

# DISSOLVED OXYGEN TRANSMITTER

## DOT – 1



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## USER'S MANUAL

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TABLE OF CONTENTS

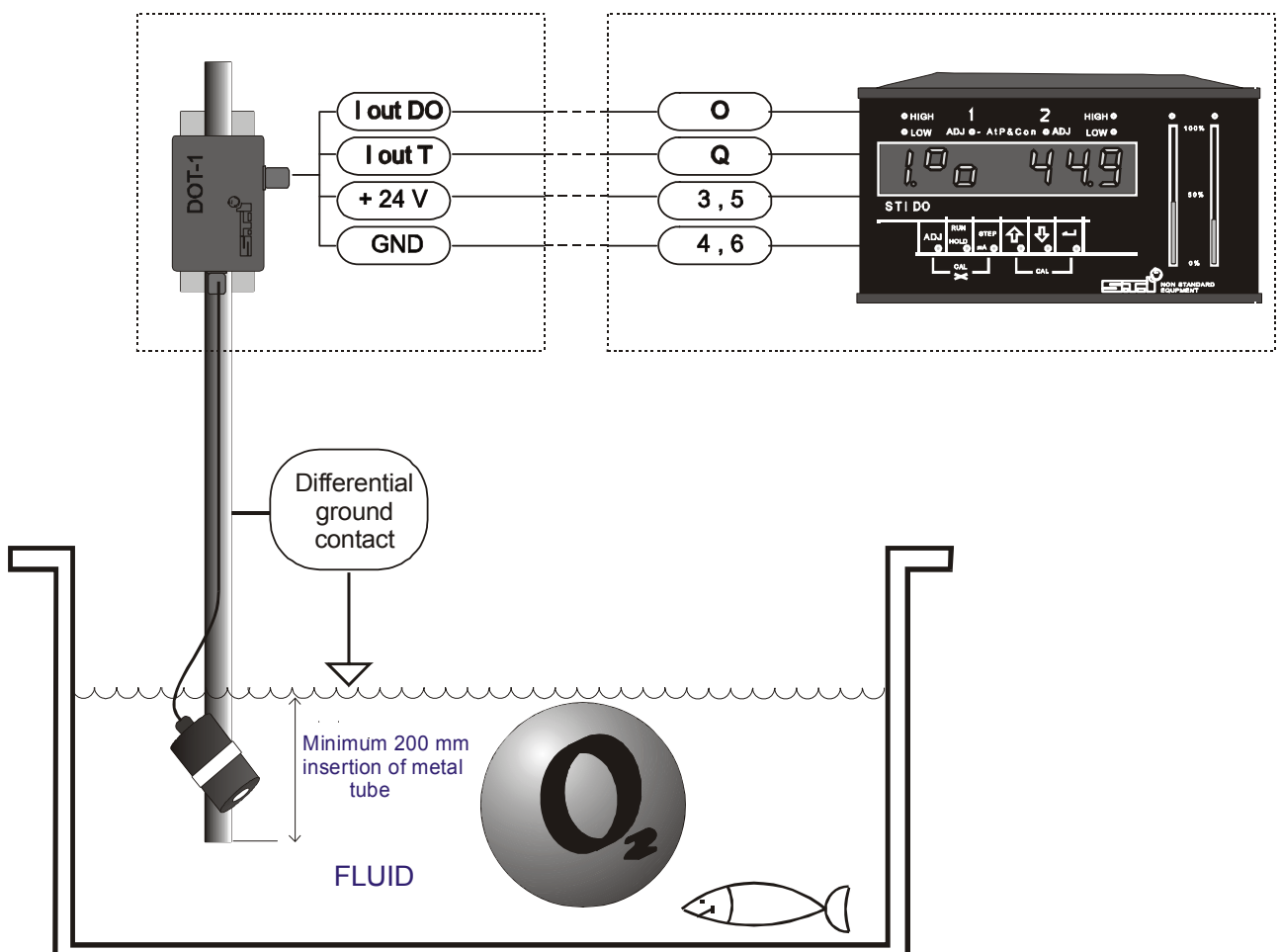
1. INTRODUCTION..... 3  
2. INSTALLATION AND SETUP OF THE TRANSMITTER..... 3  
3. HOW THE TRANSMITTER WORKS ..... 4  
4. TECHNICAL DATA ..... 5

## 1. INTRODUCTION

The transmitter DOT-1 is intended to measure dissolved oxygen "DO" in various industrial and laboratory applications with sensor DO 6000 Sensorex.

DOT-1 has a strictly differential ultra-high impedance input, which makes it stable and able to work under harsh conditions and provides high noise immunity. The transmitter provides two output current of 4-20 mA proportional to the amount of dissolved oxygen and temperature, which output signals are passed to the secondary device STI - DO .

## 2. INSTALLATION AND SETUP OF THE TRANSMITTER



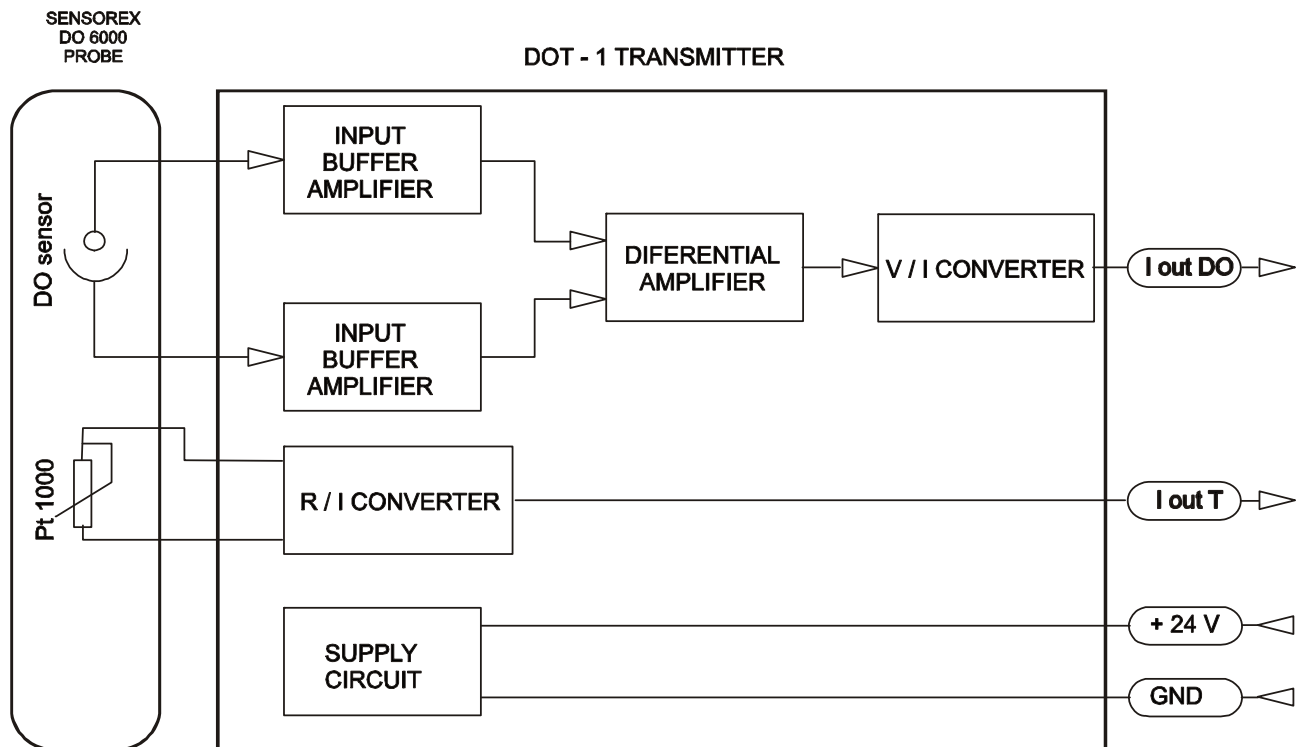
Since in industrial applications the sample almost always has a electrical contact with ground details or components for this measurement in these conditions, the ground of the differential input (the metal part of the probe) must have electrical contact with the measured fluid.

### 3. HOW THE TRANSMITTER WORKS

Generally the transmitter can be divided into the following blocks:

- Input buffer repeater;
- Differential amplifier;
- Converter voltage – current;
- Converter impedance – current;
- Power supply circuit.

The operational amplifiers of the input buffer repeater have a maximum input current not exceeding 1pA and serve to provide a high impedance input of the scheme so as to consume a minimum current from the DO electrode. **Thus, exhaustion of the electrode from the power converter is eliminated.**



#### 4. TECHNICAL DATA

4.1. Input range:	0 ÷ 100 mV;
4.2. Input type:	differential;
4.3. Input impedance:	$\geq 10^{15} \Omega$ ;
4.4. Output:	current signal 4 ÷ 20 mA;
4.5. Accuracy:	0.2 %;
4.6. Load:	> 1000 $\Omega$ ;
4.7. Power supply:	18 ÷ 35.0 V DC / 50mA;
4.8. Work temperature:	0 – 70 °C

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