A photograph of an industrial facility, likely a refinery or chemical plant, featuring a complex network of metal scaffolding, pipes, and a tall smokestack emitting a plume of white smoke against a clear sky. The scene is captured from a low angle, emphasizing the scale of the infrastructure.

S700 Modular Gas Analyzer

Measures more than 60 different gases

Modular +++ Superior Quality +++ Universal



Typical Applications

- ✓ Chemical and petrochemical process gas analysis
- ✓ Ammonia or urea production
- ✓ Combustion and flue gas emission monitoring from power plants or waste incinerators
- ✓ Low CO₂ in natural gas processing
- ✓ CO, SO₂, NO and O₂ measurement in the cement plants at the kiln and pre-heater outlet
- ✓ CO measurement in the coal silos or coal mills for fire protection
- ✓ Blast furnace top gas, coke oven gas, or heat treating furnaces in steel and metal production
- ✓ Workplace monitoring of blanketing gases in the semiconductor industry
- ✓ Air separation quality measurements

Superior quality

- ✓ High quality materials and design provide specific and stable measurements for long operational life
- ✓ Many fail-safe features standard to insure operational safety
- ✓ Hardware test function allows operator to test hardware connections at the keypad making system installation easier.

Modular design

- ✓ Up to 3 analysis modules in a single enclosure saves space and money!
- ✓ Three different types of enclosures available for any installation area
- ✓ Calibration cuvette option saves money on expensive test gases for routine calibrations, can be initiated either manually or automatically.

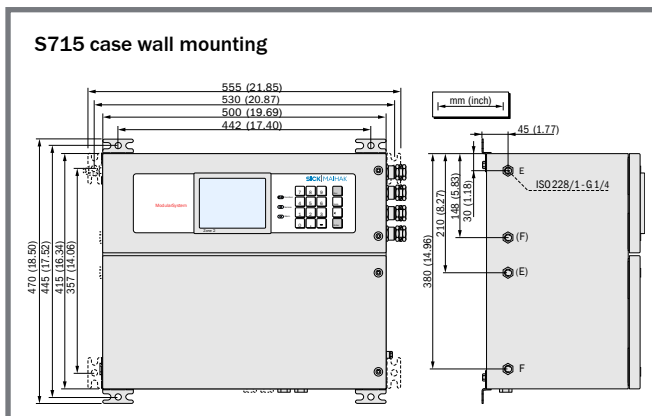
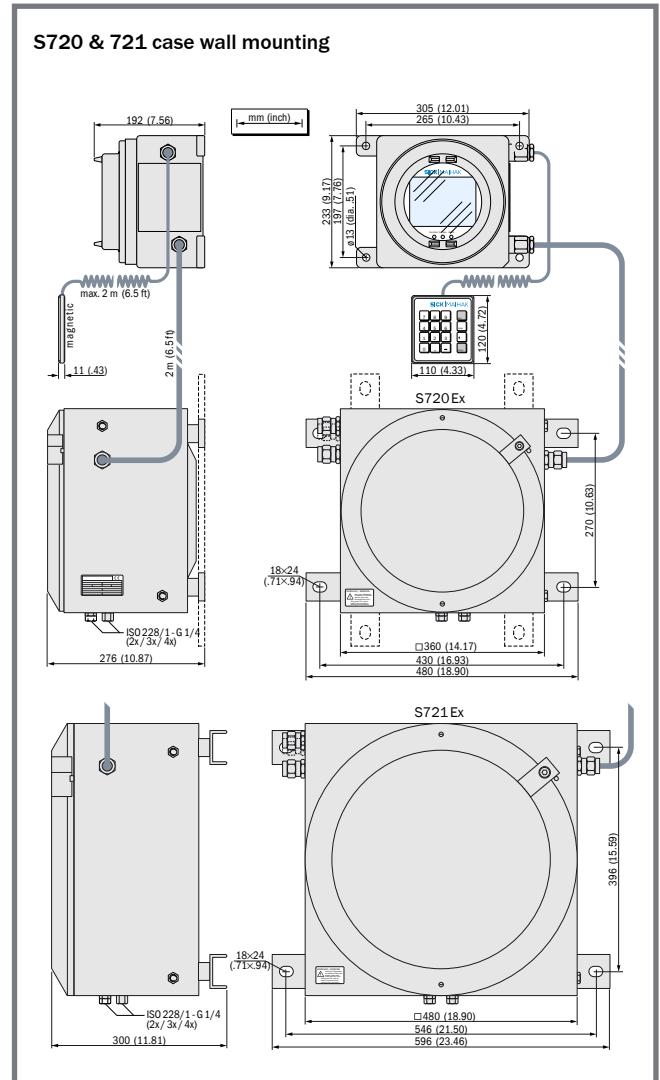
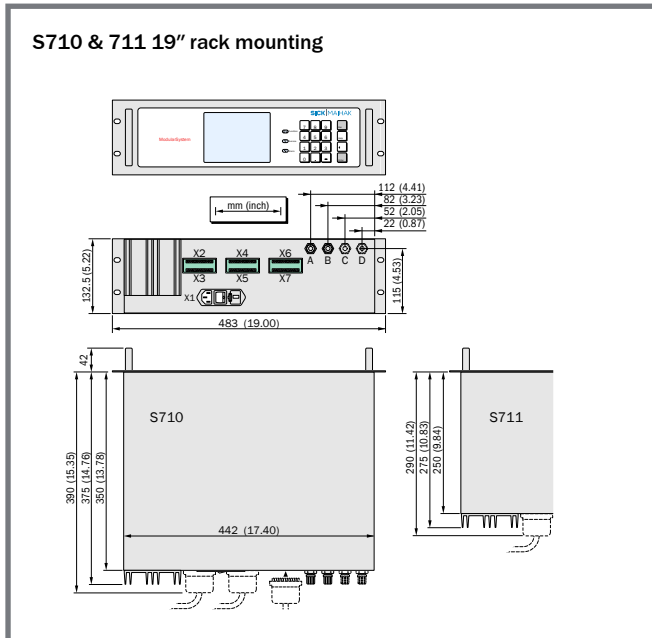
Universally adaptable

- ✓ Measures more than 60 different gases, can be used in many different industrial applications.
- ✓ Easy to understand menu with comprehensive help texts in 8 different languages including English, Spanish and French.





Our Expertise And Experience For Your Benefit

Dimensional Drawings



Dimensions in mm (inches in parentheses)

Technical Data

S700 System					
General Specifications	UNOR	MULTOR	FINOR	OXOR-P/ OXOR E	THERMOR
Measuring components	Approx. 60 different gas compounds can be continuously measured including CO, CO ₂ , CH ₄ , NO, N ₂ O, SO ₂ , H ₂ , O ₂ , C _n H _m , Freon ect.				
Measuring ranges	2 ranges standard, normally 1:10 range ratio *2				
Detection limit % of range	≤ 0.5 %	≤ 1 %	≤ 1% **	≤ 0.5 % **	≤ 0.5 % **
Non linearity % of range	≤ 1 %	≤ 2 %	≤ 1.5 %	≤ 1 %	≤ 1 %
Repeatability % of FS	≤ 1 % *6	≤ 1 % *6	≤ 1 % *6	≤ 1 % *6	≤ 1 % *6
Zero point drift	≤ 1 % / week	≤ 1 % / week**	≤ 1 % / week**	≤ 1 % / week*3/5	≤ 1 % / week
% of lowest FS range	≤ 1 % / week	≤ 1 % / week	≤ 1 % / week**	≤ 1 % / week	≤ 1 % / week
Span (sensitivity) drift					
Response time	Typically 3 sec	Max, 25 sec for all comp.	Max, 25 sec for all comp.	• < 4 sec OXOR-P • typ. 20 sec OXOR E	< 20 sec
Sample gas flow	160 ... 1330 cc/min			160 ... 1000 cc/min*4	160 ... 1330 cc/min
Warm-up time	45 min	45 min	45 min	120 min (OXOR-P)	30 min
Maximum sample pressure	4.35 psig (1300 mbar) for all analysis modules				
Operating temperature range	40 ... 122 °F for all analysis modules				
Sample contacted parts	Viton B, PVDF, glass, 316 ti stst and gold for all IR analysis modules			Same as IRs + platinum & nickel	Glass, 316 ti stst or PVDF
Signal outputs and interfaces					
Digital interface	Via RS 232 C uni or bi-directional interface with modified AK protocol or Modbus® protocol				
Analog outputs	Qty. 4, linear, isolated 4-20 mA outputs, max. load 500 Ω				
Analog inputs	Qty. 2, 4-20 mA or 0-10 V input signals, selectable at time of order				
Digital outputs	8 relay contacts, 0.5A, 30 V logic (open or close) is user selectable + 8 transistor outputs, 50 mA, 48 V max				
Digital inputs	8 inputs, isolated with opto-couplers				
Power requirements and consumption	115 or 230 V AC (+10,-15%) 48 ... 62 Hz, max. 150 W, typically 50 Watts				
Enclosures	710	715	720 Ex		
Type	19 " rack	Wall mounting	Wall mounting		
Protection class	General purpose	Nema 4 (IP 65)	Nema 7		
Area classification		CSA approved, Class1, Division 2/Zone2, Groups ABCD, T6 	ATEX approved EEx d ia IIC T6 		
Std. sample gas connections	¼ " Swagelok®	¼ " Swagelok®	¼ " Swagelok®		
Std. purge gas connections		⅜ " Swagelok®	⅜ " Swagelok®		
Weight	22 – 40 lbs	40 – 66 lbs	130 – 150 lbs		

* Depends on configuration

*2 For FINOR ratio is 1:2, for MULTOR is 1:5

** Double values for ranges < 2x smallest measuring range

*3 Or 0.05 vol% for ranges less than 5 % O₂

*4 Flow dependency < 0.2 vol % O₂ in specified range

*5 OXOR E, ≤ 2% of lowest FS range/month

*6 At constant temperature and pressure

S700 Design Modular and Customized



Three types of enclosures available for maximum choice of installations

The choice of enclosure depends on installation requirements and environmental conditions:

- S710 19" rack mounted enclosure for general purpose areas
- S715 for rough ambient conditions or Class 1, Division 2/Zone 2 hazardous rated areas
- S720 Ex flame-proof enclosure for Zone 1 hazardous areas.

A maximum of five components can be measured with any one of the S700 modular analyzer systems, using a maximum of three of the analysis modules listed on the right.

Intelligent microprocessor control

- self-diagnostic
- internal watchdog functions
- The menu-driven operator interface with help text messages in eight different languages

Optionals

- Built-in sample gas pump
- Internal stst tubing
- Calibration cuvette
- Flow fault monitor
- Barometric or sample pressure correction
- Moisture detector
- Sample point switching
- Built-in flame arrestors

SICK | MAIHAK

Six modules providing over sixty gas analyzing solutions

Function 7 8 9 Esc

Service 4 5 6 Help

Alarm 1 2 3 ←

0 . - Enter

MULTOR
Multi-component NDIR gas analyzer can measure up to 3 IR components

UNOR
Single component NDIR analyzer technology for selective measurement of every gas which absorbs energy in the infrared spectral range.

FINOR
Infrared analyzer using the interference filter correlation (IFC) principle, can measure up to 3 gases

OXOR-E
Measures O₂ using an electrochemical cell

OXOR-P
Uses the paramagnetic measuring principle for O₂ measurement. Also available in solvent resistant or corrosion resistant version

THERMOR
Thermal conductivity detector for the measurement of binary or quasi binary gas mixtures, can be supplied with a special corrosion resistant cell

ANALYZERS AND PROCESS INSTRUMENTATION

AT HOME IN THE INDUSTRIAL SECTOR

We can build on years of experience in the field of Analyzers and Process Instrumentation. That is why we are at home in the world of cement and power plants as well as in the chemical and petrochemical sector. Be it emission control at the waste treatment or process optimization for steel manufacturing, SICK MAIHAK offers tailor-made solutions.



WE OFFER YOU A CHOICE

SICK MAIHAK offers a number of sensor-based techniques for analysis, ranging from the continuous gas and dust measurement to specialized applications for water and liquid analysis. Within the process measurement technology SICK MAIHAK products play a central role in determining volume flow of gases and level of bulk materials.



AROUND THE WORLD TO YOUR SERVICE

Where ever you are, our global network of subsidiaries and representatives is able to supply qualified support when you need it. We deliver the equipment for your measuring tasks, provide documentation and training. Our highly skilled service staff offers support during installation, commissioning and maintenance of the appliances.



SICK GROUP

SICK MAIHAK represents the process automation segment of the SICK group, one of the worlds leading manufacturer of intelligent sensors and sensor solutions. With its 4,000 employees, SICK is able to offer an extensive portfolio of products and services on the market of factory automation.

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