



# SWG 100 BIOGAS EX

BIOGAS ANALYZER



**PRICE LIST 2024**  
VALID 04/01 - 12/31/2024

**SWG 100 - BIO GAS EX ANALYZER****FOR BIOGAS****bio methane, landfill gas,  
coal seam gas sites**

- Ex** | II 3G Ex ec nC IIC T4/T3 Gc      with cabinet heater
- Ex** | II 3G Ex ec nC IIC T6 Gc      without cabinet heater



**Due to technical improvements or changes, picture of analyzer might be changed without notice !**

**The biogas analysis system SWG100 is the rugged, ready to use industrial gas analyzer for:**

- biogas AD (anaerobic digester) plant:
- cogeneration heat and power engine:
- biomethane plants (gas to grid)
- landfill gas monitoring and CHP
- municipal or industrial waste water tr
- coal seam gas sites

**Instrument main features are:**

- for use in hazardous area zone 2, with compliance to EN60079-0 , EN60079-15 and cabinet marking II 3G Ex nA nC IIC T3 Gc
- accurate measurements, incl. easy field replaceable gas sensors
- sampling from low suction -100mbar up to +50mbar (high pressure +250mbar using according option)
- no dilution of sample gas is required; sample gas can have max 14ml/min condensate!!!
- direct and continuous measurement, with pressure and temperature compensation
- multiple sampling point monitoring (up to 6 sites monitoring) with one analyzer
- flow restrictor orifice gas inlet for high pressure site, with sample gas cut-off in case of alarm
- industry compatible rugged design , easy and fastest service design
- ready to run delivery, minimum installation work

**SWG100BIO-Ex stationary biogas analyzer base with:**

- IP65 stainless steel (high grade 1.4571) cabinet 600x700x210 (WxHxD)
- electric sample gas cooler (Peltier type) and condensate draining pump
- regulated sample gas pump with sample gas flow monitoring and adjustment
- internal sample flow sensor with filtration of acid sample gas in front of flow sensor
- solenoid valve for auto-zero (with clean ambient air) and for automatic calibration, with stainless steel pressure regulator and permanently attached gas cylinder (user scope of supply)
- sample gas supply cut-off in case of system alarm, using fail-safe+solenoid valve (normally closed) including one sample gas sampling inlet port
- one sampling point measurement is included, stainless steel gas connectors 1/8"ID threads, with 6mm bulkhead stainless steel compression fittings (also replaceable by user)
- stainless steel adapter 1/8" - 1/8"O, with flow restrictor orifice, to be mounted at sample gas inlet from high pressure sampling
- human machine interface with color TFT display, keyboard and RS485 interface (Modbus RTU)
- remote power supply box, for automatic power supply cut-off of analyzer in case of hazard
- intuitive software guided menu, with diagnosis software and logbook
- 230Vac / 47-63Hz / 90W power supply, (115Vac power supply on request)
- **NOTE:** basic analyzer from above must be equipped with measuring modules and other items from below listing



<b>SWG 100 Biogas -EX analyzer Ready to run after power</b>	<b>QTY</b>	<b>Part No.</b>	<b>Unit price</b>	<b>Discount</b>	<b>Total Price</b>
SWG 100 Biogas -EX prepared for biogas / biomethane / landfill gas measurements using optional ndir #12142	1	951004EX	\$19,004.00	0%	\$19,004.00

<b>SWG 100 Biogas -EX analyzer Ready to run after power</b>	<b>QTY</b>	<b>Part No.</b>	<b>Unit price</b>	<b>Discount</b>	<b>Total Price</b>
SWG 100 Biogas -EX prepared for only clean biogas / biomethane / offgas measurements using optional ndir #12823	1	951030EX	\$19,427.00	0%	\$19,427.00

NOTE: sample gas with H2S higher than 50ppm is NOT recommended or consult with MRU



NDIR for biogas at AD plants, landfill site			QTY	Part No.	Unit price	Discount	Total Price
NDIR for biogas at AD plants, landfill site	CH4 / CO2	0 - 100% / 0 - 100%	1	12142	\$3,049.00	0%	\$3,049.00
NOTE: * (using standard CH4 measurement)							

NDIR for Biomethane / Off-gas measurement			QTY	Part No.	Unit price	Discount	Total Price
NDIR for Biomethane	0 - 100ppm ... 100% CO2	0 - 3,000ppm ... 100% CH4	1	12823	\$6,666.00	0%	\$6,666.00
NOTE: * special ndir bench, with auto ranging from low ppm range, up to high % range							

NDIR for Coal Seam Gas (with selective CH4 measurement)			QTY	Part No.	Unit price	Discount	Total Price
NDIR for Coal Seam Gas	CH4 / CO2	0 - 100% / 0 - 100%	1	12140	\$5,092.00	0%	\$5,092.00
NDIR for Coal Seam Gas	0 - 3,000 ... 30,000ppm CO2	0 - 3,000 ... 30,000ppm CH4	1	13450	\$7,397.00	0%	\$7,397.00
NOTE: special ndir bench, with auto ranging from low ppm range, up to high % range							
For special application with very low CO2 measurement below 1000ppm, please contact MRU							

SENSORS - electro chemical - and sensor OPTIONS			QTY	Part No.	Unit price	Discount	Total Price
Sensor OPTION - O2	Long Life	0 - 25 %	1	65419	\$933.00	0%	\$933.00
Sensor OPTION - H2S (*2)	H2 immune	0 - 50 ppm overload 250 ppm (*1)	1	12260	\$1,013.00	0%	\$1,013.00
Sensor OPTION - H2S (*4)		0 - 2,000 ppm overload 4,000 ppm (*1)	1	10479	\$1,086.00	0%	\$1,086.00
Sensor OPTION - H2S (*4)	H2 immune	0 - 5,000 ppm overload 10,000 ppm (*1)	1	13836	\$1,208.00	0%	\$1,208.00
Sensor OPTION - H2		0 - 1,000 ppm overload 2,000 ppm (*1)	1	12513	\$1,661.00	0%	\$1,661.00
Sensor OPTION - H2 (*5)		0 - 1 % overload 2% (*1)	1	12243	\$1,440.00	0%	\$1,440.00
Sensor OPTION - CO	H2 compensated	0 - 4,000 ppm overload 20,000 ppm (*1)	1	65968	\$1,065.00	0%	\$1,065.00
Cut-off sample gas and air purging system of H2Slow sensor			1	12269EX	\$631.00	0%	\$631.00
Dilution system 1:50 for continuous measurement of very high H2S sample gas			1	12117	\$2,730.00	0%	\$2,730.00

- (\*1) NOTE: is maximum overload range, suitable only for short measuring time
- (\*2) NOTE: as stand-alone or in combination with #12269EX plus #66051 or combined with #12117 dilution system
- (\*4) NOTE: the sensor can be used stand-alone or together with #12117 dilution system or with #12269EX
- (\*5) NOTE: use only in combination with H2 immune H2S sensor

OPTIONS			QTY	Part No.	Unit price	Discount	Total Price
Filtered condensate catch pot with automatic draining, (complete with fittings and canister)			1	11247A	\$829.00	0%	\$829.00
NOTE: only for mounting at wet & dirty sampling point with condensate higher than 14ml/min							
Multiple sample point switching and monitoring (time sharing) ADD one for each additional sampling point MAX 5			1	65177	\$575.00	0%	\$575.00
Needle valve for use at high pressure site, from 50mbar to 250mbar			1	12652	\$420.00	0%	\$420.00
Pressure regulator, aluminum body, from up to 10bar inlet pressure to 0,2bar outlet pressure			1	12819	\$339.00	0%	\$339.00
NOTE: required also if zero gas is synthetic air or nitrogen							
Automatic calibration by using of 2 gas cylinders			1	12552-2	\$649.00	0%	\$649.00
Automatic calibration by using of 3 gas cylinders			1	12552-3	\$1,146.00	0%	\$1,146.00
NOTE: to be used at biomethane dual range infrared measurement (% and ppm ndir bench)							
RS485 to USB converter			1	62543	\$294.00	0%	\$294.00
RS485 to Profi-Bus converter			1	66029	\$1,024.00	0%	\$1,024.00
RS485 to Ethernet converter			1	66030	\$711.00	0%	\$711.00
RS485 to Ethernet converter - EX Version			1	66030EX	\$2,265.00	0%	\$2,265.00
MRU4win - "full" version software, for real time data acquisition and handling on PC with Windows10			1	10539	\$287.00	0%	\$287.00
Module with 4channel 4-20mA analog output and 2 alarm relays (NO contacts "fail safe")			1	65179A	\$424.00	0%	\$424.00
Note: recommended is using one module for each sampling point							
I/O Module with 4channel 4-20mA analog output and 2 alarm relays (fail-safe NO contacts)			1	65430EX	\$569.00	0%	\$569.00
incl. external control via 4x contacts and 4channel analog input 4-20mA							
Cabinet heater, temperature regulated, for freeze protection at low ambient air temperatures from -10°C to +5°C							
Cabinet heater 115/230 Vac - 300 W - for use in hazardous area Zone 2			1	65425-01	\$2,126.00	0%	\$2,126.00
Aluminum Frame awning to protect SWG from harsh and direct weather elements such as sun, rain, hail, and snow.			1	59979	\$1,044.00	0%	\$1,044.00
H 12 in, W 48 in, D 42 in, Assembly Required, Hardware Included, Rust Resistant, Water Resistant							

SAMPLING LINES and CONNECTION OPTIONS	QTY	Part No.	Unit price	Discount	Total Price
Teflon (PTFE) gas sampling line - 0.16"/0.24" 3.28' (DN4/6mm, 1m length)	1	50624-01	\$10.60	0%	\$10.60

SAFETY OPTIONS	QTY	Part No.	Unit price	Discount	Total Price
Gas detector (%LEL CH4) to monitor air inside analyzer cabinet	1	65435	\$728.00	0%	\$728.00
Calibration adapter for test and calibrate the gas detector 65435	1	12397	\$32.90	0%	\$32.90
Flame arrester with 1/4" ID thread, to be mounted directly on biogas pipe at the sampling point or at sample gas inlet <i>(client scope)</i>	1	65427	\$798.00	0%	\$798.00

CONSUMABLES	QTY	Part No.	Unit price	Discount	Total Price
Main maintenance set (set of all filters and required spare parts) for base analyzer #951004Ex <i>Note: set of particulate filter, activated carbon filter, purafil filter, replaceable hose set for condensate pump</i>	1	65426EX	\$527.00	0%	\$527.00
Main maintenance set (set of all filters and required spare parts) for base analyzer #951030Ex <i>Note: set of particulate filter, activated carbon filter, purafil filter, replaceable hose set for condensate pump</i>	1	65426BM-Ex	\$527.00	0%	\$527.00



**Aluminum Frame awning**



## SALES TERMS & CONDITIONS

### A. Acceptance/Agreement

All orders are subject to acceptance by MRU Instruments, Inc. Additional or different terms or any attempt by the Buyer to vary, in any degree, any of the terms of this sales agreement form shall be deemed material and are objected to or rejected, but this sales agreement form shall not operate as a rejection of the Buyer's offer unless it contains variances in the terms of the description, quantity, price or delivery schedule of the goods.

### B. Payment Terms

MRU Instruments payment terms are net 30 days unless special written arrangements have been made. MRU Instruments, Inc. may, at any time, suspend performance of any order or require payment in cash, security or other adequate assurance satisfactory to MRU Instruments, Inc. when, in MRU Instruments' opinion, the financial condition of Buyer or other grounds for insecurity warrant such action. MRU Instruments, Inc. reserves the right to assess late charges on accounts due past 30 days at the rate of 18% per annum. All goods are shipped Ex Works and are the property of the Buyer upon shipment.

### C. Cancellation/Termination

Upon written notice of cancellation or termination for the Buyer's convenience of standard catalog items, for standard product only, the Buyer is subject to a minimum 15% charge on the remaining balance and a charge reflecting a reversion to the quantity pricing of items actually delivered. In the event that the goods are special, non-standard or custom the Buyer may terminate this order in whole or in part for its convenience upon written notice to MRU Instruments, Inc. in which event MRU Instruments, Inc. shall be entitled to termination charges consisting of a percentage of the order price reflecting the percentage of the work performed prior to termination plus actual direct costs resulting from termination.

### D. Remedies in the Event of Cancellation or Default

In the event the Buyer cancels this order, or becomes overdue on its account payable to MRU Instruments, Inc. by failing to pay for this order when due in accordance with the terms hereof, in addition to the charges assessed to the Buyer pursuant to Paragraphs B and C of this Agreement, the buyer shall be required to pay all costs of collection, including, whether suit be brought or not, attorney fees, court costs, collection expenses and other expenses which MRU Instruments, Inc. may incur or pay in the prosecution of defense of its rights hereunder whether in judicial proceedings at law or in equity, including bankruptcy court and appellate proceedings, or whether out of court. In addition, MRU Instruments, Inc. shall retain the right to terminate this Agreement and Buyer's right to use the Software (as term is defined below) upon any material breach of this Agreement by Buyer. Buyer agrees to return to MRU Instruments, Inc. or to destroy all copies of the Software upon termination of this Agreement.

### E. Delivery

The promised delivery date is the best estimate possible, based upon current and anticipated manufacturing capabilities, of when the product will be shipped. MRU Instruments, Inc. assumes no liability for loss, damages or consequential damages due to delay.

In any event, MRU Instruments, Inc. shall not be in default for any failure to deliver Products to Buyer by the promised delivery date. In the event that MRU Instruments, Inc. so defaults, Buyer's sole remedy for such default shall be cancellation of the applicable order. MRU Instruments, Inc. shall have no other liability to Buyer as a consequence of any such default.

### F. Force Majeure

Fulfillment of this order is contingent upon the availability of materials. MRU Instruments, Inc. shall not be liable for any delay in delivery or for non-delivery in whole or in part caused by the occurrence of any contingency beyond the control of either MRU Instruments, Inc. or suppliers to MRU Instruments, Inc. including but not limited to delay in transportation, labor disruption, earthquake, fire, acts of God, or any other act outside of MRU Instruments, Inc.'s reasonable control.

### G. Warranty

MRU Instruments, Inc. expressly warrants that the materials covered by this sale will conform to the specifications, drawings or other descriptions specified by the Buyer or if none are so specified, to MRU Instruments' standard specifications for such material. The materials will be new and unless specified to the contrary on the order acknowledgment or invoice, will be free of all liens and encumbrances.

MRU Instruments, Inc. is in compliance in all material respects with the terms and conditions of all material permits, licenses and authorizations which are required under federal, state and local laws applicable to MRU Instruments, Inc. and relating to pollution or protection of the environment, except where the failure to obtain such authorizations could not be reasonably expected to have a material adverse effect on the business of MRU Instruments, Inc. or its customers. MRU Instruments, Inc. is not aware of any conditions, circumstances, activities, practices, incidents, or actions which could reasonably be expected to form the basis of any claim, action, suit, proceeding, hearing, or investigation of, by, against or relating to MRU Instruments, Inc., based on or related to the manufacture, processing, distribution, use, treatment, storage, disposal, transport, or handling, or the emission, discharge, release or threatened release into the environment, of any pollutant, contaminant, or hazardous or toxic substance, material or waste, or relating to the safety of employees, workers or other persons, other than such conditions, circumstances, activities, practices, incidents, or actions that are beyond reasonable knowledge of and control of MRU Instruments, Inc..

THIS WARRANTY IS THE ONLY WARRANTY MADE BY MRU INSTRUMENTS, INC. WITH RESPECT TO THE GOODS SOLD UNDER THIS AGREEMENT. THERE IS NO OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. MRU INSTRUMENTS, INC. FURTHER DISCLAIMS ANY WARRANTY, EXPRESS OR IMPLIED, LIABILITY OR SUPPORT OBLIGATION FOR ALTERED, DAMAGED OR MODIFIED SOFTWARE OR ANY PORTION OF THE SOFTWARE INCORPORATED WITH OR INTO THIRD-PARTY PRODUCTS OR PRODUCT PROBLEMS CAUSED BY CUSTOMER'S NEGLIGENCE, ABUSE OR MISAPPLICATION OR USE OF THE PRODUCT OTHER THAN AS SPECIFIED BY MRU INSTRUMENTS, INC..

MRU Instruments, Inc. shall not be liable for any incidental, special, indirect or consequential damages, losses or expenses directly or indirectly arising from the sale whether in contract, tort, or any other legal theory. In any event, MRU Instruments' liability hereunder is expressly limited to the repair or replacement (at MRU Instruments' option) of non-conforming goods or, at MRU Instruments' election, to the repayment or crediting to Buyer the purchase price of such goods.

### H. Claims/Notice of Defects

Failure of the Buyer to object in writing to any merchandise shipped to it by MRU Instruments, Inc. within 30 days after receipt thereof will constitute complete acceptance by Buyer of such merchandise. Rejected material must be returned to MRU Instruments, Inc. within 45 days after receipt and with prior authorization from MRU Instruments, Inc. MRU Instruments, Inc. may (at its option) recondition or replace the rejected material to meet Buyer's specifications within a reasonable time period after receipt. Claims for shipping damage must be made with the carrier.

All products must be returned in the same packing conditions in which it left MRU Instruments, Inc.' manufacturing location(s) (anti-static rails and boxes, adequately protected, etc.). Buyer must pay return shipping.

### I. Confidential Information

All drawings, diagrams, specifications and other materials furnished by MRU Instruments, Inc. and identified as confidential, or information which the Buyer knows or has reason to know is confidential, proprietary or trade secret information of MRU Instruments, Inc., relating to the use and service of articles furnished hereunder and the information therein, are proprietary to MRU Instruments, Inc.. Buyer may not reproduce or distribute such materials except to buyer's employees who may use the articles as part of their duties.

Customer agrees that it will take all reasonable measures to maintain the confidentiality of all confidential information in its possession or control, which will in no event be less than the measures it uses to maintain the confidentiality of its own information of equal importance. Accordingly, MRU Instruments, Inc. will be entitled to preliminary and permanent injunctive relief and other equitable relief for any breach of this Section I.

Buyer further acknowledges and agrees that the sale of products to Buyer does not convey any license express or implied, and Buyer shall not, manufacture, modify, reverse engineer, duplicate, otherwise copy or reproduce any of the products or any part thereof. MRU Instruments, Inc. will treat drawings, specifications or data furnished by Buyer as confidential, when identified as such, in connection with this purchase.

### J. General Provisions

Any cause of action arising from this agreement, or breach of it, must be commenced within one year after the cause of action occurs. MRU Instruments, Inc. reserves the right to correct any stenographical or clerical errors in any of the writings issued by it. The terms and conditions of sale and any description on the face of MRU Instruments' writings constitute a complete and exclusive statement of the terms and conditions of the sale of the goods by MRU Instruments, Inc. to Buyer unless amended in writing between Buyer and MRU Instruments, Inc. Buyer may not assign any rights to, or delegate any performance owed under the agreement without the written consent of MRU Instruments, Inc.

This Agreement will be governed by and construed in accordance with the laws of the State of Texas. Any suit hereunder will be brought solely in the federal or state courts of Harris County, Texas, and Buyer hereby submits to the personal jurisdiction thereof. This agreement, as amended by any posted notices, constitutes the entire terms and conditions on products offered for sale by MRU Instruments, Inc.

MRU Instruments, Inc. may amend this Agreement at any time by posting the amended terms on its web site. Except as stated below, all amended terms shall automatically be effective after they are posted on the web site. This Agreement may not be otherwise amended except in a writing signed by Buyer and MRU Instruments, Inc.

This agreement was last revised on January 30, 2007.