size	2-pin Order numbers	4-pin Order numbers
0	**TUZ-G710**	**TUZ-G720**
1	**TUZ-G711**	**TUZ-G721**
2	**TUZ-G712**	**TUZ-G722**

Clamp connections

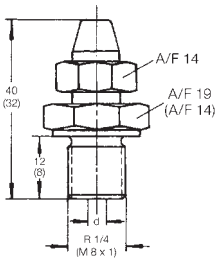
Clamp connections for passing through resistance thermometers with a pressure sleeve made of Teflon (up to 200 °C, that can be removed) or a conical ring made of stainless steel (for higher temperatures and pressures).

Process connection material:
Steel



For sheath thermocouple Ø	Thread	With pressure sleeves made of Teflon Order no.	With wedge made of st. steel Order no.
3.0	M 8 x 1	**TUZ-VS30T**	**TUZ-VS30V**
6.0	R 1/4"	**TUZ-VS60T**	**TUZ-VS60V**

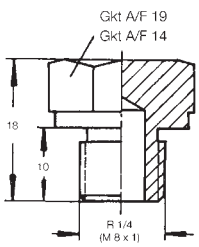
Process connection material:
stainless steel, part no. 1.4541



For sheath thermocouple Ø	Thread	With pressure sleeves made of Teflon Order no.	With wedge made of st. steel Order no.
3.0	M 8 x 1	**TUZ-VV30T**	**TUZ-VV30V**
6.0	R 1/4"	**TUZ-VV60T**	**TUZ-VV60V**

Hard soldered thread glands for hard-soldering

resistance thermometers tapped to specification or with a centre hole 3.0 mm Ø.



Thread	Order numbers
M 8 x 1 (up to 3.0 mm Ø)	**TUZ-V408**
R 1/4"	**TUZ-V410**

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