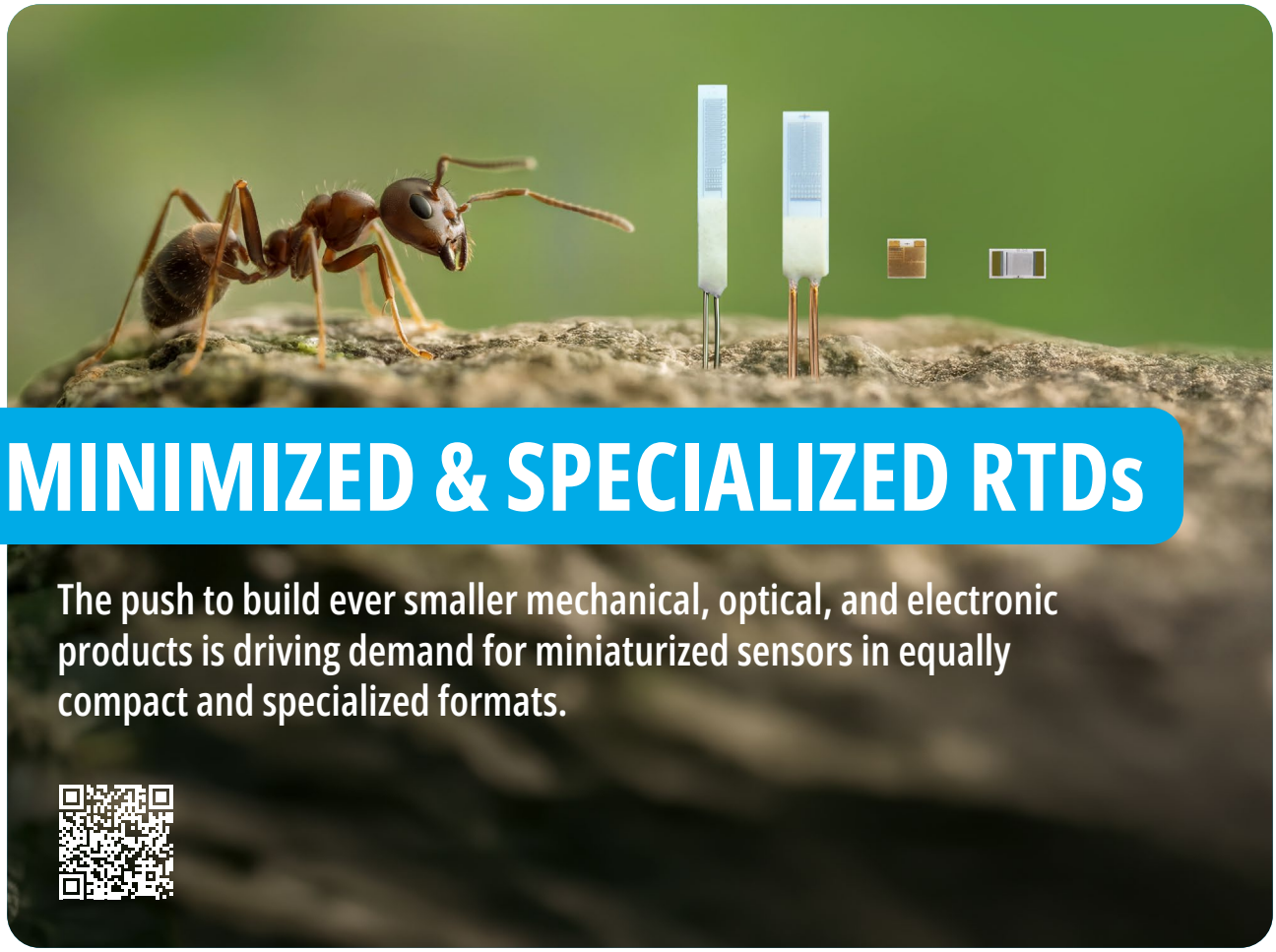
innovative
Sensor
Technology



MINIMIZED & SPECIALIZED RTDs

The push to build ever smaller mechanical, optical, and electronic products is driving demand for miniaturized sensors in equally compact and specialized formats.







physical · chemical · biological

AEROSPACE | APPLIANCE | AUTOMATION | AUTOMOTIVE | BIOTECHNOLOGY

Ultra-thin temperature sensors with wires

Standard 3505 with 0.5 mm width

This ultra-thin sensor features a very fast response time and is ideal for innovative battery control, solar cells, wearables and medical devices.

- Nominal resistance R_0: 100 or 1000 Ω at 0 °C
- Tolerance: IEC 60751 F0.3
- Characteristics curve: 3850 ppm/K
- Operating temperature range: -50 °C to +150 °C
- Dimensions: 3.5 x 0.5 x 0.5 mm
- Connection: Enameled copper wire, Ø 0.112 mm, 35 mm long



100 Ω
Product code
152027

1000 Ω
Product code
152345

3505 for higher temperatures

This sensor is equipped with silver wires to withstand higher temperature applications and is available for tolerance class A and B (IEC 60751 F0.15 and F0.3)

- Nominal resistance R_0: 100 or 1000 Ω at 0 °C
- Tolerance: IEC 60751 F0.3
- Characteristics curve: 3850 ppm/K
- Operating temperature range: -50 °C to +400 °C
- Dimensions: 3.5 x 0.5 x 0.5 mm
- Connection: Ag-wire, Ø 0.10 mm



100 Ω
Product code
154978

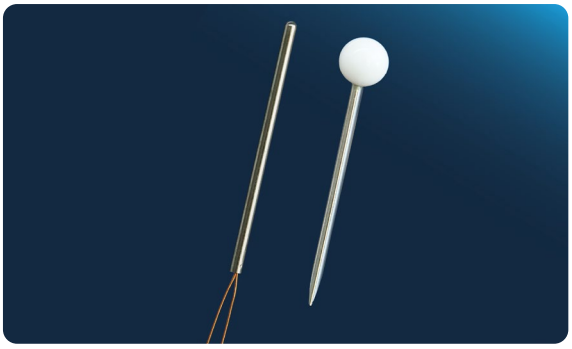
1000 Ω
Product code
154977

3505 in ultra-thin steel housing

As thin as a pin: The 3505 fits into a tube with an outer diameter of 1.0 mm. Thanks to its very fast response time it is ideal for applications involving fast changing liquids or gases. The length of the housing is adjustable to your application's requirements.

- Nominal resistance: 100 or 1000 Ω at 0 °C
- Characteristics curve: 3850 ppm/K
- Operating temperature range: -50 °C to +150 °C
- Dimensions: in round housing, outer Ø 1.0 x 20 mm* long
- Connection: Enameled copper wire, Ø 0.112 mm

Contact us for more information



Specialized RTDs

Cryo-sensor for extreme ranges

Built for deep-cold environments and elevated temperatures, this cryogenic-ready precision RTD covers the extreme range of -258 °C to +200 °C. The batch-calibrated temperature sensor is an attractive cost-effecive solution for liquid hydrogen and other natural gases and ideal for H_2-automotive, aerospace and space applications.



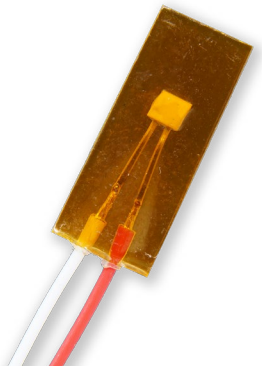
Product code 157856

- Nominal Resistance: 1000 Ω at 0°C
- Tolerance: ±3K Tolerance from -258°C to -200°C (higher accuracy upon request)
  IEC60751 F0.15 from -200°C to +200°C
- Operating temperature range: -258°C to +200°C
- Dimensions: 2.4 x 1.4 x 0.8 mm (LxWxH)
- Connection: Pt-wire, Ø 0.2 mm, 7 mm long

Kapton-laminated sensors

A temperature sensor sealed in Kapton (polyimide film) is particularly useful when temperature measurement is required under mechanically demanding, confined, or extreme environmental conditions.

When lamination, patterning, bonding, and calibration are done under one roof, every production step is monitored directly. We provide real-time inspection of adhesive layers, sensor alignment, and material integrity resulting in full traceability from raw Kapton film to finished sensor.



Contact us and let us know your requirements

High-voltage resistant RTD

This encapsulated Pt1000 element boasts an increased high-voltage resistance thanks to its protective shrink sleeve. It features a high dielectric strength of 5.5 kV/60 s and is shock- and vibration resistant, making it the perfect choice for e-mobility applications, e.g. charging plugs or e-motors.



Product code 158186

Contact us for samples

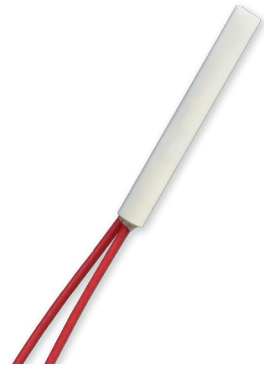


iST offers a wide range of sensors based on different technologies suitable for any application.

Standard or customized

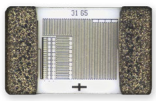
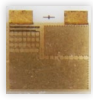
1210 in round ceramic housing

- Nominal Resistance: 100 Ω at 0°C
- Tolerance: IEC 60751 F 0.3
- Operating temperature range: -50°C - +200°C
- Dimensions: in round housing, Ø 1.2 x 10 mm long
- Connection: Pt-wire, Ø 0.1mm, extended with Cu/Ag stranded wire, AWG34/7, PTFE insulated (red), to 100mm



SMDs & FlipChips

Our fully automated production processes deliver tight process control and precise placement for miniaturized, high performance SMDs, while ensuring consistent quality in high volume output. The result is scalable, short lead time manufacturing of cost efficient SMDs that meet stringent electronics and industrial requirements.

RTDs Pt 100, Pt 500, Pt 1000	**Type**	**Size**	**Pads**	**Solderable**	**Reflow**	**Bondable**	**Sinterable**	**Temparture range**	**IEC 60751** (iST Class)
	2ST	0603 0805 1206	Tin plated	✓	✓			-50 °C to +150 °C	F0.15 (A) F0.3 (B) F0.6 (C)
	4ST		Gold plated	✓	✓			-50 °C to +250 °C	
	3FC	0402 0603 0805	Thin-film Gold	✓	✓	✓			
	FC2	0805		✓	✓	✓	✓		
	BondSens	0707				✓		-50 °C to +150 °C	F0.3 (B)

Explore your ideal sensor solution with our experts

The choice of materials, technologies, size, form and capabilities of our sensors is enormous. Our experts help you find the right ingredients for the ideal sensor solution for your application. The following examples are just a few of the infinite possibilities available to you:

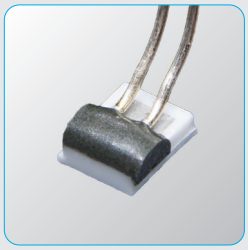
Metallized Backside (M)

- Improved accuracy and response time
- Can easily be soldered onto a metallic surface - improvement of thermal coupling
- Also available as RealProbeTemp - sensor built into stainless steel housing



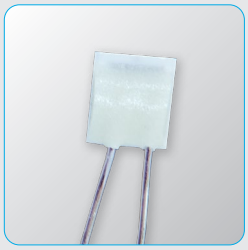
Invert Welded and Bent Wires (U)

- For applications with limited space
- Optimal for mounting the sensor to the bottom of a tube or blind hole
- Available with metallized backside and extended or directly welded wires



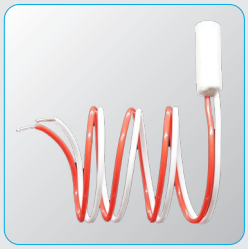
Temperature measurement up to 600 °C in class A

- Precise measuring results up to IEC 60751 F0.15 (IST AG reference class A) within a wide operating temperature range from -200 °C to +600 °C
- Combines the advantages of wire wound sensors with the advantages of thin film sensors (robustness, small dimensions and very low hysteresis at an optimal price level)
- Available in round ceramic housing (wire-wound sensors can easily be replaced)



Sensors in Housings

- Conventional way: after inserting the sensor, the housing is filled with an epoxy, polyurethane or silicone
- Alternative: sensor is soldered to the bottom of the housing (better thermal contact, faster response time)
- Housings are available with various diameters, lengths and materials
- Easy integration in various applications - optimized assembly at customer site



Customized sensor solutions for your application

Benefit from an agile co-creation of your next sensor solution. Use our competence at component level and focus on your added value for fast and successful product development - from simple design adaptations to new measuring principles: from concept prototyping to high-volume manufacturing.

Design

- Conceptioning
- Material selection
- Process technology
- Layout & geometry

Patterning

- Photolithography
- Screen printing
- Laser trimming
- Dry & wet etching

Packaging

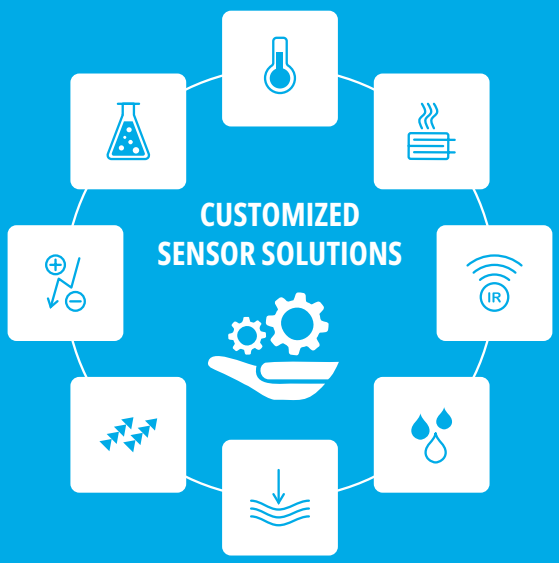
- Welding
- Bonding
- Soldering
- Hot-melt molding
- Injection molding

Services

- Electrical testing
- Optical/AOI testing
- ESD testing
- Calibration
- Metrology

Connection

- PTFE or PEEK insulated
- Ag, Ni/Au, Pt wire
- Cu/Ag, Cu/Ni wire
- AWG 34 to 20
- Flat or round wire
- Multistranded cables
- Ultra-thin wires
- Custom lengths
- Bondable, solderable
- Brazeable, weldable
- SMD & FlipChip
- ...and many more



Substrate

- Alumina
- Zirconia
- Sapphire
- Steel
- Copper
- Glass
- Polyimide
- Aluminium nitride
- Silicon

Metal thin film

- Pt
- Rh
- Ti
- Ni
- W
- Cr
- Ag
- Au
- Al
- Mo
- Alloys

Metal thick film

- Pt
- Au
- Ag
- Ni/Cr and other alloys

Dielectric thin film

- SiO_2
- Si_3N_4
- Ta_2O_5
- Polymers

Dielectric thick film

- Glass
- Organic polymers

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