

Model "Pro-Oxy" Transmitter



The transmitter "Pro-Oxy" is designed to convert signals coming from the FER oxygen probe zirconia cell and from the relative compensation for processes in high temperature model 4153, 4153ia and for processes in low temperature model 5175, 5185 and extractive. For the probes in low temperature, the same instrument supplies also to the regulation of the heater integrated in the probes. The transmitter works with all the typical thermocouple (K, S, R, B) .

The electronic is based on a microprocessor associated to a 16 bit A/D converter. The transmitter is equipped of one active analogical 4-20 or 0-10V (selectable) output linear and proportional to the percentage of oxygen in volume, in the intervals 0÷25, 0÷10%, 0-5% and 0÷1999 ppm. The four scales are selectable in field.

The zirconia cell voltage and relative compensation thermocouple have high impedance inputs in order to assure a precise and fast measure also in the case of electrodes partially consumed.

The high brightness display continuously visualizes the oxygen content. Using the panel keys is possible to display: the compensation thermocouple temperature, cell impedance (in order to estimate the electrodes state of usury of the probe) and, protected with two level passwords, the other functions and parameters.

ZERO and SPAN calibrations are carried out without screw potentiometer. Moreover on the converter are present an interface RS485 that supports the protocol ModBus® ASCII/RTU and optionally an RS232 that supports the protocol of printing communication for Alfa-panel 3®.

The “Pro-Oxy” has potential free contacts on high and low oxygen alarms, settable on all the field, one (with fail safe) on. Fault and one for service signaling. The instrument is enclosed in metallic container for the panel mounting with IP20 protection degree. The instrument can be supplied also in watertight enclosure for assembly in field, with slit for reading of the display. In the same field enclosure can be mounted the pneumatic part for reference air and calibration air and gas supplying to the zirconia probe.

Technical specifications

<ul style="list-style-type: none"> ▪ Inputs: 	<ul style="list-style-type: none"> ▪ Zirconia cell voltage ▪ Thermocouple of compensation (type B, S, R, K settable) temperature range 20÷1800 °C
<ul style="list-style-type: none"> ▪ Measuring range: 	<ul style="list-style-type: none"> ▪ Oxygen 0,0001÷26% in volume.
<ul style="list-style-type: none"> ▪ Precision 	<ul style="list-style-type: none"> ▪ ± 1% of the value of the theoretical value with a minimum of 0.1% of oxygen.
<ul style="list-style-type: none"> ▪ Analogical output: 	<ul style="list-style-type: none"> ▪ 4÷20 mA /500ohm or 0-10V/10mA linear on one of the following settable range : 1. 0-1999ppm 2. 0-5% 3. 0-10% 4. 0-25%
<ul style="list-style-type: none"> ▪ Digital interfaces: 	<ul style="list-style-type: none"> ▪ RS485 with ModBus® ASCII e RTU protocols
<ul style="list-style-type: none"> ▪ Alarms: 	<ul style="list-style-type: none"> ▪ N.O. potential free contact for HIGH and LOW oxygen settable on the whole range. 250V 1 A max ▪ Fault potential free contact (fail safe) for low probe temperature or probe or the instrument breakdown. 250V/1Amax. In fault conditions, analogical current output is forced to 2 mA and that one in tension to 0 V. ▪ Potential free contact for service signaling
<ul style="list-style-type: none"> ▪ Enclosure: 	<ul style="list-style-type: none"> ▪ For panel DIN43700 72x144x p275 ▪ For field IP55 in painted sheet, dimensions: 300x400x150 (option)
<ul style="list-style-type: none"> ▪ Protection degree: 	<ul style="list-style-type: none"> ▪ IP20 / IP55
<ul style="list-style-type: none"> ▪ Peso:. 	<ul style="list-style-type: none"> ▪ 1Kg circa for panel mount enclosure .
<ul style="list-style-type: none"> ▪ Power: 	<ul style="list-style-type: none"> ▪ 115/230 Volt 50/60 Hz - 230W max.
<ul style="list-style-type: none"> ▪ Working temperature 	<ul style="list-style-type: none"> ▪ -10 + 45°C non condensing
<ul style="list-style-type: none"> ▪ Storing temperature : 	<ul style="list-style-type: none"> ▪ -20 +70°C non condensing
<ul style="list-style-type: none"> ▪ 	<ul style="list-style-type: none"> ▪ In compliance with EN50081 e EN50082
<ul style="list-style-type: none"> ▪ Safety 	<ul style="list-style-type: none"> ▪ In compliance with EN61010-1

OPTIONS

The pneumatic equipment for the air reference and span gas supply to the probe can be inserted in the field housing. The air supply can be realized either with an electrical pump mounted in the housing either with a pressure reducer from the plant air net.

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