



BANNING

TEMPERATURE TRANSMITTER

TS110 and TS120



BANNING

DESCRIPTION

TS110 Series and TS120 Series are a modular range of inflow thermistor-based sensors specifically designed for use in the transportation industry.

Thermistors can be very effective in sensing temperatures of gases, liquids or solids because of their enhanced sensitivity, accuracy and reliability.

The TS110 Series air/gas sensor has an exposed thermistor element that offers enhanced response for greater levels of control, while the TS120 Series is primarily used for immersion temperature measurements. Its fully enclosed brass body makes it often ideal for applications requiring direct contact with liquids.

Robust and easy-to-install threaded packaging often provides reliable operation in harsh application environments. Fast response times over a wide operating temperature range of -40 to 150 [-40 to 302] allow application flexibility.

CHARACTERISTICS

- Air/gas or immersion sensing
- NTC (Negative Temperature Coefficient) or KTY (siliconbased positive temperature coefficient) type outputs
- Enhanced sensitivity
- Enhanced accuracy
- Robust packaging
- Fast response
- Wide operating temperature range
- Easy installation
- Customizable
- Enhanced reliability

GENERAL SPECIFICATIONS

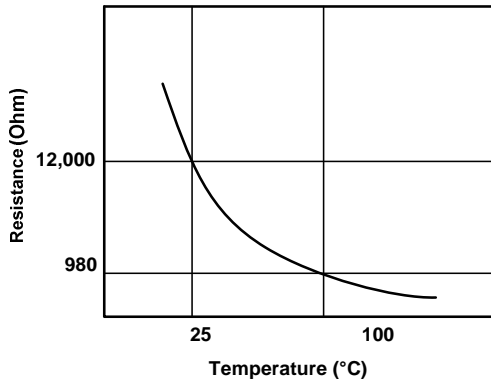
Parameter	TS110 and TS120 Series
Temperature sensing type	TS110: air/gas ; TS120 :/
Thermistor type	immersionNTC or KTY
Nominal resistance at 25 [77]	2000 Ohm
Operating temperature range	-40 to 150 [-40 to 302]
Tolerance	± 5.0%
Accuracy	20 [68], 25 [77]
Time constant in air (TS110 Series)	10.0 s
Dissipation constant in air (TS110 Series)	1 mW/
Time constant in water at 0.914 m/s [3 ft/s] (TS120 Series)	15.0 s
Dissipation constant in water at 0.914 m/s [3 ft/s] (TS120 Series)	6 mW/
Housing material	brass
Mounting method/mechanical interface	<ul style="list-style-type: none"> • M10x1.0 thread • M10x1.25 thread • M12x1.5 thread • M14x1.5 thread • 1/8 PTF 27 TPI
Electrical interface/connector type	<ul style="list-style-type: none"> • overmolded connector/2 Pin MINI TIMER • overmolded connector/Delphi 90 ° METRI-PACK 150 Series

APPLICATION

- Transportation: engine coolant, oil temperature, air intake, fuel and engine block sensing
- Industrial: compressor, duct, hydraulic oil temperature sensing

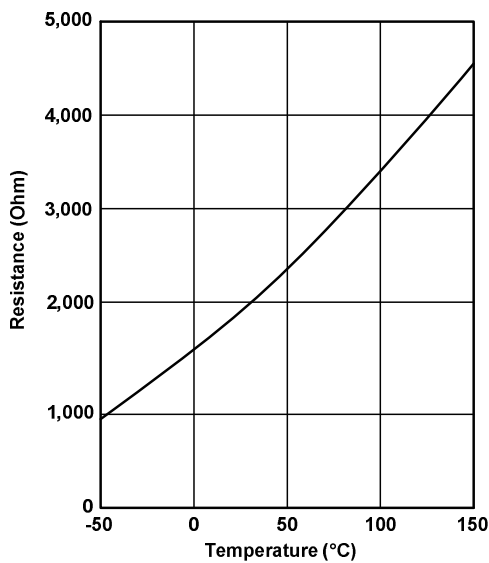
Typical NTC Curve (12 kOhm at 25 [77])

TS110 and TS120 Series

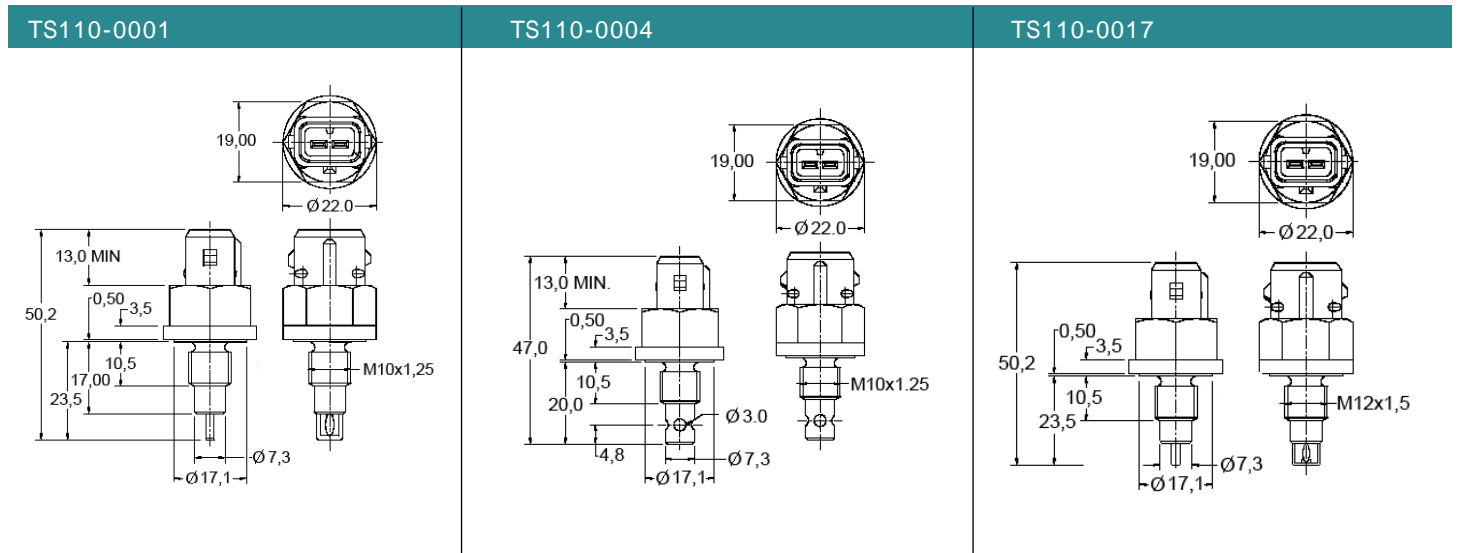


Typical KTY Curve (R25 = 2,000 Ohm)

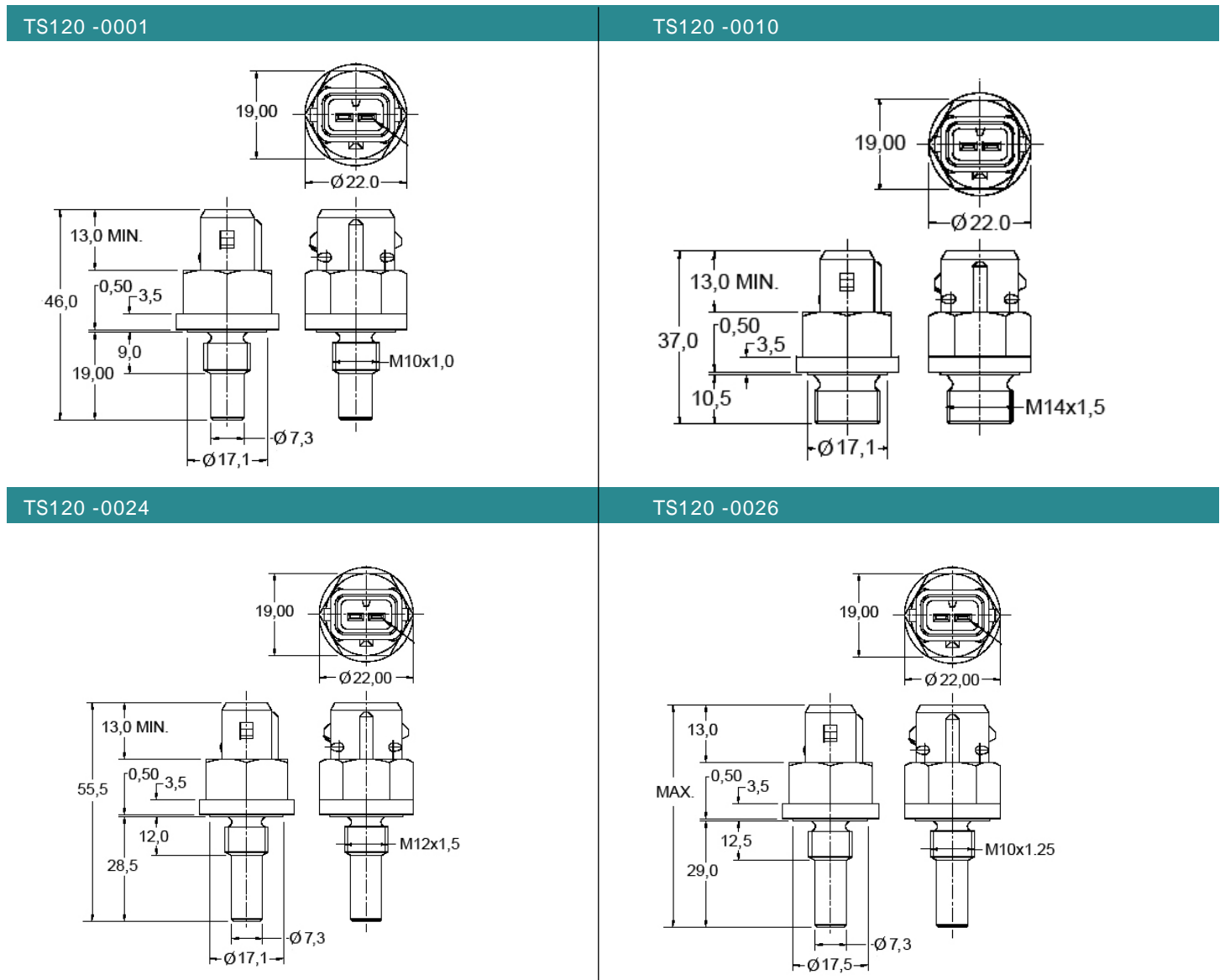
TS110 and TS120 Series

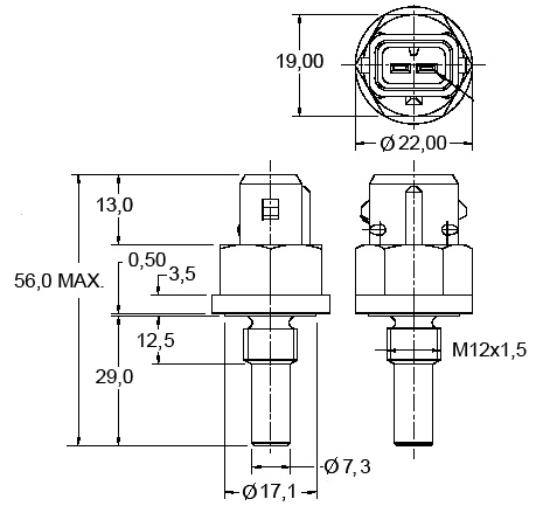
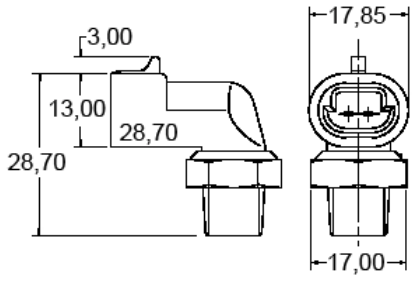


TS110 Series Mounting Dimensions (For reference only: mm/[in].)



TS120 Series Mounting Dimensions (For reference only: mm/[in].)





DISCLAIMER

Warning

LIFE OR PROPERTY RISK

- Please ensure that this product has been designed as part of whole system and already considered related risks, make sure the product has the correct ratings and is designed based on the entire system. It must not be used when applications related to serious life or property damage risks.

Failure to follow this instruction can result in death or serious injury.

Warning

PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to follow this instruction can result in death or serious injury.

Warning

MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to follow this instruction can result in death or serious injury.

Warranty/Remedy

Banning warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Banning's standard product warranty applies unless agreed to otherwise by Banning in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Banning during the period of coverage, Banning will repair or replace, at its option, without charge those items that Banning, in its sole discretion, finds defective. The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Banning be liable for consequential special, or indirect damages.

While Banning may provide application assistance personally, through our literature and the Banning web site, it is buyer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Banning assumes no responsibility for its use.

SALES & SERVICE

Banning serves its clients through a worldwide network of sales offices, agents and distributors. For application assistance specifications, prices or names with the nearest authorized dealer, please contact your sales specialist or contact us directly:

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