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TEMC

CE

Instruction Manual

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https://www.techgasasia.com/de-ox-zip-pro-digital-oxygen-analyzer

DE-OX® ZIP PRO

OXYGEN ANALYZER

Contents

Discharge of Liability

Before operating and installing please read this manual carefully. This manual is an integral part of the *DE-OX® ZIP PRO* oxygen analyzer. The use of this instrument implicates total acceptance of the present section.

All warranties relevant to this instrument are void if is not operated and maintained in accordance with this manual.

***TEMC®* disclaims every responsibility for the improper, wrong or incorrect use of this measurement instrument. Before use, it is necessary to receive a proper training on mixed gas diving and gas mixtures analysis for diving applications. It is dangerous to breathe mixed gas with any percentage of oxygen different from 21% and containing helium. Sport and mixed gas diving is a potentially hazardous and dangerous activity that may lead to death if practised incorrectly. Manipulating mixed gas with oxygen is dangerous and requires special training and oxygen dedicated equipment. The present instrument does not replace the necessary notional and practice training for these activities. The data displayed are a mathematical elaboration based on physical laws but they are not representative of the complexity of human physiology and of the different psycho-physical situation of use by customers.**

***TEMC®* is not liable for any damage or injury including death which may result from *DE-OX® ZIP PRO* utilisation.**
The operator of this instrument is responsible for any damage or injury resulting from improper use, unauthorized repair, improper maintenance, or damage by anyone other than *TEMC®*. Use always another instrument for data cross checking.

The N.O.A.A. *(National Oceanic and Atmospheric Administration)* oxygen partial pressure and exposure time limits table are available on world-wide literature.

***TEMC®*, whose policy is one of continuous quality improvement, reserves the right to modify the technical characteristics of the instrument and manual without prior notice.**

General Specifications

Thank you for buying ***DE-OX® ZIP PRO*** analyser. It represents the simplest and up-to-date measurement instrument for the analysis of oxygenate mixed gas for mixed gas diving. It has been especially designed and manufactured for the analysis of binary and ternary gas mixtures like Nitrox, Heliox and Trimix.

DE-OX® ZIP PRO comprises in just one integrate device the oxygen sensor, the electronic board and the battery. The electrochemical sensor gives a proportional electrical signal with the oxygen percentage in the mixed gas. On the unit's display, this signal is transformed in easy-to-read oxygen percentage information given in real time.

Main features:
- Display of oxygen percentage in the range 0.0 - 100.0%.
- Full digital measurement instrument

- o Simple battery and sensor replacement.
- o Very innovative cover design.
- o 0,1 % of volume resolution
- o Sensor and analyzer autosetting.
- o Electrochemical sensor.
- o Two custom audible and visible alarms.
- o Analog 4-20 mA output for external devices.
- o Numeric display of 50x35mm.
- o Battery low indicator.
- o mV sensor output reading
- o Standard 9 Volt transistor battery.
- o Simple battery and sensor replacement.
- o Direct connection to every kind of tank valve with ***TEMC***® rubber cup.
- o Soft protection and transport bag.
- o Dimensions: max 7,5x4,2 cm weight 250 grams.

Powering On and Warming Up

Press the On/Off key for more than one second, until the display shows “On”, After that the “Att” (WAIT) message will be displayed for about 4 seconds, then the sensor auto-calibration procedure is started. The auto-calibration lasts about 5 seconds; during this time the display will show the messages “CAL” and “Att” alternatively.
Be sure that during this time the sensor is exposed to the gas mix with Oxygen percentage as programmed in the O2c parameter (see Programming procedure). By default, for simplicity, the O2c value is set at 21% that corresponds to the percentage of Oxygen in free air in this case be sure that flows air on the sensor before switching on and during the warm up time.

Warning

During the warm up time if the oxygen percentage of the mixed gas flow is different from the value of calibration set in the instrument, a failed calibration is obtained and a consequent wrong analysis value will be read.

Reading Page

At the end of the warming up and calibration time, the display will show the blinking value in mV read from the oxygen sensor during calibrations: the instrument is now ready to read oxygen concentration into the gas mix.
Connect the sensors to the mixed gas flow with a flow of 0,5-2,0 litres/minute at ambient pressure (typically 1 bar) and temperature (typically 20°C). Now on the display the Oxygen content will be continuously displayed. While the instrument is in oxygen percentage display mode, keeping the <Calib key pressed for more than 1 seconds causes the device to display the Oxygen sensor output in mV. To read this value is periodically necessary in order to know if the sensor is correctly working or is exhausted.

Warning

During gas analysis the instrument and the sensors must be firmly kept and must not be shaken. The gas pipe used to provide gas mix to the sensor must allow free gas flowing.

Warning

The mixed gas flow, must be 0,5-2 litres/min at ambient pressure (typically 1 bar) and temperature (typically 20°C) or *DE-OX® ZIP PRO* will yield a wrong gas analysis. All the analysis concentration shown on the display will be wrong. Wrong Oxygen analysis may lead to death.

Programming Procedures

Keep the ^ Prog key pressed for more than two seconds, then release the key. On the display will appear “Pr” for two second in order to advice the start of the programming procedure. It is possible to program:

- AL1 Minimum alarm threshold expressed in % oxygen concentration
- AL2 Maximum alarm threshold expressed in % oxygen concentration
- FSc Value expressed in % oxygen concentration corresponding to the current output full scale value (20mA). 4mA always correspond to zero % Oxygen concentration.
- O2c Oxygen sensor calibration point
- Press ON/OFF key for going to different pages.

At the end of the of the programming procedure on the display will be displayed “End” and the instrument will display the oxygen content in the gas mix.

Threshold Alarms Setting

Press the ^ Prog key for more than two seconds, then release the key. On the display will appear “Pr” for two seconds in order to advice the start of the programming procedure. Then will appear “AL1” for changing the value of the minimum alarm threshold. The display will show “AL1” and the value of the alarm threshold alternatively. The blinking digit shows the current cursor position.
Press the ^ Prog key for increasing the value (from 0 to 9).
Press the <Calib key to move the cursor to the next digit.
Press the On/Off key for accepting the value and jumping to AL2 threshold programming page.
Act as for AL1 to modify the AL2 maximum threshold to the desired value. If you want to exclude the minimum alarm AL1 program it as 00.0. If you want to exclude the maximum alarm AL2 program it as 100.0.

Full Scale Value Setting

After the alarms concentration values setting, the instrument goes to “Fsc” page in order to change the analogic full scale value of the instrument (if equipped with this feature). This is the Oxygen concentration at 20 mA on the analogical output. 4 mA is the value at 0% of Oxygen concentration.
It is displayed alternatively “Fsc” and the value of the full scale. The blinking value is the actual changing value.
Press the ^ Prog key for increasing the value (from 0 to 9).
Press the <Calib key for going to the next value.
Press the On/Off key for accepting the value and jumping to the next program page.

Calibration Oxygen value

In this page it is possible to change the calibration point of the instrument. The display will show “O2c” and the value of the oxygen calibration value alternatively. The blinking digit shows the current cursor position.
Press the ^ Prog key for increasing the value (from 0 to 9).
Press the <Calib key to move the cursor to the next digit.
Press the On/Off key for accepting the value and ending the programming procedures. On the display will appear for two seconds “End”, then the instrument will show the Oxygen concentration reading.
In this page it is possible to define the oxygen percentage value that allows calibrating the oxygen sensor. This value depends on the oxygen mix available. Every measure will be made referring to this calibration value. Wrong calibration means wrong analysis.
Typically the calibration oxygen percentage value is 21,0%, because this value is the oxygen content in air. A calibration in air is simple and do not need other well known oxygen gas mix.

Warning

The oxygen calibration value will be the same value of calibration set when the instrument is switched on. During the warm up time if the oxygen percentage of the mixed gas flow is different from the value of calibration set in the instrument, a failed calibration is obtained and a consequent wrong analysis value will be read.

Threshold Alarms

Should the oxygen reading goes over the maximum or below the minimum threshold alarms (AL2 or AL1) the instrument goes to alarm mode and it activates the relays output (open collector max 100mA) and the internal buzzer. On the display will be shown the trespassed alarm and the actual measured value.
For stopping the buzzer song it is enough to press any key. In this event the instrument will remain in alarm mode until the oxygen reading will be out of the thresholds values.

Oxygen Sensor Calibration

In the reading page, it is possible to calibrate the oxygen sensors, that, due of time, temperature, gas flow, ambient pressure, could have variation of the measurement precision.
To do the calibration it is necessary to have a gas mix with well know and stated percentage of Oxygen.
The known percentage has to be set into the calibration Oxygen value in the programming procedure (see above).
For calibrating the instrument press the On/Off and <Calib keys at the same time for two seconds. On the display will alternately appair “Cal” and Att” for 5 seconds, then the instrument, after displaying for few seconds the calibration value in mV read during the calibration process, goes to the main reading page. It is possible to make multiple analysis without calibrating the instrument every time.

Warning

During the calibration procedure, pay attention not to cover the two holes near the hose connection in the rear of the instrument. The unit must be exposed to the known sample mixed gas (such as air or pure oxygen) and calibrated consequently. If you calibrate with mixed gas flow, the flow must range between 0,5 and 2 litres/min at atmospheric pressure and temperature, or *DE-OX® ZIP PRO* will yield a wrong gas analysis. The unit must be kept steady and must not be shaken. Avoid change in temperature between calibration gas and analysis gas.

Warning

Calibrating the sensors with wrong gas (with different values from the setting ones), will lead to incorrect and very dangerous analysis.

The closest the calibration value is to the mixed gas percentage to be analyzed, the best and the fastest is the ***DE-OX® ZIP PRO*** performance.

Warning

Whatever error in the calibration procedure will make mistake in the subsequent analysis.

Powering Off

For powering off the instrument, in the reading page press the On/Off key for more than 1 second. On the display will appear “Off” and the instrument will power off.

Factory Reset

In case it is necessary to reset the instrument to the factory settings, power on the instrument pressing at the same time for more than one second the On/Off and the <Calib keys. On the display will appear “res” and the instrument will go to the reading page.

Warning

In case of reset, the instrument will delete all the alarms settings, the full scale value, any new calibration value of the Oxygen sensor. Before using again the instrument, it may be necessary to program again the alarm values, the full scale value, calibration value of the Oxygen sensor if changed.

All the analysis concentration shown on the display would be wrong. Wrong Oxygen analysis may lead to death.

Note For Correct Oxygen Analysis

Before doing mixed gas analysis, connect the mixed gas hose (not supplied) to the adapter in the rear of the instrument and let the gas flow goes through the internal oxygen sensor. The sensor, when coming in contact with the mixed gas flow, gives an electrical signal. This signal is transmitted to the central unit and processed in order to give the oxygen percentage information on the display. The oxygen analysis is made by comparing the calibration value to the analysis value. The mixed gas flow that comes in contact with the sensor, must range from 0,5 to 2 litres/min (best 0,5 lit/min) at the same calibration pressure (typically ambient pressure 1 bar) and temperature (Typically 20°C) or a wrong gas analysis will occur (preferably use a flow regulator with meter connected to the mixed gas tank). Higher flow value or pressure or temperature variations, will cause wrong analysis and may damage the sensor. Whatever error in the calibration procedure will make mistake in the subsequent analysis. During the gas analysis, the unit must be kept steady and must not be shaken or submitted to vibrations. Allow gas freely flows into the pipes.

During gas analysis, the oxygen percentage of the mixed gas being analyzed is available on the display. It is possible to make more gas analysis without intermediary calibration.

It is possible to let ***DE-OX® ZIP PRO*** in ambient for ambient analysis Oxygen. In this case the reading will be slower (up to 5 minutes).

Warning

When battery is nearly exhausted BAT appears on the display. In this case oxygen analysis is not be reliable anymore.

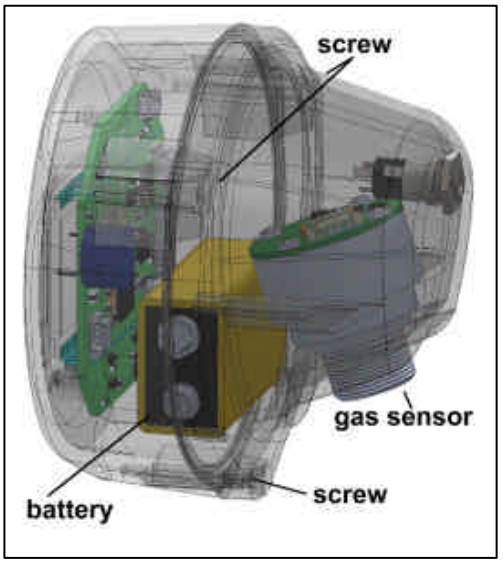
Warning

NOOA and medical studies recommend not to expose to an oxygen partial pressure higher than 1.6 (ata) because of serious personal injury including death. Refer to proper medical literature.

Replacement of the Battery and of the Oxygen Sensor

DE-OX® ZIP PRO requires one 9 Volt transistor alkaline battery. It must be replaced when “bat” appears on the display. To replace the battery:

- Switch off ***DE-OX® ZIP PRO***.
- Remove the three closing screws and carefully open the instrument.
- Remove the old battery and replace it with the new one.
- Do not throw anyway the old battery. Check the correct recycling procedure.
- Close the instrument screwing the three closing screws.
- Switch on the instrument with the On/Off key and check the battery level.



Warning

Don’t leave battery inside the instrument if you do not use it for a long time.

The Oxygen sensor must be replaced when unable to correctly read Oxygen concentration. The sensor life is about 12-24 months or more under normal operating conditions.

Warning

Replace the Oxygen sensor when the unit is unable to correctly analyze the gas. The use of an exhausted sensors may cause dangerous analysis and lead to death. Wrong Oxygen analysis may lead to death.

To replace the Oxygen sensor:

- Switch off ***DE-OX® ZIP PRO*** with the On/Off key.
- Remove the three closing screws and carefully open the instrument.
- Unplug the sensor plug connection.
- Remove the old sensor screwing un-clockwise and replace it with the new one.
- Connect again the plug to the sensor.
- Do not throw anyway the old sensor. Check the correct recycling procedure.
- Close the instrument, screwing the three closing screws.
- Switch on the instrument with the On/Off key and check the unit.

Warning

Do not try to disassemble the sensor. Sealed unit contains caustic liquid (KOH) which can cause severe burns to skin and eyes. In case of contact, flush 15 minutes with water. For contact to eyes also get medical attention.

Central Unit Specifications

DE-OX® ZIP PRO contains delicate electronic devices, hence it is absolutely necessary to:

- Avoid shock (greater than 2g) or vibrations
- Avoid exposure to environmental temperature higher than 30°C and lower than 5°C (41 F)
- Do not supply the instrument with voltage higher than 9 V DC. This will lead to damaging the battery and the internal electronic carts
- Press the keys delicately with your fingers and don't use any kind of tools
- Avoid exposure to spray liquids and to corrosive gas, don't submerge and do not expose to water splash.
- For cleaning, use a soft dry brush not soaked with any liquid.
- Don't try to remove screws from ***DE-OX® ZIP PRO*** or to open it. For any problem call ***TEMC®.***
- Dimensions: max 7,5x4,2 cm weight 250 grams ca.

Warning

Never wet or splash or submerge the instrument. The instrument or any of its part are waterproof . If one of these events occur the *DE-OX® ZIP PRO* will be irreparably damaged.

General Oxygen Sensor Specifications

Sensor type	Galvanic cell type
Electrical Connector:	3.5 mm mono jack, Do not expose sensor to a biased voltage or to a short circuit.
Measurement Range:	0 to 100 Vol.%
Nominal Sensor Life:	> 1, 000, 000 Vol.% h
Expected Operating Life:	> 2 years @ ambient air. Sensor must be replaced when unable to calibrate or to analyze mixed gas correctly.
Output Signal:	11±3 milliVolt mV @ dry ambient air at 23°C (74F) and 60% RH and at 1 ata.

Response Time t90 :	< 12 s
Drift:	< 1% volume O_2 / month @ air
Operating Temperature:	0 to 40°C
Pressure Range:	750 to 1250 hPa
Linearity Error:	= 2% @ 100% O_2 applied for 5 min
Zero Offset Voltage:	= 200 µV in 100% N2, applied for 5 min
Repeatability:	± 1 % volume O_2 @ 100% O_2, applied for 5 min
Influence of Humidity:	-0.03% rel. O_2 reading / % RH
Temperature Compensation:	NTC
Interferences:	according to DIN EN 12598 and ISO 7767
Storage Conditions	
Temperature Range:	recommended: 5 to 30°C maximum: - 20 to 50°C
Humidity:	up to 100% RH
Weight:	approximately 26 g
Material in contact with media:	PA, PPS, PTFE, stainless steel

In the interest of product improvement, ***TEMC***® reserves the right to alter design features and specifications without notice. Check ***TEMC***® for the latest oxygen sensor specifications.
Unless otherwise stated, all product specifications are quoted at standard temperature and pressure.
Note: The figures in this table are typical values and should not be used as a basis for cross calibration. Cross sensitivities may not be linear and should not be scaled. For some cross interferences break through will occur if gas is applied for a longer time period.

Warning

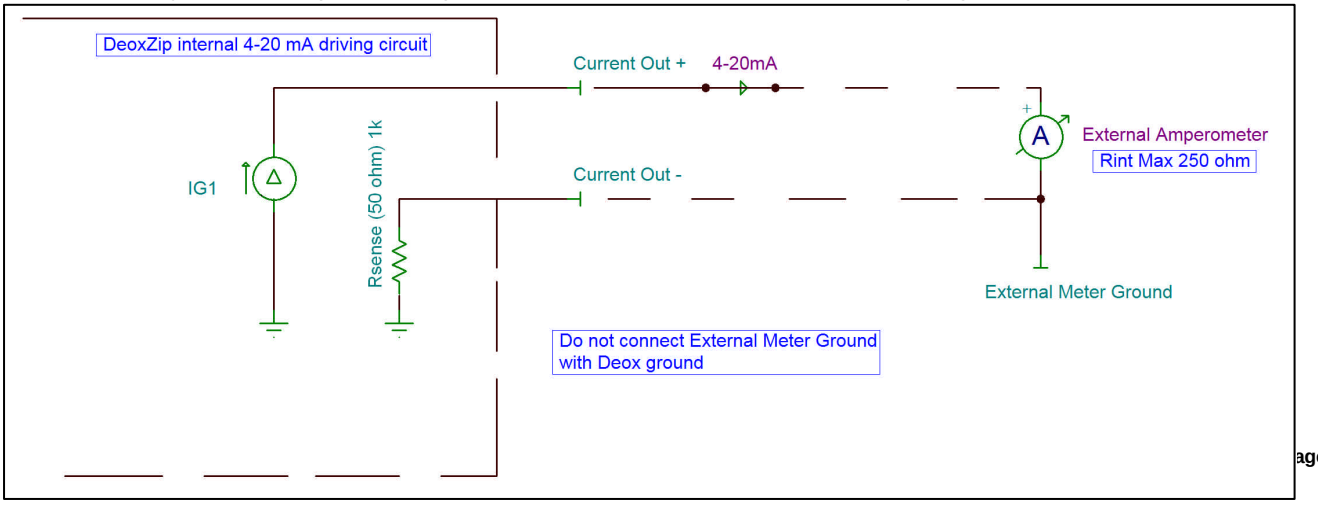
Do not try to disassemble the sensor. Sealed unit contains caustic liquid (KOH) which may cause severe burns to skin and eyes. In case of contact, flush 15 minutes with water. For contact to eyes also get medical attention. Do not wet in any case. If not properly cured the eyes may have permanent damages.

Warning

Never wet or splash or submerge the instrument. The instrument or any of its part are waterproof . If one of these events occur the *DE-OX*® *ZIP PRO* will be irreparably damaged.

4-20mA Connections (if available)

In the rear of the instrument (if equipped with this feature) there is a jack for the 4-20 mA output. Insert the plug into the jack for taking out the signal. For connections refer to the following diagram.

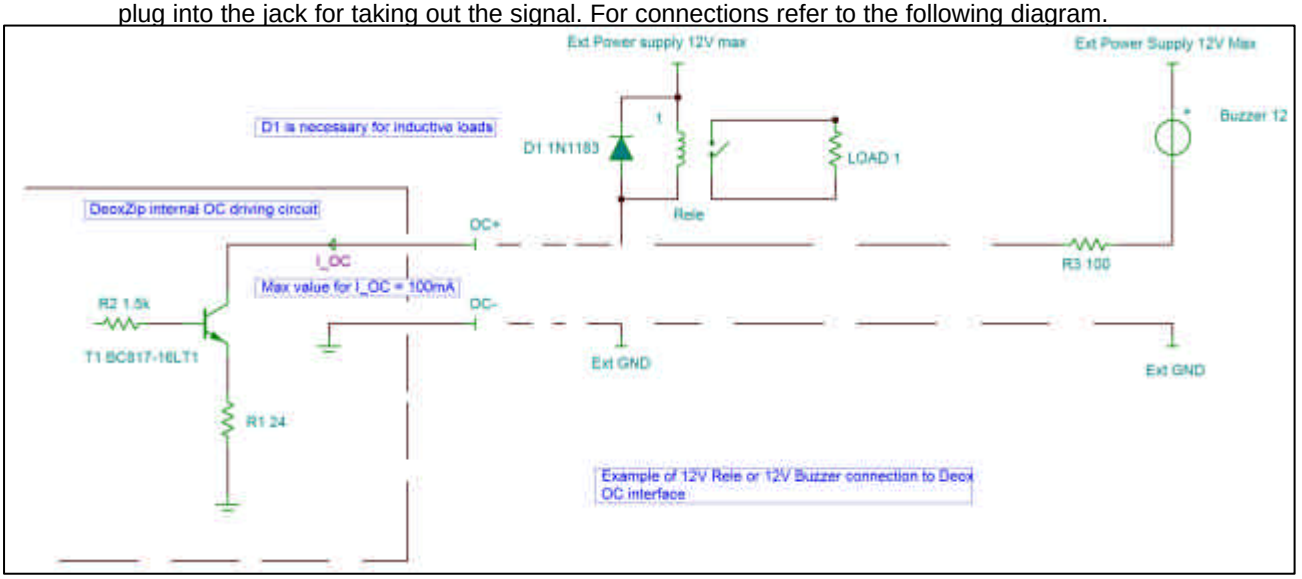


Warning

The plug should be connected or disconnected when the instrument is switched off, or the instrument will autonomously switch off.

Open Collector Connections (if available)

In the rear of the instrument (if equipped with this feature) there is a jack for the open collector output. Insert the plug into the jack for taking out the signal. For connections refer to the following diagram.



Warning

The plug should be connected or disconnected when the instrument is switched off, or the instrument will autonomously switch off.

Warranty

TEMC® warrants that its ***DE-OX***® ***ZIP PRO*** computer will be free from defects on material and workmanship for a period of twelve (12) months from the date of delivery, with the exception of sensor that is not manufactured in-house and that is warranted for six (6) months, provided that the warranty Registration Card is filled in and returned to ***TEMC***® at the time of delivery.
Warranty will be void by failure to install, use or maintain ***DE-OX***® ***ZIP PRO*** according to ***TEMC***® instructions. To avail oneself of the warranty, send the product with carriage prepaid to ***TEMC***®.

THESE WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED, IMPLIED, OR LEGAL. ***TEMC***® MAKES NO WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. Buyer's exclusive remedy shall be the replacement of any ***DE-OX***® ***ZIP PRO*** Oxygen analyzer or

sensor therefore that fails to comply with the above warranty. Under no circumstances will ***TEMC***® be liable for economic, special, incidental or consequential damages of any kind whatsoever.

This warranty does not cover any damage due to accidental events (ex. impact or falls) or natural events (ex. fires calamities , earthquakes, etc.).

Cartolina di Garanzia (Warranty Registration Card)

Compilare e inviare in busta chiusa entro 5 giorni dall'acquisto a:
(Fill with required data and send in a sealed envelope within 5 days from purchase to):

TEMC®
Via Donna Prassede 5 A
I-20142 MILANO ITALY
Phone +39 02 8463648 or +39 080 4490264
E-Mail: temc@iol.it Website: www.temc.it

Nome _____Cognome_____
(First name) *(Family name)*
Via_____n_____
(Address) *(#)*
Città_____CAP_____
(Town) *(ZIP)*
Nazione_____
(Country)
Telefono_____
(Telephon)
E-Mail_____
(E-Mail)

N.serie strumento_____
(Instrument Serial number)
Data Acquisto_____
(Purchase date)

Dichiaro di aver letto e compreso il manuale di istruzione e di accettare le condizioni di garanzia del presente strumento.
(I have read and well understood the instruction manual and I accept all warranty terms).
Data_____
(Date)
Firma_____
(Signature)

Disposal of Old Electrical and Electronic Equipment

In the EU when you buy a new equipment you may give back the old equivalent unit to the supplier free of charge for correct disposal.

ESPAÑOL

Disposición sobre los equipos eléctricos y electrónicos antiguos (Aplicable en la Unión Europea y en otros países europeos con sistemas de recogida selectiva)

Este símbolo, en un producto o en un paquete, indica que el producto no puede ser tratado como un residuo doméstico. Por el contrario, debe depositarse en un punto de recogida especializado en el reciclaje de equipos eléctricos y electrónicos. Al hacer esto, usted ayuda a prevenir las potenciales consecuencias negativas que pueda sufrir el entorno y la salud humana, que podrían producirse si este producto fuera desechado de forma incorrecta. El reciclaje de materiales ayuda a conservar los recursos naturales. Si desea más información acerca del reciclaje de este producto, contacte con la delegación de su ciudad, con el servicio de recogida de residuos o con la tienda en la que adquirió este producto.

ITALIANO

Smaltimento dei rifiuti elettrici ed elettronici (applicabile nell'Unione Europea e negli altri paesi europei con servizio di raccolta differenziata)

Il simbolo presente sul prodotto o sulla sua confezione indica che il prodotto non verrà trattato come rifiuto domestico. Sarà invece consegnato al centro di raccolta autorizzato per il riciclo dei rifiuti elettrici ed elettronici. Assicurandovi che il prodotto venga smaltito in modo adeguato, eviterete un potenziale impatto negativo sull'ambiente e la salute umana, che potrebbe essere causato da una gestione non conforme dello smaltimento del prodotto. Il riciclaggio dei materiali contribuirà alla conservazione delle risorse naturali. Per ricevere ulteriori informazioni più dettagliate Vi invitiamo a contattare l'ufficio preposto nella Vostra città, il servizio per lo smaltimento dei rifiuti domestici o il negozio in cui avete acquistato il prodotto.

NEDERLANDS

Afvalverwerking van elektrische en elektronische apparatuur (voor landen in de Europese Unie en andere Europese landen met systemen voor de gescheiden inzameling van afval)

Dit symbool op een product of de verpakking van een product geeft aan dat het product niet als gewoon huishoudelijk afval mag worden aangeboden. In plaats daarvan moet het product worden aangeboden bij een speciaal daarvoor ingericht verzamelstation, zodat het product geheel of gedeeltelijk kan worden hergebruikt. Als u het product op deze manier voor afvalverwerking aanbiedt, voorkomt u mogelijke schadelijke gevolgen voor het milieu en de volksgezondheid. Het recyclen van materialen draagt bij aan het behoud van natuurlijke bronnen. Neem voor meer informatie over het hergebruik van dit product contact op met de gemeente, de dienst afvalstoffenverwerking in uw woonplaats of de winkel waar u het product hebt gekocht.

POLSKI

Utylizacja zużytego sprzętu elektrycznego i elektronicznego (dotyczy Unii Europejskiej i innych krajów Europy z oddzielnymi systemami zbiórki)

Symbol ten umieszczony na produkcie lub jego opakowaniu stanowi, że produkt ten nie może być traktowany jako odpad gospodarstwa domowego. Powinien być przekazany do odpowiedniego punktu zbiórki zużytego sprzętu elektrycznego i elektronicznego. Poprzez zapewnienie odpowiedniego składowania, pomożesz zapobiec negatywnym skutkom grożącym środowisku i ludzkiemu zdrowiu w przypadku niewłaściwego składowania. Recykling pomaga zachować naturalne zasoby. W celu uzyskania dokładniejszych informacji na temat recyklingu, proszę skontaktować się z Twoim lokalnym urzędem miasta, z firmą zajmującą się wywozem odpadów w Twoim mieście lub sklepem gdzie zakupiłeś produkt.

ČESKY

Likvidace použitých elektrických a elektronických zařízení (platí v členských zemích EU a dalších evropských zemích se zavedeným systémem třídění odpadu)

Vyobrazený symol na produktu nebo na obalu znamená, že s produktem by neměło být nakládáno jako s domovním odpadem. Produkt odevzdejte na místo určené pro recyklaci elektrických a elektronických zařízení. Správnou likvidací produktu zabráníte negativním vlivům na lidské zdraví a životní prostředí. Recyklace materiálů přispívá k ochraně přírodních zdrojů. Více informací o recyklaci tohoto produktu Vám poskytne obecní úřad, organizace pro zpracování domovního odpadu nebo prodejní místo, kde jste produkt zakoupili.

MAGYAR

A használt elektromos és elektronikai berendezések elhelyezése (Alkalmazandó az Európai Unióban és más olyan európai országokban, ahol működik szelektív hulladékgyűjtés)

Ez a terméken vagy annak csomagolásán található jel azt jelzi, hogy a termék nem tekinthető háztartási hulladéknak. Az ilyen jelzéssel ellátott terméket egy elektromos és elektronikai berendezések újrahasznosítását szolgáló gyűjtőhelyre kell továbbítani. A termék megfelelő elhelyezésének biztosításával hozzájárul a környezetet és az emberi egészséget károsító, a feleslegessé vált termék nem megfelelő elhelyezéséből adódó negatív következmények elleni védekezéshez. Az anyagok újrafeldolgozásával megőrizhetők természeti erőforrásaink. A termék újrafeldolgozásáról részletesen informálódhat a települési önkormányzatnál, a helyi szemétfeldolgozónál vagy a boltban, ahol a terméket vásárolta.

NORSK

Avhending av gammelt elektrisk og elektronisk utstyr (gjelder innen EU og andre europeiske land med separat avfallssortering)

Dette symbolet på produktet eller emballasjen angir at produktet ikke skal behandles som husholdningsavfall. I stedet skal det leveres til aktuelt oppsamlingspunkt for resirkulering av elektrisk og elektronisk utstyr. Når dette produktet avhendes på riktig måte, bidrar du til å forhindre potensielle skader på miljø og helse, noe som kan forårsakes dersom dette produktet avhendes på feil måte. Resirkulering av disse materialene bidrar til å ta vare på naturressursene. Du kan få mer informasjon om resirkulering av dette produktet ved å kontakte dine lokale myndigheter, renovasjonstjenesten eller butikken der du kjøpte produktet.

DANSK

Bortskaffelse af gammelt elektrisk og elektronisk udstyr (gældende i EU og andre europæiske lande med særskilte indsamlingssystemer)

Dette symbol på produktet eller dets emballage angiver, at produktet ikke må håndteres som husholdningsaffald. Det skal indleveres på et dertil egnet indsamlingssted for genbrug af elektrisk og elektronisk udstyr. Hvis du sørger for, at produktet bortskaffes korrekt, er du med til at forhindre mulige negative følgevirkninger for miljøet og andre personers helbred, som ellers kunne være forårsaget af uhensigtsmæssig affaldshåndtering af dette produkt. Genbrug af materialer er med til at bevare naturlige ressourcer. Hvis du ønsker flere oplysninger om genbrug af produktet, kan du kontakte de relevante myndigheder i din hjemkommune eller rette henvendelse til den butik, hvor du har købt produktet.

SUOMI

Vanhojen sähkölaitteiden hävittäminen (Voimassa EU-maissa ja muissa Euroopan maissa, joissa on käytössä erityinen keräysjärjestelmä)

Tämä tuotteissamme esiintyvä symboli ilmaisee, että tätä tuotetta ei tule käsitellä kotitalousjätteenä. Se pitää sen sijaan toimittaa asianmukaiseen kierrätettävien sähkölaitteiden keräyspisteeseen. Varmistamalla tämän laitteen asianmukaisen hävittämisen autat ehkäisemään sellaisia mahdollisia ympäristölle ja terveydelle koituvia negatiivisia seuraamuksia, joita tämän tuotteen epäasianmukaisista hävittämistoimista muutoin saattaisi seurata. Materiaalien kierrätys edesauttaa luonnonvarojen säilymistä. Jos haluat yksityiskohtaisempaa tietoa tämän tuotteen kierrättämisestä, ota yhteyttä kunnalliseen jäteneuvontaan, taloyhtiösi jätehuollosta vastaavaan tahoon tai siihen myymälään, josta ostit tämän tuotteen.

SVENSKA

Bortskaffande av gamla elektriska och elektroniska apparater (gäller för EU samt andra europeiska länder med särskilda insamlingssystem)

Om produkten eller dess förpackning är försedd med denna symbol, ska den inte hanteras som hushållsavfall. Den ska i stället lämnas in till ett lämpligt insamlingsställe för återvinning av elektriska och elektroniska apparater. Genom att svara för att denna produkt omhändertas på rätt sätt, hjälper du till att förhindra den negativa påverkan på miljö och människors hälsa, som annars skulle kunna bli en följd av olämplig avfallshantering av denna produkt. Materialåtervinning bidrar till hushållningen av naturresurser. För att få närmare information om återvinning av denna produkt, kan du att kontakta din kommun, ditt renhållningsföretag, eller den butik där du köpte produkten.

PORTUGUÊS

Eliminação de equipamento eléctrico e electrónico usado (aplicável na União Europeia e noutros países europeus com sistemas de recolha separada)

Este símbolo, aposto no produto que adquiriu ou respectiva embalagem, indica que este produto não deve ser tratado como lixo doméstico quando chegar à altura da sua eliminação. Em vez disso, deve ser entregue num ecoponto que realize a reciclagem de equipamento eléctrico e electrónico. Ao assegurar que este produto é correctamente eliminado, estará a ajudar a prevenir potenciais consequências negativas para o ambiente e para a saúde, as quais poderiam advir de uma eliminação incorrecta do produto. A reciclagem de materiais ajuda a conservar os recursos naturais. Para informações mais detalhadas sobre a reciclagem deste produto, contacte os serviços municipalizados da sua área de residência, os serviços de recolha de resíduos domésticos ou a loja onde adquiriu este produto.

ENGLISH

Disposal of old Electrical & Electronic Equipment (Applicable throughout the European Union and other European countries with separate collection programs)

This symbol, found on your product or on its packaging, indicates that this product should not be treated as household waste when you wish to dispose of it. Instead, it should be handed over to an applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences to the environment and human health, which could otherwise be caused by inappropriate disposal of this product. The recycling of materials will help to conserve natural resources. For more detailed information about the recycling of this product, please contact your local city office, household waste disposal service or the retail store where you purchased this product.

DEUTSCH

Entsorgung von alten Elektro- und Elektronikgeräten (gültig in der Europäischen Union und anderen europäischen Ländern mit separatem Sammelsystem)

Dieses Symbol auf dem Produkt oder auf der Verpackung bedeutet, dass dieses Produkt nicht wie Hausmüll behandelt werden darf. Stattdessen soll dieses Produkt zu dem geeigneten Entsorgungspunkt zum Recyclen von Elektro- und Elektronikgeräten gebracht werden. Wird das Produkt korrekt entsorgt, helfen Sie mit, negativen Umwelteinflüssen und Gesundheitsschäden vorzubeugen, die durch unsachgemäße Entsorgung verursacht werden könnten. Das Recycling von Material wird unsere Naturressourcen erhalten. Für nähere Informationen über das Recyclen dieses Produktes kontaktieren Sie bitte Ihr lokales Bürgerbüro, Ihren Hausmüll Abholservice oder das Geschäft, in dem Sie dieses Produkt gekauft haben.

FRANCAIS

Disposition concernant les anciens équipements électriques et électroniques (applicable dans l'Union Européenne et dans d'autres pays européens avec des systèmes de collecte séparés)

Ce symbole sur le produit ou sur son emballage indique que ce produit ne sera pas traité comme perte ménagère. Au lieu de cela il sera remis au point de collecte dédié pour le recyclage de l'équipement électrique et électronique. En s'assurant que ce produit est trié et jeté correctement, vous contribuerez à empêcher de potentielles conséquences négatives pour l'environnement et la santé humaine, qui pourraient autrement être provoquées par la manutention de rebut inadéquate de ce produit. La réutilisation des matériaux aidera à conserver les ressources naturelles. Pour des informations plus détaillées sur la réutilisation de ce produit, vous pouvez contacter votre mairie, la société de collecte et tri des rebuts ménagers ou le magasin où vous avez acheté le produit.

DE-OX® ZIP PRO DIGITAL OXYGEN ANALYZER
Quick reference guide:

Warning

Please refer to the complete manual in electronic format before operating the instrument. This guide is just a quick support. Misuse of this instrument may lead to death.

For switching on the instrument, keep pressed the ON/OFF key for few seconds. The analyser will calibrate in the set value (default is 21.0%).
For analyzing connect the sensor to the gas source at 0,5-1 lit/min and 1 bar.
Pressing the CALIB key it is displayed the milli Volt sensor output.
Pressing the PROG key you will go to the programming pages (Pr): Alarm1, Alarm2, Full scale value, Oxygen calibration value.
Alarm 1 (AL1) sets the minimum alarm. At 000.0 the alarm is off.
Alarm 2 (AL2) sets the maximum alarm. At 100.0 the alarm is off.
Full scale value (FSC) sets the span of the instrument for the 4-20 mA output, if available.
Oxygen calibration value (O2c) sets the oxygen value during the calibration procedure.
For changing the value into any programming page press PROG^ key.
For going to the next value press CALIB< key.
For saving the value and going to the next program page press ON/OFF key. At the end of the programming pages is displayed End.
For calibrating in the oxygen set value, connect the sensor to the calibration gas and press at the same time for few seconds ON/OFF and the <CALIB keys.
For switching off the instrument keep pressed the ON/OFF key for few seconds.
For replacing the battery or the sensor, unscrew the three screws on the rear, open the instrument, replace the battery or sensor with a new one, close the instrument screwing the three screws.
For resetting the instrument to the original factory settings (rES), power on the instrument pressing at the same time for few seconds the ON/OFF and the <CALIB keys.

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DE-OX® ZIP PRO ANALIZZATORE DIGITALE DI OSSIGENO
Guida veloce di riferimento:

Attenzione

Fare sempre riferimento al manuale completo in formato elettronico prima di utilizzare lo strumento. Questa guida è un e veloce supporto all'uso ma non è completa. L'uso non corretto di questo strumento può provocare la morte.

Per accendere lo strumento tenere premuto il tasto ON/OFF per qualche secondo. Lo strumento si calibrerà alla percentuale impostata (valore di default 21.0%).
Per effettuare l'analisi connettere il sensore alla fonte di gas a 0,5-1 lit/min e 1 bar.
Premere il tasto CALIB per visualizzare l'uscita in milli volt del sensore.
Premere il tasto PROG per accedere alle pagine di programmazione (Pr): allarme1, allarme2, valore di fondo scala, valore di calibrazione dell'ossigeno.
Allarme1 (AL1) è l'allarme di minima. A 000.0 l'allarme è disattivato.

Allarme2 (AL2) è l'allarme di massima. A 100.0 l'allarme è disattivato.
Valore di fondo scala (FSC) è il valore cui è impostata, se disponibile, l'uscita 4-20 mA al fondo scala.
Valore di calibrazione del sensore di ossigeno (O2c) imposta il valore della calibrazione del sensore.
Per cambiare ogni valore all'interno delle pagine di programmazione premere il tasto PROG^.
Per andare al valore successivo premere il tasto CALIB<.
Per salvare i valori impostati e andare alla pagina di programmazione successiva premere il tasto ON/OFF. Al termine della procedura di programmazione sul display appare End.
Per calibrare nel valore di ossigeno impostato, collegare il sensore al gas di calibrazione premendo a lungo contemporaneamente i tasti ON/OFF e <CALIB.
Per spegnere lo strumento tenere premuto il tasto ON/OFF per qualche secondo.
Per sostituire la batteria o il sensore svitare le tre viti sul retro dello strumento, aprirlo, estrarre la vecchia batteria o il sensore e sostituire con uno nuovo, richiudere lo strumento, avvitare le tre viti.
Per azzerare lo strumento ai valori di fabbrica (rES), accendere lo strumento premendo a lungo contemporaneamente i tasti ON/OFF e <CALIB.

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