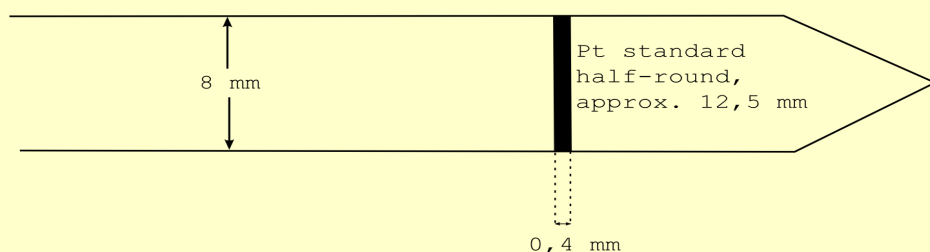
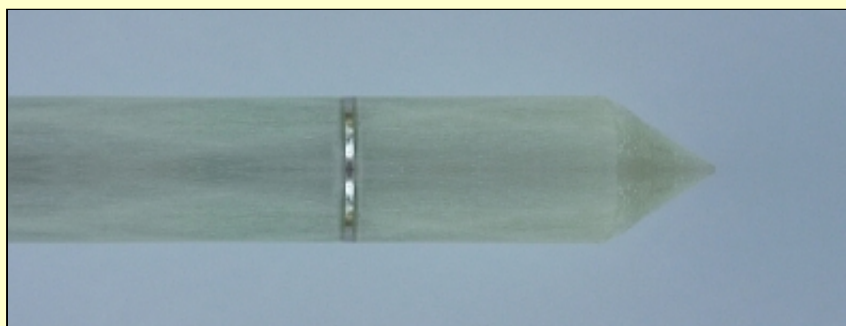


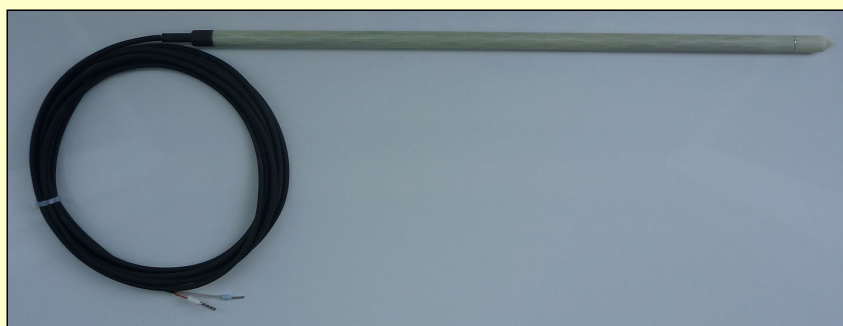
Redox probes

Paleo Terra produces sturdy probes to measure the redox potential in soils, sediments and surface waters.



These sturdy probes are built from glassfibre-epoxy tubes that are stable in water and the soil environment over long periods of time. The smallest diameter available (8 mm) is sturdy yet thin enough to push into many soils without the need to pre-auger. The redox sensing Pt is approx. 0.4 mm wide x 12.5 mm long giving approx. 5 mm² surface area. On an 8 mm probe, this is a half ring. The standard 8 mm probe is 30 cm long and has a pointed tip for easier installation. The redox sensor is placed 2 cm above the tip. At the top end, 3 m of cable protrudes to connect the probe to your datalogger. The standard cable has a braided shield for more mechanical strength in the field and to give the option to shield the redox signal from electromagnetic noise.

The 8 mm probes are most suitable when they can be installed by hand and are not too long. 8 mm probes longer than about 50 cm bend easily, which can be a disadvantage. Still, in some cases, longer 8 mm probes are perfectly suitable. They are available up to 2 meters length.



Configuration options

For cases where the 8 mm probes are too flexible, 10 mm, 12 mm and 16 mm diameter versions are available. Although pre-augering might be necessary, these thicker probes can generally be installed in more difficult circumstances. To further strengthen the design, a PEEK tip can be added, and/or nylon top caps. When a top cap is combined with the cable protruding

from the side, it is possible to hammer the probes into the soil. But: using this method, a (small) risk arises that the Pt sensor gets damaged during installation. If the probe hits a sharper object (e.g. a piece of gravel, a stone or some metal) under an unfortunate angle, the Pt can be pushed out of position. Although sometimes it will still be possible to measure redox potential, the probe should be considered lost in these cases.

Most probes are built to customer specifications. A multitude of configurations is possible:

- pointed, flat or rounded tip
- up to nine redox sensors built into a single probe
- the total length of the probes may vary from 10 centimetres to 2 meters
- different cable options available
- for use with a [Hypnos datalogger](#) one or more DS18B20 temperature sensors can be integrated (number of redox sensors is limited to six when redox and temperature sensors are built into the same probe).
- Pt100 temperature sensors can be integrated



When configuring your desired probe, please keep the following in mind:

- at least 2 cm between tip and first sensor
- at least 5 cm between top sensor and cable exit
- for probes with multiple sensors, a cable with multiple cores is required
- for DS18B20 temperature sensors, 3 extra cores are needed
- for Pt100 temperature sensors, 3 or 4 extra cores are needed, depending on the Pt100/Pt1000 configuration
- minimum distance between two sensors 1 cm, all distances multiples of 1 cm (smaller distance between sensors and different intervals are possible, but this would add considerably to the cost and production time)

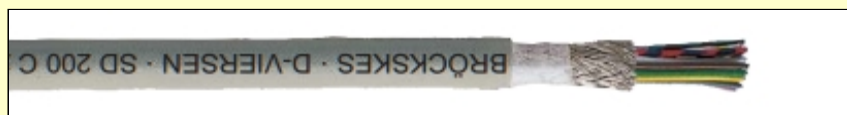
Wire and cable options



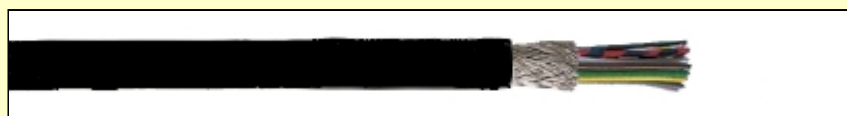
AWG16 thick sheathed PVC wire, choose from blue, green and red, basic wire for use in the field



black coax (RG174AU) cable, shielded, suitable for laboratory use



[SAB SD200C](#) flexible, braided shield, PUR sheath, 7 cores



[Outdoor redox cable](#) flexible, braided shield, PUR sheath, PE insulation, 5 or 10 cores

[IGUS CF2](#) very strong and flexible,



braided shield, PUR sheath, 4, 8, 12 or 18 cores

Price indications

Prices depend on the components needed, but also on the complexity of a particular probe. The prices below are therefore indications! You may always [ask for a quote](#) for your configuration.

Probe	Diameter	Length	Pt sensor	Tip	Cable	Price excl. shipping/VAT
Standard sturdy probe	8 mm	30 cm	2 cm from tip	pointed	3 meter coax cable	€ 41,00
Additional redox sensor						€ 20,00 each
DS18B20 temperaturesensor (read with e.g. Hypnos datalogger or Arduino)						€ 25,00 each
12 mm probe, cable from side	12 mm	75 cm	5 cm from tip	pointed	3 meter PVC wire	€ 65,00
PEEK tip	8 - 12 mm					€ 15
PEEK tip	16 mm					€ 20
nylon top cap	20 mm					€ 10
PVC AWG16 wire						€ 0,60 per extra meter
RG174AU coax cable						€ 0,80 per extra meter
SAB SD200C cable, 7 cores						€ 3,60 per extra meter
IGUS CF2.01 cable, 8 cores						€ 4,70 per extra meter
Longer probes	8 -12 mm					€ 2,00 per extra 10 cm
Longer probes	16 mm					€ 3,00 per extra 10 cm

Please note!

A Pt redox sensor is a half-cell. To measure redox potential, a reference electrode and a suitable millivolt meter or datalogger are needed.

More information

For all further enquiries, please contact:

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