

Portable Reference Electrodes

A range of hand held Reference Electrodes (half cells) is available for use with portable high impedance voltmeters.

Copper / Copper Sulphate Reference Electrodes

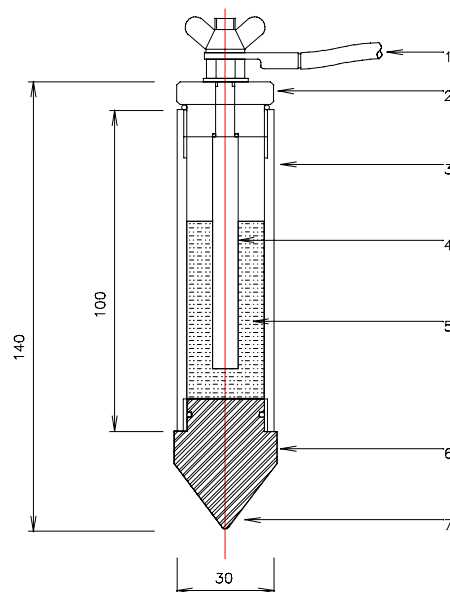
pml portable Copper / Copper Sulphate reference electrode is designed for use in conjunction with buried pipelines.

It comprises a transparent body, hardwood plug and high purity copper rod.

Supplied with first fill of Copper Sulphate crystals requiring only the addition of pure water to activate.

Standard cable tails are 5m of 2.5mm² flexible single core insulated cable.

The electrode can also be supplied with enclosed terminal/cable connection.

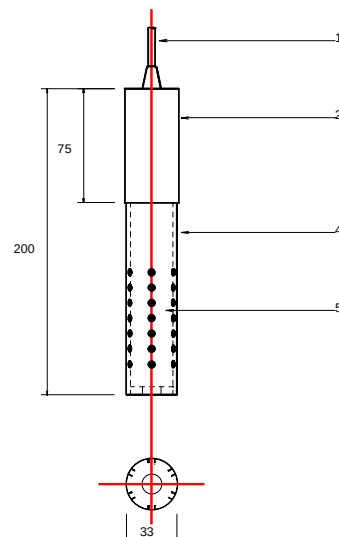


Silver / Silver Chloride Reference Electrodes

pml portable silver/silver chloride reference electrode is designed for use in sea water or saline estuarine waters.

It comprises a silver/silver chloride element immersed in potassium chloride. The entire assembly is housed in a perforated non-metallic housing for mechanical strength and is fitted with a permanently attached cable tail, typically 5 m long 2.5 mm².

Typical accuracy figures of $\pm 5\text{mV}$ may be expected



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Data Sheet REF01 Rev 01

Page No 1 of 3

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NOTES ON USE OF SILVER / SILVER CHLORIDE HALF CELL

- Ensure that half cell has been soaked in seawater for at least half a day prior to starting to use.
- Connect cable tail from half cell to Positive terminal of multimeter.
- Connect cable from Negative terminal of meter to bare section of the Sheet Piling or to a Negative terminal within a Potential measurement post if one has been installed.
- Set Multimeter range to 2 volts dc.
- Lower half cell into sea adjacent to Piling to be measured and note reading on multimeter.
- This reading should be noted against exact location for future reference and comparison purposes.
- Relocate to next location and proceed as above.
- When readings completed suspend half cell in suitable location to allow excess sea water to drain off before wrapping in polythene bag for transport back to base.

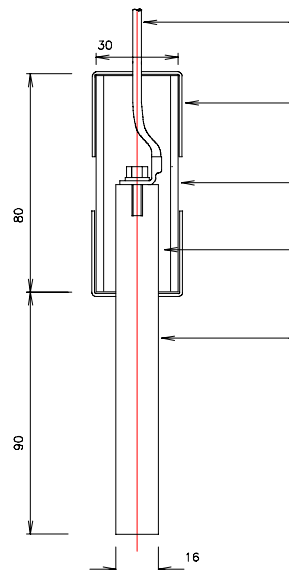
Zinc Reference Electrodes

pml portable zinc reference electrode is designed for use in sea water or saline estuarine waters.

It is not normally advisable to use an electrode in direct contact with an electrolyte but in the case of zinc in clean sea water, the accuracy is sufficient for many applications.

The electrodes are more robust than the silver/silver chloride electrode and may be used in applications where a high degree of stability is not required.

Typical accuracy figures of $\pm 30\text{mV}$ may be expected



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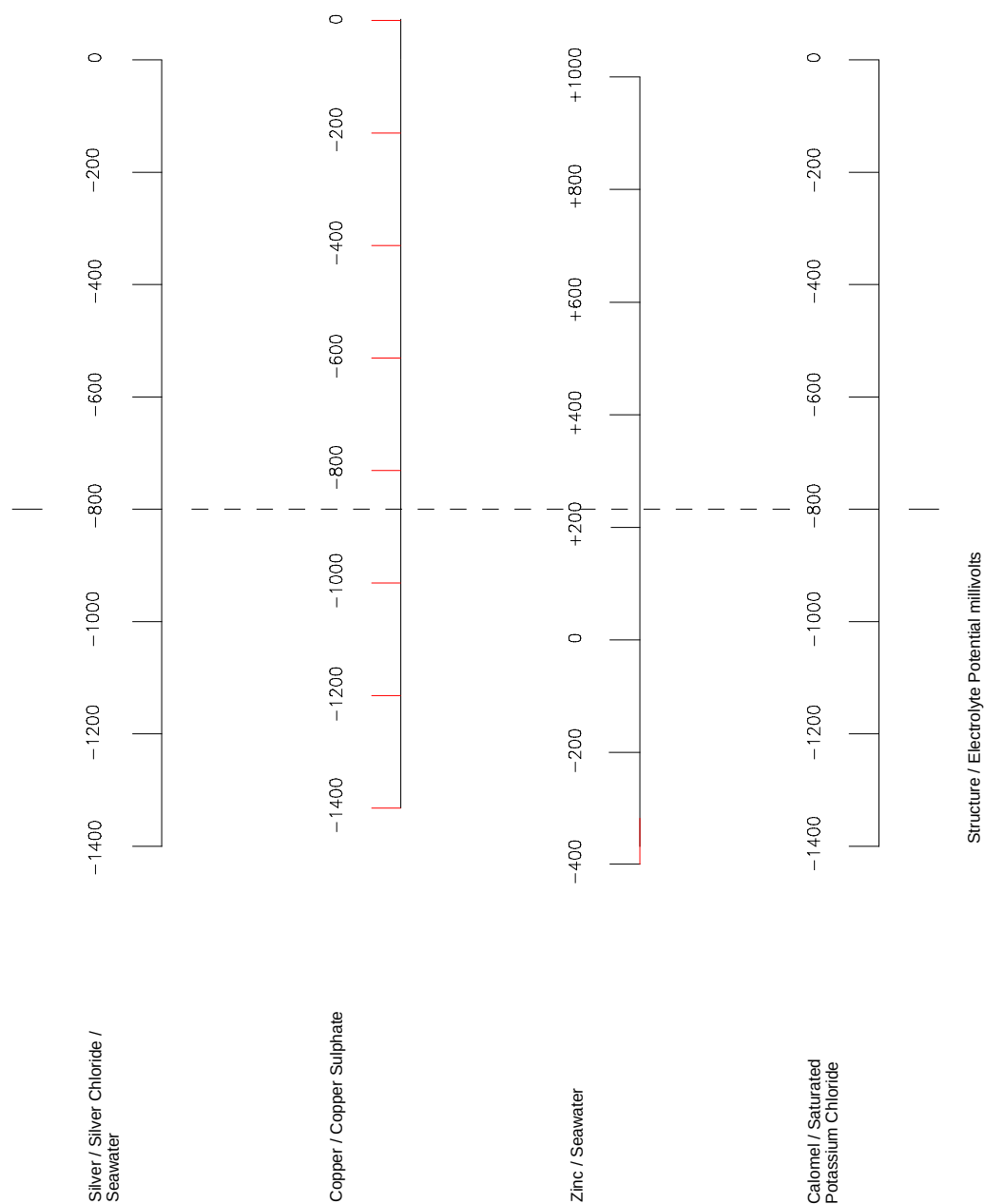
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Page No 2 of 3

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The above chart gives a comparison of structure to electrolyte potentials for various reference electrodes.

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Page No 3 of 3

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