



**MIJ-03 (P.A.T. 3025495)**

## A. About the Soil O<sub>2</sub> Sensor MIJ-03

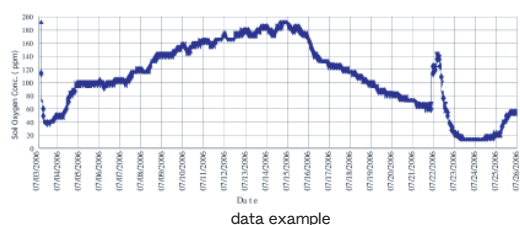
Environmental Measurement Japan developed the MIJ-03 Soil O<sub>2</sub> Sensor in April 2006. MIJ-03 is used for the measurement of the root aspiration. The MIJ-03 detects the density of oxygen in the soil by % order with -out any difficulties, just digs up the hole in the soil and lay this sensor into the ground. An usual usage of this sensor is laid in a vertical direction at intervals of 20 to 50 cm. Researchers can measure the vertical profile of the O<sub>2</sub> in the soil.

## B. Features

- Can be used for long term observation with easy set-up.
- Automatic temperature compensation. MIJ-03 has thermo-couple compensation circuit in it.
- No influence by the rain or other waters. MIJ-03 has porous TEFLON water protection.
- Easy span calibration. Users can do the calibration at the usual atmosphere (20.9% Oxygen concentration).
- Not require to do the zero calibration. 0% Oxygen = 0 mV output
- MIJ-03S can do the automatic span calibration (Under development).
- MIJ-03C can be installed. MIJ-03C will protect the membrane from water, minuteness soil or bacteria in the soil.

## C. Specification

Theory	Galvanic Battery + Porous membrane sheet
Shape	35mm, Length 65 mm (The cable connector is 50mm height )
Output	45 ~ 65mV at 20.9% O <sub>2</sub> (Users must check the output at the air before set-up)
Weight	220 grams (Include cables)
Cable length	3m (+/white, -/Black, Shield cable)
Temperature effect	At R.H. 100% and O <sub>2</sub> 20.9%. Sensor out put is 20.8% at 5 °C, 19.4% at 40 °C. At R.H. 0% and O <sub>2</sub> 20.9%. It is not influence from the temperature effect.
Temperature	0 ~ 40 °C when in use



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