

## Customer-Specific AS-active-probes

Besides the AS-active-probes available in our standard program from time to time we also realize special types of the probes to meet the specific demands of the particular measurement task of our customers.

As manufacturer of our probes, we are able to respond to modification requests in short term. This we can even realize for unique items.

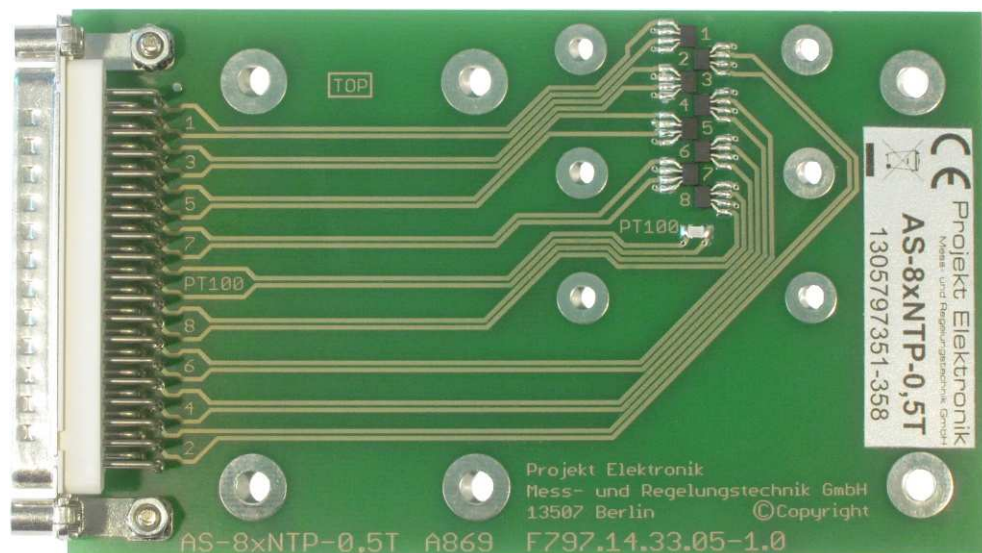
In the following we have listed some examples of custom-made probe productions.

### Line Probe With 8 Sensors

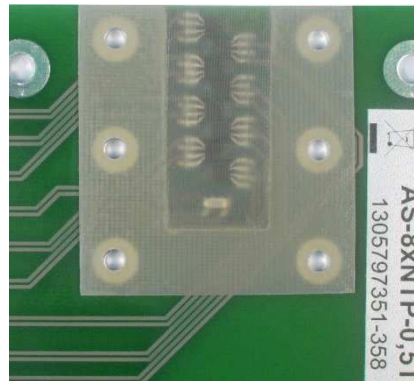
For production inspection a customer needed a probe with 8 sensors on a line. Thereby the distance between test object and sensor should be as small as possible. A suitable fixation to the carrier of the test setup had to be designed, too.

For temperature monitoring an additional PT100 had been integrated.

Here we have realized a carrier board where the sensors are mounted on the top side. So the test object can be moved to minimal distance. The board is designed that on one side the sensors can be calibrated in our test setup and on the other side it fits optimal in the test setup of our customer. To keep the development effort low, we used the proven electronic of our AS-active probes for the individual sensors. This also allows the usage of our standard devices to supply and evaluate the probes like e.g. the AS-probe adapter.



To provide a mechanical protection of the sensors, we have produced a cover with 0.1 mm thickness. Thereby a very small gap between test object and sensor is still possible.



## Aluminium Probe With Measurement Marks

For a specific testing setup a positioning equipment developed by the customer had been equipped with a sensor. The positioning equipment had been designed in collaboration with the customer. On one side the requirements of the setup like the mechanical conditions and the necessity of appropriate marks for adjustment had to be observed. On the other side the millings to place the sensor in and to lay the cables had been integrated in a suitable way.



## “Pie Server” Probe

The “pie server” probe got their name from the shape which indeed is reminiscent of a pie server. The probe has been emerged from a customer request where the place of measurement was not accessible with a straight probe. As origin the transverse probe of the Teslameter FM 3002 was used. The profile had been bent two times in a proper way to reach the desired shape.



## Rugged Axial Probe With Brass Tube

One of our customers had broken our standard axial probe several times due to the rough working environment. So we made for them an extra rugged construction with brass tube. Now this probe is in use at our customer for several years without being damaged again.



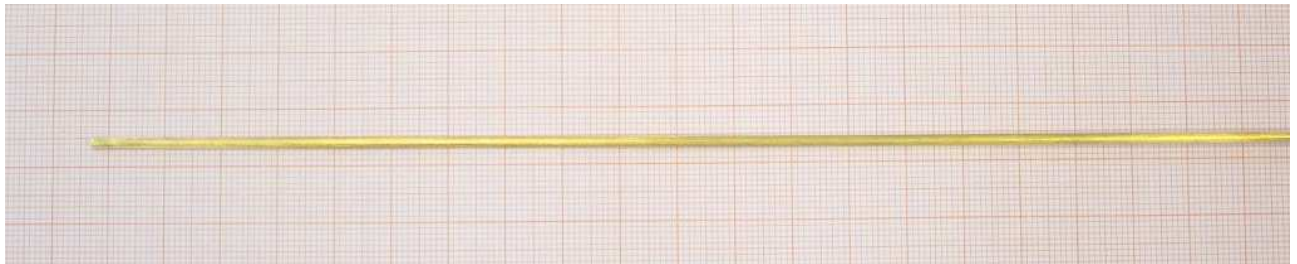
## Short Axial Probe

For a measurement setup with narrow space, we had been asked for a short axial probe. Based on our standard axial probe we have made a short version.



## Extra Thin Axial Probe With Brass Tube

For measurements which require an extra thin axial probe, we also can produce a probe with brass tube with a diameter of only 2 mm.



## Probe with Single-Sided Sensor

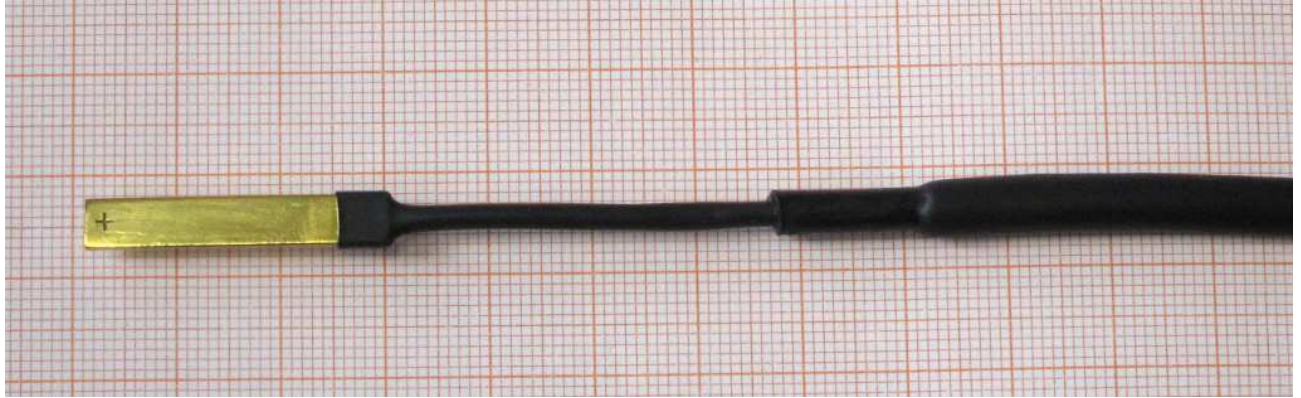
For the measurement of residual magnetism of workpieces, the distance between active area and surface of probe should have been as short as possible. We have designed a probe where the sensor is not in the middle of the stem. Rather, the sensor is located on the outside of the probe. So we had been able to achieve a distance of just 0.28 mm.





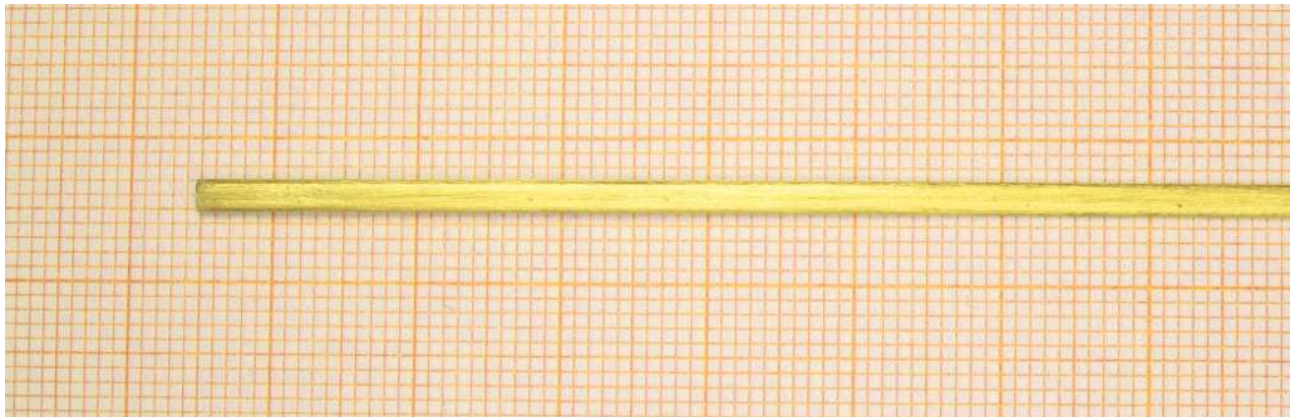
## Extra Short Flexible Brass Tube Probe

The demand was an extra short probe at which in addition the probe cable should be bend directly at the probe with a very small radius. To do that we used a short piece of probe profile based on our standard brass tube probes. At the first leg after the probe the signal wires are made in an extra light version to implement the small bending radius. Thereafter comes the junction to the normal probe cable.



## Extra Thin Transverse Brass Probe

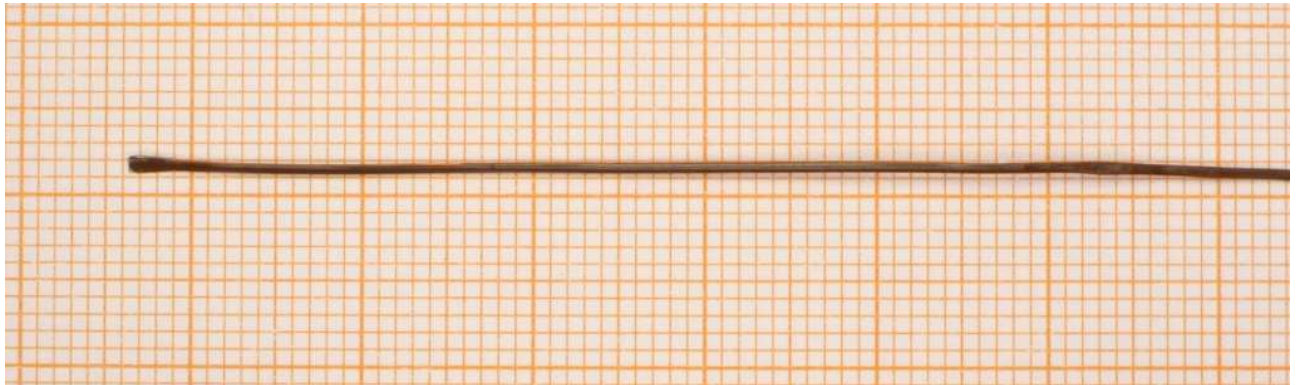
For small air gaps or similar measurement tasks we can manufacture transverse brass probes which have a thickness of only 0.9 mm. Due to the brass profile these probes are more rugged than comparable constructions made of glass fiber epoxy.



## Extra Thin Flexible Transverse Probe

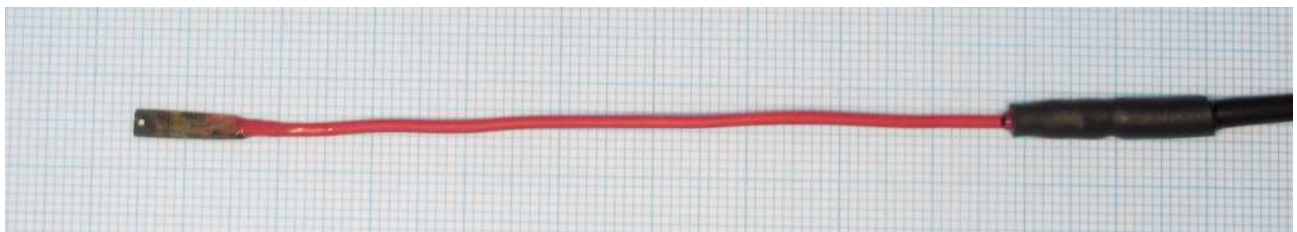
For smallest air gaps conventional probes are not applicable due to their thickness. Here we can offer a transverse probe with flexible carrier. This probe with a thickness of only 0.4 mm is suited for measurements in extreme small air gaps.

Because of the flexible probe carrier, the probe still can be handled well but a tilt does not immediately lead to a break of the probe.



## Flexible Probe for High and Low Temperatures

Here a customer asked for a probe as small as possible with thin and flexible connection wires. Furthermore, the probe should be qualified for the temperature range from  $-40\text{ °C}$  to  $+150\text{ °C}$ . For that purpose, we developed a probe which measures just  $3\text{ mm} \times 10\text{ mm} \times 1,5\text{ mm}$ . Accordingly the cable is designed thin and flexible, too. Sensor and cable are constructed to permanently endure the requested temperatures.

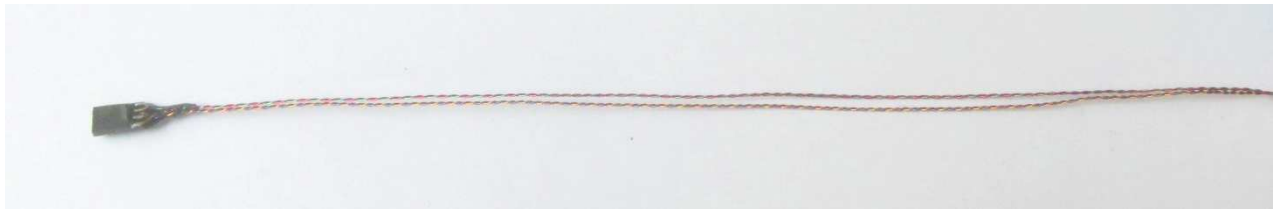


To improve the protection of connection between sensor and wires against pulling and bending, we developed a second variant of this probe. This probe has an additional strain relief and a bend protection.



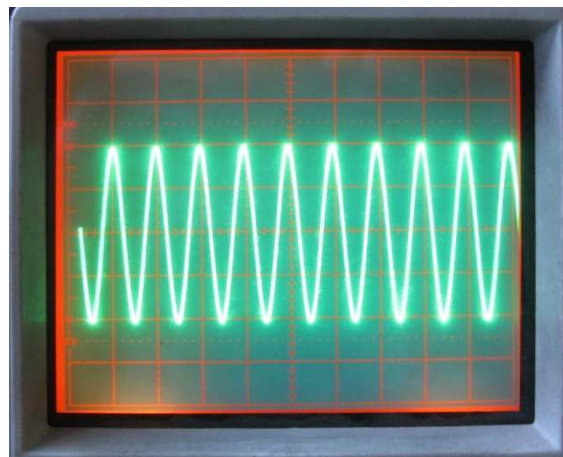
## Wire Probe for High and Low Temperatures

The possibility of smallest probes is to equip a hall element with thin wires and connect it that way to the probe electronic. With the AS-NCu-Wire probe we already offer such a probe in our standard program of probes. Then our customer requested a probe as small as possible which additionally is suited for the temperature range from  $-40^{\circ}\text{C}$  to  $+120^{\circ}\text{C}$ . For this purpose, we manufactured a probe with a sensor suited for the temperature range and temperature resistant wires.



## Higher Bandwidth

For some of our probes we are able to manufacture them with higher bandwidth. Depending on the type of probe bandwidths of 50 kHz to 100 kHz are possible. For this purpose, especially the non-metallic probes are suited. For the metal probes the bandwidth is limited by the shielding effect of the material.



## Application Notes

On our website (<http://www.projekt-elektronik.com/applikation.php>) under Application you can find many additional documents with information, hints and examples about the measurement of magnetic fields.

## Consulting And Customization

We gladly stand at your disposal for questions about measuring tasks, manufacturing of probes, changing of measurement range, bandwidth or similar via telephone or email.

## **Your PE - Team**