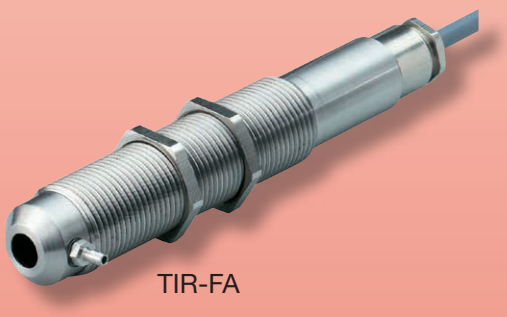
Infrared Thermometers

Stationary

measuring • monitoring • analyzing

TIR-S / TIR-F

TIR-SN



TIR-FA

- Measuring Ranges From:
  -20...300 °C to 1100... 2500 °C
  (-4...572 °F to 2012...4532 °F)
- Accuracy:
  0.8% of Reading +1 °C ... 1.5% of Temperature Range
- Output: 4-20 mA, Thermoelectric Voltage Type J, K 10 mV/°C
- Adjustable Emissivity
- Non-contact Temperature Measurement
- Easy to Operate

Order from: C A Briggs Company
622 Mary Street; Suite 101; Warminster, PA 18974
Phone: 267-673-8117 - Fax: 267-673-8118
Sales@cabriggs.com - www.cabriggs.com

KOBOLD Instruments, Inc.
1801 Parkway View Drive
Pittsburgh, PA 15205

05/05-10-2021

Description

The TIR-FA is a stationary infrared sensor for non-contact temperature measurement of non-metallic surfaces and painted, coated, or anodized metals. The small housing enables installation in compact production machines and the solid and rugged design guarantees reliability even in rough industrial environments. With the built-in air purge, the lens can be protected from dust and moisture contamination. These features allow it to be adapted to various measuring tasks. It is an analog measuring device that provides 3 different outputs.

Special Features

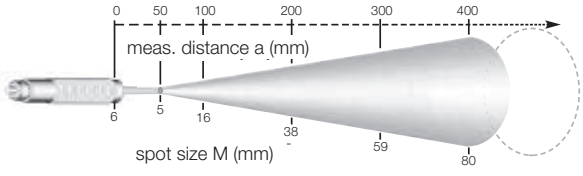
- Built-in Air Purge Unit to Keep the Lens Clean in Dusty Environments
- Easy Installation and Connection
- Stainless Steel Housing with PG 11 Thread for Easy Mounting
- Very Small Housing Dimensions, Suited for Use in Confined Spaces
- Up to 70 °C (158 °F) Operating Temperature without Cooling

Typical Applications

- Plastics
- Textile
- Asphalt
- Rubber
- Paint
- Glass
- Wood
- Varnish
- Ceramic
- Paper
- Liquids
- Food
- Painted Metals
- Coated Metals
- Anodized Metals

Optics

The optics are fixed to a distance of 50 mm. At this distance, it achieves the smallest spot size in relation to the measuring distance. The spot size will be enlarged in any other distance (shorter or longer). Please note that the measuring object must be at least as big as the spot size.

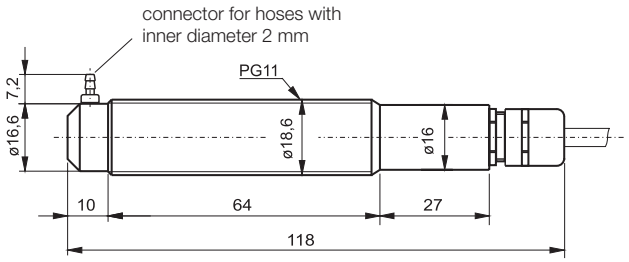


Technical Details

Power Supply:	18…30 VDC
Output:	10 mV/°C or thermocouple model J or K
Load:	Min. 50 kΩ
Emissivity ε:	95% (fixed)
Exposure Time t_{90}:	300 ms
Uncertainty:	1.5% of temperature range or 2.5 °C*
Repeatability:	1% of reading or 1°C*
Noise (NETD, σ =1):	<0.2 °C
Ambient Temp.:	0...70 °C (32...158 °F)
Storage Temp.:	-20...70 °C (-4...158 °F)
Relative Humidity:	No condensing conditions
Housing:	Stainless steel
Weight:	150 g (0.33 lb.)
Mounting Position:	Any
Connection Cable:	1 m (3.3 feet)
Air Purge Unit:	For connecting hose with 2 mm inner diameter
Protection:	IP65 (DIN 40 050)
CE Label:	According to EU directives about electromagnetic immunity

* The larger value is valid

Dimensions (mm)



Order Details (Example: TIR-FA V12)

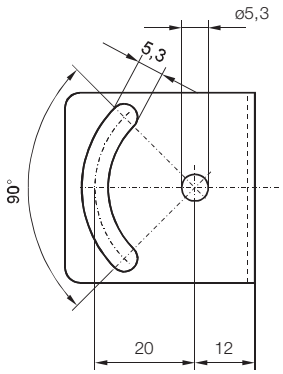
Measuring Range	Output		
	10 mV/°C	Model J	Model K
0...120 °C (32...248 °F)	**TIR-FA V12**	**TIR-FA J12**	**TIR-FA K12**
0...300 °C (32...572 °F)	**TIR-FA V30**	**TIR-FA J30**	**TIR-FA K30**
100...500 °C (212...932 °F)	**TIR-FA V50**	**TIR-FA J50**	**TIR-FA K50**

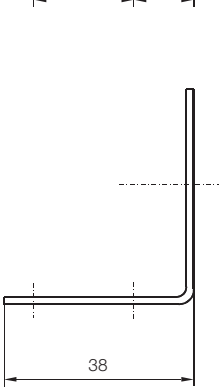
Accessories for Stationary Infrared Measuring Instruments (TIR-FA)

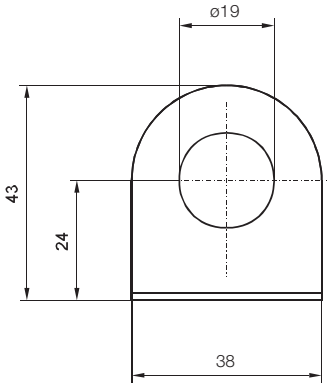
Model	Description
TIR-ZA100	Mounting Support, Fixed
TIR-ZA150	90° Mirror
TIR-ZA200	Mounting Support, Adjustable
TIR-ZA900	Cooling Housing

Dimensions Accessories (mm)

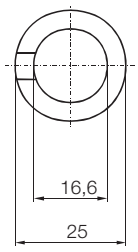
TIR-ZA100

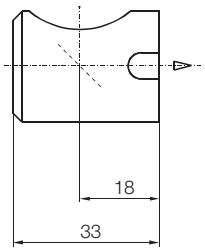






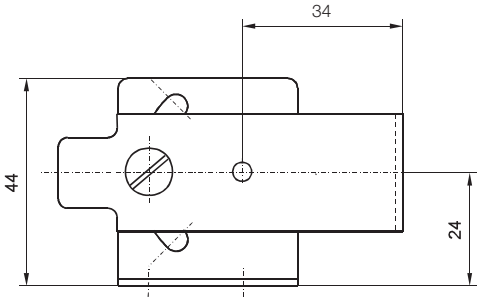
TIR-ZA150

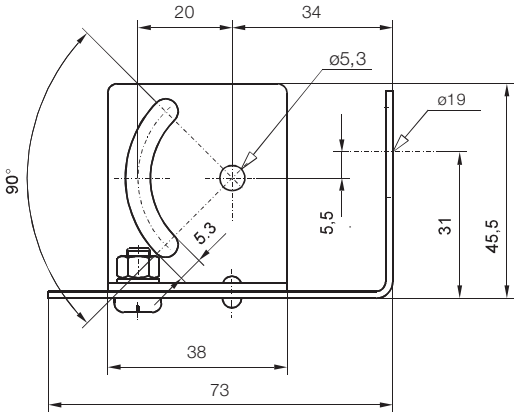




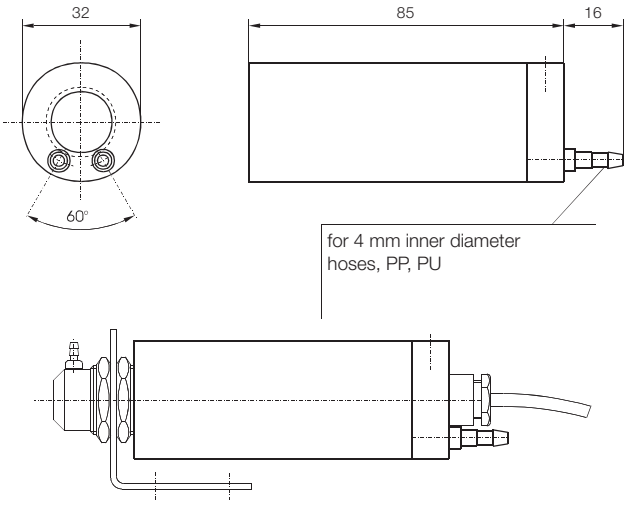
Dimensions Accessories (mm)

TIR-ZA200





TIR-ZA950



Description

The TIR-SN is a stationary pyrometer for non-contact temperature measurement of non-metallic surfaces and painted, coated, or anodized metals. The very small housing enables integration into compact production machines. The 2-wire technique enables very easy electrical connection. The solid and rugged design guarantees high operational safety even in rough industrial environments.

Special Features

- Very Small Housing Dimensions for Easy Installation, Suitable for Use in Confined Spaces
- 2-wire Technique for Current Supply and Temperature Measurement at the Same Time
- Stainless Steel Housing
- Easy Electrical and Mechanical Installation
- Suitable for the Food Industry
- Ambient Temperature up to 70 °C (158 °F) without Cooling

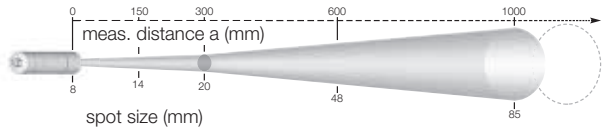
Typical Applications

- Plastics
- Rubber
- Paper
- Ceramics
- Food
- Fluids
- Painted Parts
- Asphalt
- Wood
- Glass
- Coated Metals

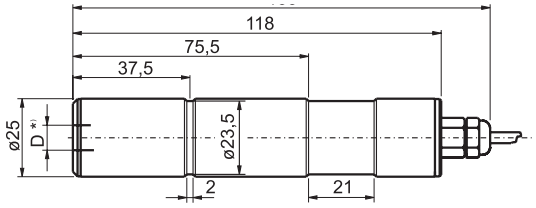
Technical Details

Spectral Range:	8...14 µm
Optics:	Ge lens
Output:	4 ... 20 mA, load independent current, temperature linear
Max Load:	500 Ω bei 24 V power supply
Emissivity ε:	0.4 ...1; adjustable
Response Time t_{90}:	300 ms
Uncertainty:	1,5% of measuring range / °C (ε = 1, TU = 23 °C)
Repeatability:	1% of measuring range
Temp. Dependence:	0... 60 °C: 0.03% of measuring range per °C (23 °C)
Distance Ratio:	15 : 1
Power Supply:	24 V_{DC} ± 25% stabilized, ripple <50 mV
Ambient Temp.:	0...70 °C (32...158 °F)
Storage Temp.:	-20...70 °C (-4...158 °F)
Housing:	Stainless steel
Protection:	IP 65 (DIN 40 050)
Weight:	215 g (0.48 lb.)
Connection Cable:	2 m (6.6 feet) length, fixed
CE Label:	According to EU directives about electromagnetic immunity

Optics



Dimensions (mm)



Order Details (Example: TIR-SN 410G)

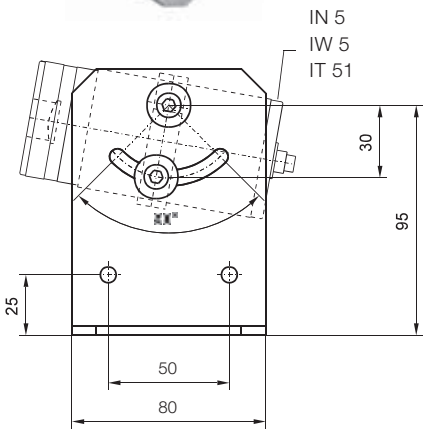
Model	Measuring Range	Optics	Infrared Detector	Applications
TIR-SN410..	0...100 °C (32...212 °F)	**..G** = Optic 300 mm (1:15) (Standard)	Thermopile Spectral Range: 8-14 µm	Plastics, Rubber, Paper, Ceramics, Food, Liquids, Painted Parts, Asphalt, Wood, Glass, Coated Metals, ***No Bright Metal***
TIR-SN420..	0...200 °C (32...392 °F)			
TIR-SN430..	-20 ... 300 °C (-4...572 °F)			
TIR-SN450..	0 ... 500 °C (32...932 °F)			

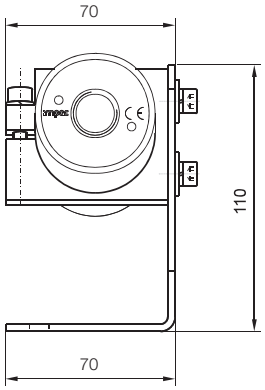
Accessories for Stationary Infrared Measuring Instruments (TIR-SN)

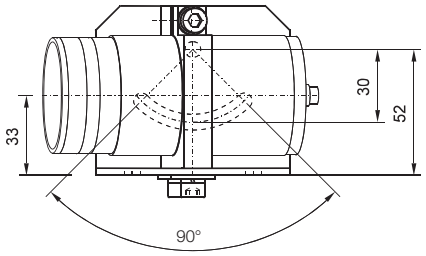
Model	Description
TIR-ZS100	Adjustable Mounting for Rough Environments. Material: Stainless Steel
TIR-ZS200	Installation and Alignment Support
TIR-ZS300	Installation Tube
TIR-ZS400	Stainless Steel Vent Nozzle to Prevent Dust Depositing on Optics
TIR-ZS500	Bracket for Flange System
TIR-ZS600	Tube Support with Vent Nozzle and Flange
TIR-ZS700	Bracket with Silica Glass Pane for Flange System
TIR-ZS800	Ceramic Tube 600 mm Closed for Flange System, Max. 1600 °C (2912 °F)
TIR-ZS900	Cooling Housing with Integrated Vent Nozzle for Cooling the Infrared Thermometer and Preventing Dust Deposits on Optics. For Connection to Cooling Water Circuit and Compressed Air. Material: Stainless Steel

Dimensions Accessories (mm)

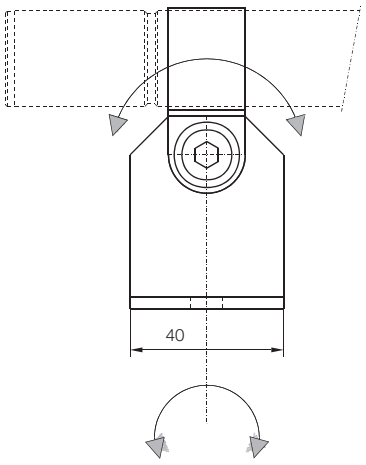
TIR-ZS100

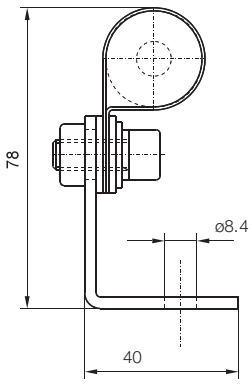






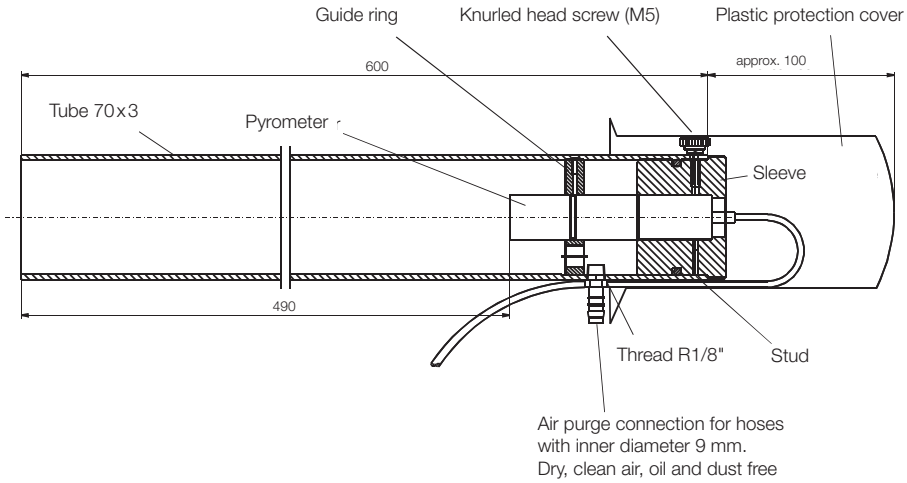
TIR-ZS200



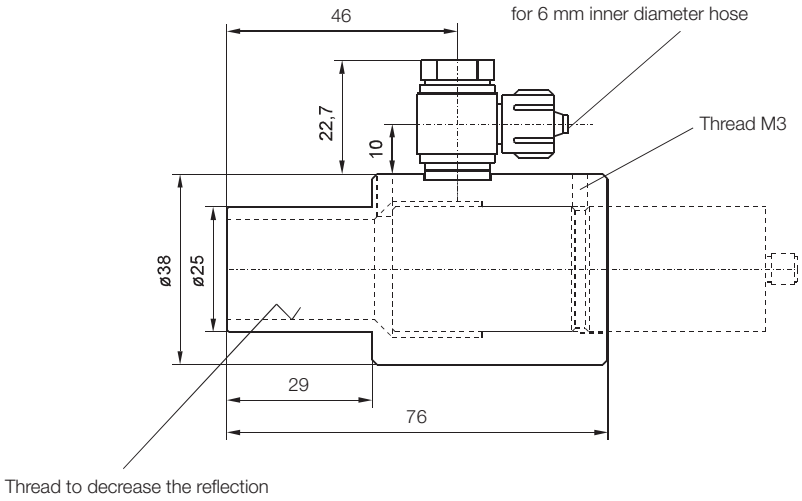


Dimensions Accessories (mm)

TIR-ZS300

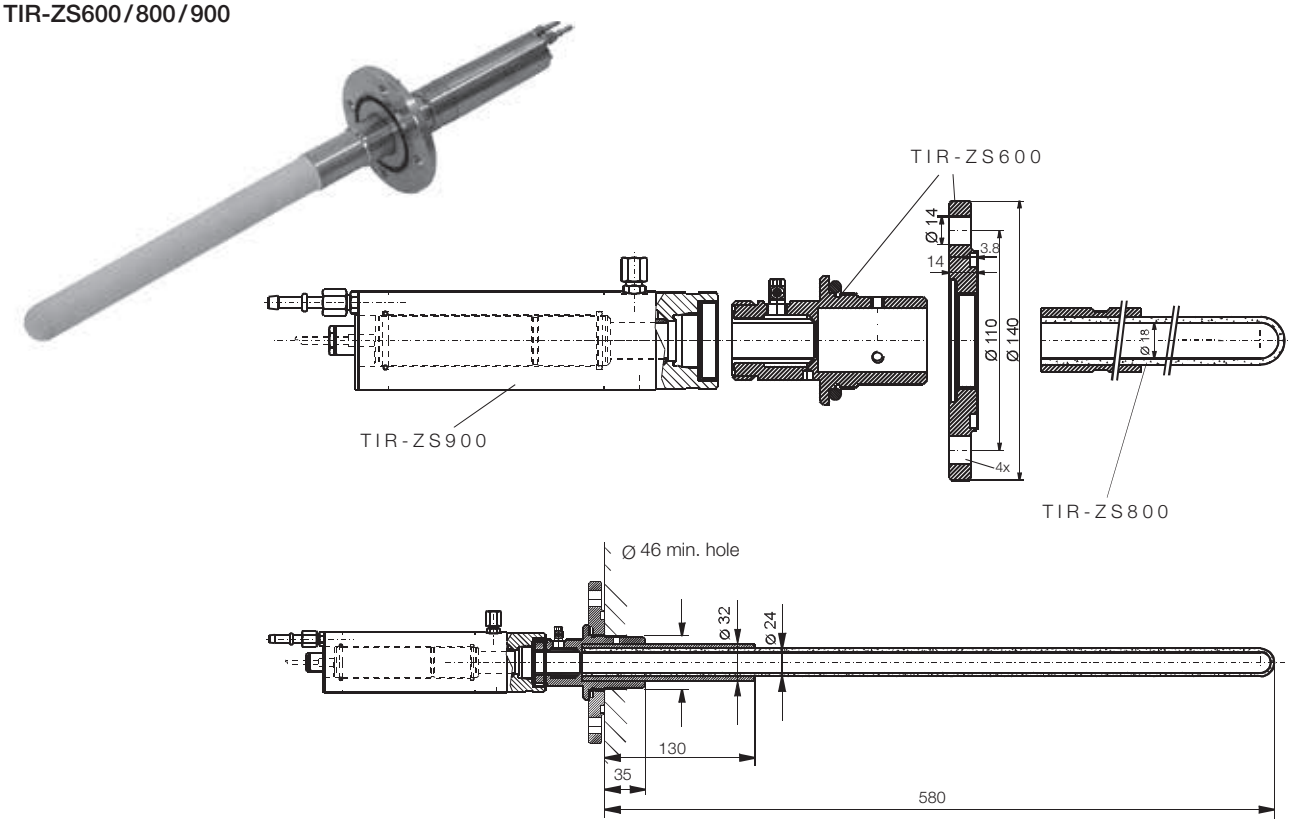


TIR-ZS400

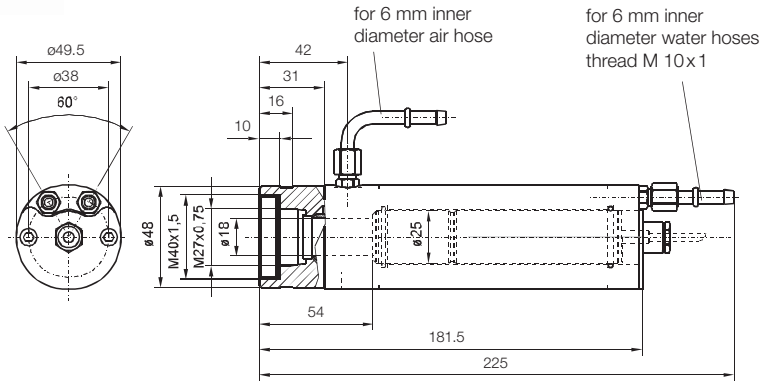


Dimensions Accessories (mm)

TIR-ZS600/800/900



TIR-ZS900



TIR-ZS500/600/700/800