



SWG 100 SYNGAS

SYNGAS ANALYZER



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

STATIONARY SYNGAS ANALYZER**FOR**

- biomass and coal gasification plants
- cogeneration heat and power engines (CHP) using syngas as fuel
- small scale syngas analysis for research institutes and laboratories



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

Instrument main features are:

- for use in industrial safe area, or in laboratories as well, with built-in increased level of safety
- IP54 stainless steel cabinet, also for use in outdoor condition with sun and rain cover
- forced ventilation through the cabinet, with air flow monitoring and alarm
- mandatory use of the remote power supply box, with automatic shut-down in case of system alarm
- accurate measurements, using ndir infrared and thermal conductivity technology
- sampling from low suction -100mbar up to +50mbar (high pressure +250mbar using according option)
- no dilution of sample gas is required; 1l/min wet 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

BASIC ANALYZER CONFIGURATION

- IP54 stainless steel AISI-304 cabinet 600x700x210 (WxHxD), with fan ventilation
- sample gas supply cut-off in case of system alarm, using "fail-safe" solenoid valve (normally closed),
- electric sample gas cooler (Peltier type) and condensate draining pump
- flow regulated sample gas pump with sample gas flow monitoring and adjustment
- internal sample gas 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)
- stainless-steel sample gas inlet port, with flow restrictor orifice, for low or high gas pressure from -100mbar up to +200mbar **(must be selected from the options list)**
- remote power supply box, for automatic power supply cut-off of analyzer in case of hazard
- gas detector (%LEL CH4) to monitor continuously air inside analyzer cabinet
- human machine interface with color TFT display, keyboard and RS485 interface (Modbus RTU)
- intuitive software guided menu, with diagnosis software and real time data transfer
- universal 110...230Vac / 47...63Hz / 120W power supply
- clean indoor mounting place, preferably air conditioned, cabinet has monitored fan ventilation
- outdoor mounting in clean, +5°C to 45°C ambient, with mandatory sun & rain protection (user scope)

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SWG100-Syngas stationary analyzer Ready to run after power up WITH	QTY	Part No.	Unit price	Discount	Total Price
SWG 100 - Syngas analyzer - IP54 stainless steel AISI-304 cabinet 600x700x210 (WxHxD), with fan ventilation <ul style="list-style-type: none"> sample gas supply cut-off in case of system alarm, using "fail-safe" solenoid valve (normally closed), electric sample gas cooler (Peltier type) and condensate draining pump flow regulated sample gas pump with sample gas flow monitoring and adjustment internal sample gas 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) stainless-steel sample gas inlet port, with flow restrictor orifice, for low or high gas pressure from -100mbar up to +200mbar (must be selected from the options list) remote power supply box, for automatic power supply cut-off of analyzer in case of hazard gas detector (%LEL CH4) to monitor continuously air inside analyzer cabinet human machine interface with color TFT display, keyboard and RS485 interface (Modbus RTU) intuitive software guided menu, with diagnosis software and real time data transfer universal 110...230Vac / 47...63Hz / 120W power supply clean indoor mounting place, preferably air conditioned, cabinet has monitored fan ventilation outdoor mounting in clean, +5°C to 45°C ambient, with mandatory sun & rain protection (user scope) 	1	951060	\$22,709.00	0%	\$22,709.00



NOTE: basic analyzer from above must be equipped with measuring modules and other items from below listing

NDIR bench for CO - CO2 - CH4 analysis, (using selective CH4 measurement)	QTY	Part No.	Unit price	Discount	Total Price
NDIR bench CO / CO2 / CH4 0 ... 10% ... 100% / 0 ... 10% ... 100% / 0 ... 10% ... 100%	1	11739-A	\$5,791.00	0%	\$5,791.00

NDIR bench for CO - CO2 - CH4 analysis, (using selective CH4 measurement)	QTY	Part No.	Unit price	Discount	Total Price
NDIR bench CO / CO2 / CH4 0 - 3,000...30,000ppm CO / 0 - 40%CO2 / 0 - 3,000...30,000ppm CH4	1	12674-A	\$6,397.00	0%	\$6,397.00

O2 SENSORS	QTY	Part No.	Unit price	Discount	Total Price
Sensor OPTION - O2 long-life electrochemical cell 0 - 25 % SELECT ONE	1	65419	\$933.00	0%	\$933.00
Sensor OPTION - O2 using paramagnetical cell 0 - 25 % SELECT ONE	1	11744-A	\$10,301.00	0%	\$10,301.00

H2 SENSOR TCD	QTY	Part No.	Unit price	Discount	Total Price
Sensor OPTION - H2 thermal conductivity detector 0 - 100 %	1	11745-A	\$7,061.00	0%	\$7,061.00
with minimum range of 10% and special cross-sensitivity correction software					
only H2S sensor #65933 (H2 immune) can be used in presence of high H2 sample gas					

H2 SENSOR Electro-Chemical Sensor	QTY	Part No.	Unit price	Discount	Total Price
Sensor OPTION - H2 0 - 1.0 % overload 2.0% (*1)	1	12243-A	\$1,440.00	0%	\$1,440.00

H2S SENSOR Electro-Chemical Sensor	QTY	Part No.	Unit price	Discount	Total Price
Sensor OPTION - H2S H2 immune (*2) 0 - 5,000 ppm overload 10,000 ppm (*1)	1	13836	\$1,208.00	0%	\$1,208.00

NOTE: (*1) is maximum overload range, suitable only for short measuring time

NOTE: (*2) including H2Slow sensor protection with cut-off solenoid valve and air purging pump

OPTIONS & ACCESSORIES	QTY	Part No.	Unit price	Discount	Total Price
Sample gas inlet port for low pressure -100...+50mbar, with flow restrictor orifice	1	13477L	\$606.00	0%	\$606.00
Sample gas inlet port for high pressure +50...+200mbar, with flow restrictor orifice	1	13477H	\$606.00	0%	\$606.00
Automatic calibration for using 2 gas cylinders	1	12552-2-B	\$606.00	0%	\$606.00
Automatic calibration for using 3 gas cylinders	1	12552-3-B	\$1,237.00	0%	\$1,237.00
Automatic calibration for using 4 gas cylinders	1	12552-4-B	\$1,860.00	0%	\$1,860.00
Teflon (PTFE) gas sampling line - 0.16"/0.24" 3.28' (DN4/6mm, 1m length)	1	50624-01	\$10.60	0%	\$10.60
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					

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OPTIONS required for dirty syngas (with tar and heavy hydrocarbons)		QTY	Part No.	Unit price	Discount	Total Price
Sample gas washing device, for cleaning sample gas of tar, using diesel filled glass bottles, with integrated temperature regulator for the heated gas sampling line, all mounted inside cabinet 400 x 500x300 mm (WxHxD), to be installed outside the analyzer with manual condensate draining using hand-valve, to be mounted outside analyzer NOTE: only for mounting at dirty with tar / heavy hydrocarbons sampling point		1	12512-A	\$4,246.00	0%	\$4,246.00
Gas sampling probe model HD-GW, for syngas with tar, heavy hydrocarbons, acid mist with quartz wool filter, with DN65PN6 stainless steel flange, +190°C heated by probe's thermostat with 230Vac power supply, NOTE: for pressurized sampling point, the use of DN65 shut-off valve (user scope) between mounting flange and probe is required for enabling service of probe's filter		1	61558F	\$3,479.00	0%	\$3,479.00
Gas sampling line heated at 190°C, for probe HD-GW, with exchangeable Teflon hose 4/6mm, with integrated power supply cable for probe, 230Vac, 100W / meter power demand, xxm length (3m up to 25m length), price per each additional meter \$/meter length		1	12601-A-03	\$2,232.00	0%	\$2,232.00
		1	xx	\$281.00	0%	\$281.00
Gas sampling tube for insertion in the stack and mounting on probe HD or HD-GW		QTY	Part No.	Unit price	Discount	Total Price
Probe tube Ø 0.87" x 39.35" Stainless steel 1202 °F		1	59521	\$420.00	0%	\$420.00
Probe tube Ø 0.87" x 39.35" Inconel steel 2012 °F		1	59557	\$476.00	0%	\$476.00
Probe tube Ø 1.06" x 39.35" Kanthal steel 2372 °F		1	56987	\$2,753.00	0%	\$2,753.00
SOFTWARE / COMMUNICATION		QTY	Part No.	Unit price	Discount	Total Price
RS485 to Profi-Net converter		1	14122	\$2,281.00	0%	\$2,281.00
RS485 to Profi-Bus converter		1	66029-A	\$1,024.00	0%	\$1,024.00
RS485 to Ethernet converter		1	66030-A	\$711.00	0%	\$711.00
NOTE: converter shall be mounted in safe area (DCS room) over user scope 2(3)-wire cable						
I/O Module with 4channel 4-20mA analog output and 2 alarm relays (fail-safe NO contacts)		1	65179-B	\$424.00	0%	\$424.00
NOTE: recommended for use at multiple sampling point switching remote control						
I/O Module with 4channel 4-20mA analog output and 2 alarm relays (fail-safe NO contacts)		1	65430-A	\$569.00	0%	\$569.00
incl. analyzer external control via 4x relay contacts and 4channel analog input 4-20mA						
MRU4win - "full" version software, for real time data acquisition and handling on PC with Windows10		1	10539	\$287.00	0%	\$287.00
SAFETY		QTY	Part No.	Unit price	Discount	Total Price
Flame arrestor with 1/4"ID thread, to be mounted directly on biogas pipe at the sampling point or at sample gas inlet (client scope)		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)		1	13437	\$556.00	0%	\$556.00
Probe HD-GW consumable set for one year operation		1	60912-5	\$916.00	0%	\$916.00
Analyzer main filter element (PTFE, 2um)		1	12685-A	\$168.00	0%	\$168.00
Calibration adapter for test and calibrate the gas detector 65435		1	12397	\$32.90	0%	\$32.90
Spare part flow restrictor orifice for -100...+50mbar gas inlet pressure		1	65987SYNL	\$159.00	0%	\$159.00
Spare part flow restrictor orifice for +50...+200mbar gas inlet pressure		1	65987SYNH	\$159.00	0%	\$159.00


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.

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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.