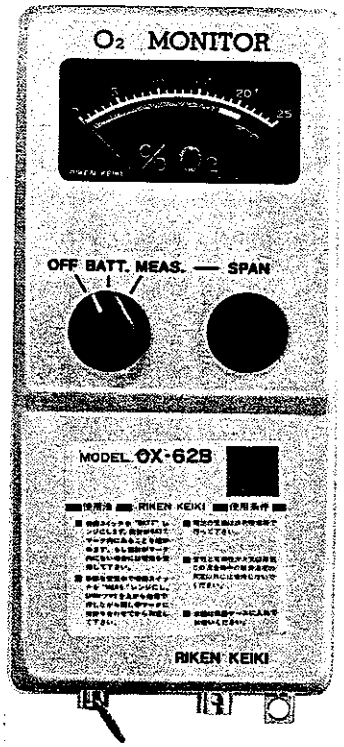
INSTRUCTION MANUAL (REVISION)

FOR

RIKEN PORTABLE OXYGEN MONITOR

MODEL OX-62B



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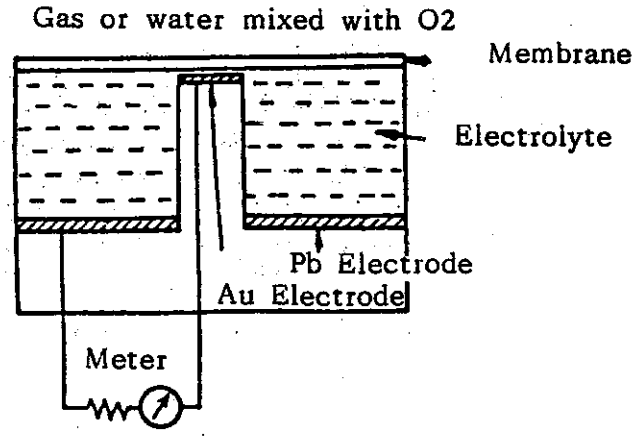
1. GENERAL

RIKEN PORTABLE OXYGEN ANALYZER MODEL OX-62B provides a quick and convenient method for the determination of oxygen deficiency in any atmosphere. This is designed primarily as an indicator of oxygen deficiency with good readability from 0-25%. Normal atmospheric air contains 21% oxygen and is used as a calibraiton gas. If meter is set at 21% by a use of SPAN adjusting knob, the concentration of oxygen in an unknown sample can be read directly from meter without calibration curves. Model OX-62B are always ready for determination of oxygen concentration, which also available to use with a remote sensor. Stable, long life sensor can be replaced simply in a few minutes. Model OX-62B is most suitable and recommended for testing tanks, monholes, vessels and in other spaces to determine safety from the standpoints ofoxygen deficiency before entering and while work is in progress.

2. OPERATING PRINCIPLE

The RIKEN oxygen cell is basically an electrochemical cell consisting of a lead anode and a gold cathode in a gel-type electrolyte covered by a membrane. Oxygen in the atmosphere surrounding the sensor diffuses throught the membrane at a rate proportional to the partial pressure of oxygen. When oxygen enters into the gold cathode, a current which is directly proportional to the oxygen conenctration will be produced and this current in turn develops a voltage across a temprature compensation thermister/resistor network, and prodces a reading in percent oxygen.



Oxygen cell

3. SPECIFICATIONS

Principle	Electrochemical cell
Sampling method	Diffusion sampoing, Remote sensor type
Range	0～25% oxygen content
Accuracy	Better than ± 0.7% by volume (complies with JIS T-8201)
Operating temperature	−10℃～+40℃
Power source	Dry cell (standard) × 2 pcs or Ni-Cd battery (option) × 2 pcs (Ni-Cd battery is recharged by the separate recharger for this exclusive use.)
Battery life	Maganese dry cell ..... 40 days minimum Alkaline battery ..... 70 days minimum Ni-Cd battery ..... 20 days between charges
Dimensions	Indicator; 83(W)×177(H)×40(D) mm
Weight	0.9 kg (Including sensor & cord)
Explosion proof	Intrinsically safe 3aG4 (No. 33362) & drip proof in Japan
Type of sensor	OS−B6
Sensor life expectancy	Above 15 months
Warranty	1 year material & workmanship

4. NAME OF EACH PARTS AND MECHANISM

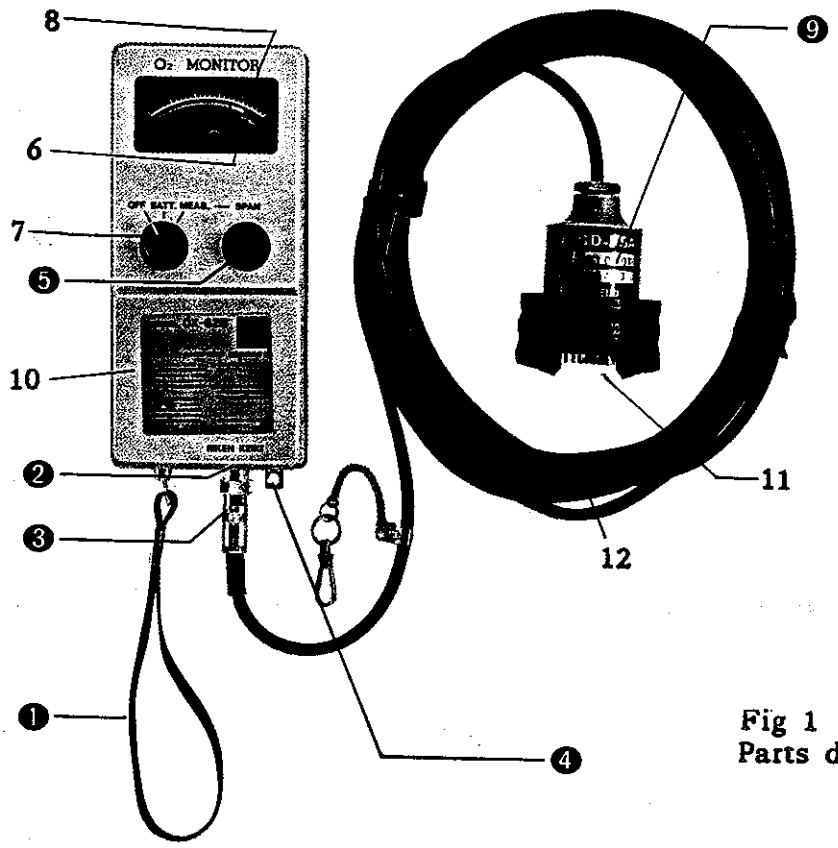


Fig 1
Parts description

① Hand strap
② Receptacle
③ Connector
④ Chain stopper
⑤ Span adjusting knob
; This is a knob to adjust the indicator needle to ◇ mark. The reading increases when this knob is turned clockwise.
⑥ BATT. check zone
; This is the zone to check whether battery voltage is enough or not. See if the indicator needle is below the BATT. zone by turning control switch to "BATT". Please replace or recharge the battery when the indication is below the zone.
⑦ Control switch
; This is a switch for selecting power switch "ON-OFF", battery check, and measurement respectively.
⑧ ◇ mark
; Adjust the indicator needle to ◇ mark under the fresh air at calibration.
⑨ Remote sensor unit (GD-F5A) in protective cover
⑩ Indicator
⑪ Protective cover for remote sensor
⑫ Sensor cord (5m)

5. HOW TO OPERATE

5-1 Preparation

(1) Hold the indicator ⑩ by the hand through strap holder ①.

(2) Place the connector ③ of remote sensor cord onto the chain stopper ④.

(3) Battery check
Turn the switch knob ⑦ to "BATT" position and check that the reading is within the "BATT" zone. If not, replace the battery with new one or recharge the Ni-Cd battery through exclusive charger.

(4) Calibration
Turn the switch knob to "MEAS" position and turn Span adjusting knob ⑤ clockwisely and check that the indicator needle goes above 23% O_2. Then, adjust it to ◇ mark (21% O_2). If the reading would not exceed 23%, replace the oxygen sensor with a new one (Please refer to item 7 for sensor replacement). If the reading would stay at right end, the sensor is disconnected. Please check the sensor cable or connection of receptacle. Now the instrument is ready for use.

5-2 Measurement

(1) Put the remote sensor down manhole or tank slowly.

(2) Read out oxygen content after indicator needle become stable. Always use the instrument with carrying case during measurement in hazardous area.

Measurement of O_2 containing CO_2

The oxygen sensor OS-B6, used with this instrument, can be used continuously in the atmosphere containing maximum 15% CO_2.

6. BATTERY REPLACEMENT

If the reading would be below "BATT" zone in the meter with switch position at "BATT", battery repalcement is required.

To replace;
(1) Turn the switch knob ⑦ to "OFF" position.

(2) Detach the sensor cord from the indicator.

(3) Remove the indicator from the carrying case.

(4) Rotate the locking screw of the battery lid located rear side of the indicator to LOCK → OPEN position.

(5) Take off batteries by pulling a ribbon.

(6) Insert new batteries into the batter holder.

(7) Put the battery lid and turn the locking screw to OPEN → LOCK position to lock.

(8) Put the instrument into the carrying case, connect the sensor corde to the instrument.

Caution

(1) Battery repalcement and/or recharging should be done at non-hazardous area.

(2) Do not use old battery in combination with new batteries.

(3) Remove the battery from the instrument while not in use for a long tiem.

7. SENSOR REPLACEMENT

When the sensor would be defective or its sensitivity would be decreased.

To replace;

(1) Put the switch knob ⑦ to "OFF" position.

(2) Remove the protective cover ⑪ for remote sensor unit. To remove, push out the remote sensor unit strongly as shown in fig 2.

(3) Disassemble the sensor unit according to fig 3. Firstly, remove the cover ① by rotating it counterclockwise.

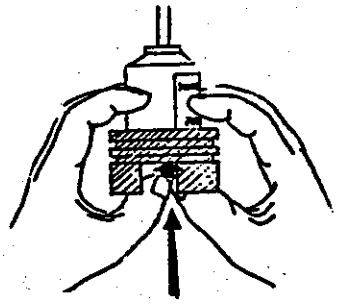
(4) Detach the packing ② and O-ring ④.

(5) Remove the sensor ⑤ from its holder ⑦.

(6) Detach the snap ⑥ which is fixed to the sensor. Be careful not to pull out the snap cord strongly.

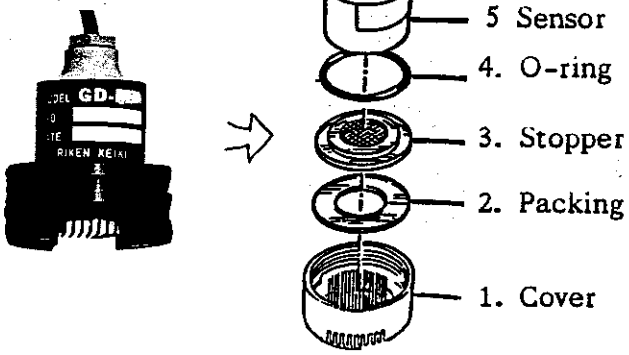
(7) Take off the new sensor from the can and peel off the seal on the O_2 sensor. Fix the snap with the sensor terminal.

(8) Assemble all parts as before.



Push the bottom of the sensor

Fig 2



8. MAINTENANCE

It is absolutely necessary to make maintenance check with proper interval to keep its accuracy.

8-1 Checking of the oxygen sensor

The life expectancy of this oxygen sensor is more than 1 year under normal operating conditions. However, if one of the following phenomenons would be appeared, please replace the sensor with new one.

* When the indicator needle does not become stable by breathe on to the sensor or during operation.
* When the movement of indicator needle is drastically slow.
* When the reading does not reach to 23% or it cannot be adjusted at 21% by turning the "SPAN" adjusing knob ⑤.

8-2 Checking of the sensor cord

If the reading would not raise from left end under normal operating condition, the disconnection of sensor cord or of the snap cord in the remote sensor unit is expected. Please check this point if such phenomenon would be appeared.

8-3 How to use the extension cable

It is available to extend the remote sensor cable by using optional extension cable either 5m or 10m. By using 10m extension cable, it is avaible to measure the oxygen content up to 15m depth.

8-4 Caution in opration

* Do not immerse the remote sensor unit into the water.
* Do not drop the instrument/sensor unit.
* Take care that the indicator needle activates under high electric waves. Avoid to use the instrument if there would be any sources of high electric waves.

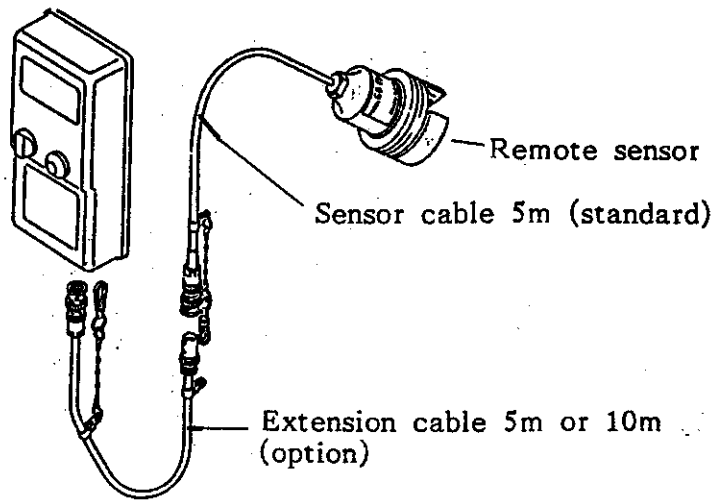


Fig 4
Connection of extension cable

9. ACCESSORIES

9-1 Standard accessories

(1) Carrying case ..... 1 pce.

(2) Carrying/wrist strap ..... 1 pce.

(3) Spare oxygen sensor OS-B6 ..... 1 pce.

(4) Dry cell (R6 or AA size) ..... 2 pcs.

(5) Instruction manual ..... 1 copy

(6) Test certificate ..... 1 sheet

9-2 Optional accessories

(1) Extension cable, 5m or 10m

(2) Carrying bag

(3) Ni-Cd battery and charger (AC100V or AC220V)