

SERVOFLEX

Micro i.s. (5100 i.s.)

HIGH PERFORMANCE OXYGEN, CARBON MONOXIDE AND CARBON DIOXIDE PORTABLE GAS ANALYSIS, DESIGNED FOR USE IN HAZARD RATED LOCATIONS INCLUDING ZONE 0/DIVISION 1



SERVOFLEX Micro i.s. (5100 i.s.)

Designed to meet the demands of the most dangerous environments, Micro i.s. delivers ultra-sensitive percentage measurements for oxygen, carbon monoxide and carbon dioxide. A tough, life-proof design and feature-rich performance ensures maximum operational flexibility.

Micro i.s. is Intrinsically Safe (i.s.) and is able to analyze both flammable and toxic samples. This intelligent design means that no purge is required prior to device use.

Micro i.s. also provides an intuitive user interface, the ability to store up to 200 measurements and up to 18 hours battery run time.

FLEXIBLE

- Intrinsically Safe (i.s.) design permits use in any hazard rated location including Zone 0/Division 1
- Gas analysis for O₂, CO or CO₂
- Pumped or non-pumped (AFCD) functions
- IP65 rating

EASY TO USE

- Intuitive, engineer-friendly interface and icons
- Stores up to 200 measurements for subsequent download
- Ergonomic design with carry strap

LOW COST OF OWNERSHIP

- Uses non-depleting sensor technologies that reduce ongoing maintenance costs
- Advanced Li-Ion rechargeable batteries as standard (up to 18 hour run time)

UNRIVALLED PERFORMANCE

- Uses industry-leading patented Paramagnetic and IR technologies and algorithms for ultra-sensitive and accurate measurements
- Manufactured by Servomex - over 60 years' experience innovating and pioneering gas analysis with thousands of units used in the field every year

BENCHMARK COMPLIANCE

- ATEX: Ex ia (Intrinsically Safe) IIC T4 Ga (-10°C ≤ Ta ≤ +50°C) (+14°F ≤ Ta ≤ +122°F)
- IEC: Ex ia (Intrinsically Safe) IIC T4 Ga (-10°C ≤ Ta ≤ +50°C) (+14°F ≤ Ta ≤ +122°F)
- FM: IS/1/ABCD/T4; -10°C ≤ Ta ≤ +50°C: IP65 (Division 1)
- FM: IS/1/0/AEx ia/IIC/T4; -10°C ≤ Ta ≤ +50°C: IP65 (Zone 0)
- CSA: IS/1/ABCD/T4; -10°C ≤ Ta ≤ +50°C: IP65 (Division 1)
- CSA: IS/1/0/Ex ia/IIC/T4; -10°C ≤ Ta ≤ +50°C: IP65 (Zone 0)

Learn more about the SERVOFLEX Micro i.s. (5100 i.s.)
VISIT SERVOMEX.COM



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PRODUCT OVERVIEW: Micro i.s. (5100 i.s.)

ENHANCED SAFETY FOR THE MOST DANGEROUS LOCATIONS

When you work in environments where potentially explosive atmospheres may be present, you need the most robust analytical solutions that enhance safety and provide efficient, engineer-friendly gas measurements.

In applications like catalytic regeneration, decoke cycle, combustion optimization and hazardous area process monitoring, i.s. certified solutions help reduce costs and improve efficiency. No matter what your application monitoring requirements are, you'll want a device that offers feature-rich performance, long battery runtime, low operational costs, simplified ongoing maintenance and ease of use. And we don't believe you should have to compromise.

A NO COMPROMISE SOLUTION

The Micro i.s. combines intuitive user interaction and an safety-enhanced i.s. design with ultra-sensitive, industry-leading O₂, CO and CO₂ monitoring capabilities, providing the ideal portable gas analysis solution for hazardous applications.

With flexible options including pumped and non-pumped formats and a range of features designed to further simplify sample testing, the Micro i.s. doesn't just meet requirements: it adapts perfectly to deliver the efficiency and usability your job demands.

WORKS AS HARD AS YOU DO

Optimized to deliver a tough and hard-working solution with maximized uptime, the Micro i.s. comes with high-grade, long-life Li-Ion rechargeable batteries as standard. An integrated digital LCD notepad also allows up to 200 measurements to be stored on the device, permitting you to work and test with maximized efficiency.

ALTERNATIVE PRODUCTS

The SERVOFLEX portable product range features a number of options designed to meet your application needs.

MiniMP (5200)



MiniMP combines high powered CO₂ and O₂ monitoring capabilities with ease of use and minimum maintenance requirements. (EN15267-3 MCERTs approved), providing a high performance solution suited to quality testing in safe areas.

MiniHD (5200)



Designed to withstand harsh conditions, this CO₂, CO and O₂ analysis unit has an IP65 rating, protective, durable overmoulding and leading edge detection capabilities for safe area locations.

KEY APPLICATIONS

- Hazardous area combustion optimization
- Natural gas processing
- Refineries – catalytic cracker regeneration
- HyCO applications
- Cracker decoke cycle on petrochemical plant
- Process monitoring
- Inerting applications



Zirconia



Gas Filter Correlation



Calorimetry



Thermal Conductivity



Paramagnetic



Infra-Red



Tuneable Diode Laser Spectroscopy



Flame Ionisation Detector

PRODUCT DATA: Micro i.s. (5100 i.s.)

| OPTIONS | DESCRIPTION | SPECIFICATION |
|------------------------|--|---|
| Rechargeable batteries | Advanced Lithium Ion (Li-Ion): Li-ion (O2) 5110 pumped | 16.5 hours run time (50°C/122°F) 14.8 hours run time (20°C/68°F) 10.5 hours run time (-5°C /23°F) 9.7 hours run time (-10°C /14°F) |
| Rechargeable batteries | Advanced Lithium Ion (Li-Ion): Li-ion (IR) 5110 pumped | 10.5 hours run time (50°C/122°F) 9.7 hours run time (20°C/68°F) 7.4 hours run time (-5°C /23°F) 7 hours run time (-10°C /14°F) |
| Rechargeable batteries | Advanced Lithium Ion (Li-Ion): Li-ion (O2) 5111 AFCD | 18 hours run time (50°C/122°F) 18 hours run time (20°C/68°F) |
| Rechargeable batteries | Advanced Lithium Ion (Li-Ion): Li-ion (IR) 5111 AFCD | 11.4 hours run time (50°C/122°F) 11.4 hours run time (20°C/68°F) 9 hours run time (-10°C /14°F) |
| Power supply* | Device charging is only permitted in a safe area | 100-240V charger supplied as standard (device is not designed to operate from main power source) |
| Alarms* | Flexible, user-configurable options | Concentration alarms indicated by a LED, icon display and audible sounder |

| ACCESSORIES | DESCRIPTION | SPECIFICATION |
|---------------------------|--|--|
| QuickConnect barb fitting | Simplify connection of gases with QuickConnect | Zero and span gas, 1/4" NPT |
| Sampling probe | Facilitates simplified sample drawing for continuous flow rate | 25cm with protective tip 180°C / 356°F max temp.) 100 cm untipped |
| Optional connector | Permits quick connection | 1/8" NPT thread fitting |
| 2 years spares pack | Two years hassle-free operation | 5x filters, 1 filter O-ring |
| Carry case | Robust and life-proof case for added protection | Black finish, ergonomic design with strap |
| Transport case | For use in safe areas only | Keeps your device safe in an impact resistant case |

| MONITORING PERFORMANCE | | | | |
|----------------------------|-------------------------------|-------------------------------|-------------------------------|--|
| Sensor | O ₂ | O ₂ | CO | CO ₂ |
| Technology | Paramagnetic | Paramagnetic | Infrared | Infrared |
| Variant | Standard (1 dp) | High Accuracy (2 dp) | - | - |
| Full scale and Min. output | 0-100% 0-10% (min.) | 0-100% 0-1% (min.) | 0-5% CO | 0-10%, 25%, 50%, 100% CO ₂ |
| Cell construction | 316 Stainless Steel | 316 Stainless Steel | 316 Stainless Steel | 316 Stainless Steel |
| Accuracy (intrinsic error) | ±0.1% O ₂ | ±0.05% O ₂ | ±2% FSR | ±2% FSR |
| Zero drift/week | ±0.4% O ₂ | ±0.2% O ₂ | ±4% FSR | ±4% FSR |
| T90 in secs. | <15 | <15 | <15 | <15 |
| Operating Temp. | -10 to +50°C (14 to 122°F) | -10 to +50°C (14 to 122°F) | -10 to +50°C (14 to 122°F) | -10 to +50°C (14 to 122°F) |

Please note: Samples in excess of 21% Oxygen should not be measured in hazardous area. We recommend a calibration of the analyser after each power up. Allow 1 hour warm up to meet performance specification. Please contact us for further information. *Standard feature

PRODUCT DATA: Micro i.s. (5100 i.s.)

SAMPLE FOR MEASUREMENTS

| | |
|--------------------------|--|
| Sample gas | Clean and dry at ambient temperature and free from particulates <0.6µm |
| Flow Control | AFCD maximizes measurement stability over the range – 1.5 – 6 ltr (0.05 – 0.2 ft ³) |
| Sample inlet connection | QuickConnect barb fitting – 5mm OD stub for 6.3mm (1/4") ID tube or adaptor to 1/4" NPT fitting option |
| Sample outlet connection | 5mm OD stub (sample and bypass) |
| Inlet pressure | Pumped: 80kPa absolute (16.0psia) minimum / 110kPa absolute (16.0psia) |

DEVICE SPECIFICATION

Size:

- 160mm (6.3") Width x 185mm (7.2") High x 140mm (7.2") Deep

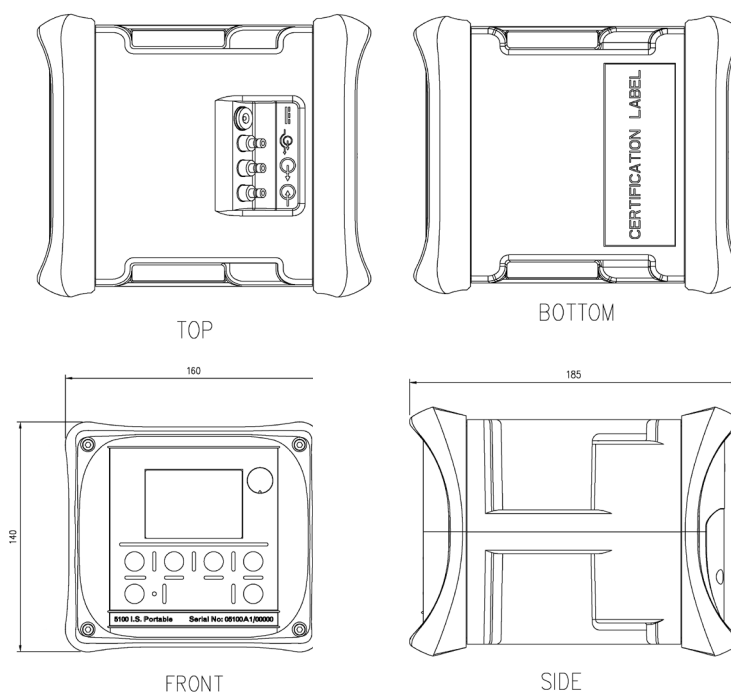
Weight:

- 1.8kg – 2.3kg (4lbs – 5.1lbs)

Certifications:

- ATEX: Ex ia (Intrinsically Safe)
IIC T4 Ga (-10°C≤Ta≤+50°C)
(+14°F≤Ta≤+122°F)
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- CSA: IS/1/ABCD/T4;
-10°C≤Ta≤+50°C: IP65 (Division 1)
- CSA: IS/1/0/Ex ia/IIC/T4;
-10°C≤Ta≤+50°C: IP65 (Zone 0)
- CE marked and in compliance with ATEX, EMC and WEE Directives scope UL approved and CE marked 100-240V / 43-70Hz AC power supply

DEVICE SCHEMATIC



These analyzers are not intended for any form of use on humans and are not medical devices as described in the Medical Devices Directive 93/42EEC.

Please note: This document was updated in August 2014. While every effort has been made to ensure accuracy, no responsibility can be accepted for errors or omissions. Data may change, as well as legislation, and you are strongly advised to obtain copies of the most recently issued regulations, standards and guidelines. This document is not intended to form the basis of a contract.

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