



ACCURRA-S

Trace / ppm / Percentage / Purity
O₂, CO, CO₂, CH₄, Moisture / Dewpoint

Applications

Process Monitoring

O₂, N₂, Ar, CO₂ Plants

Inward Quality Check

Purity Measurements

Gas Certifications

Trace Measurements of Impurities

Gas Storage Tanks

Welding Gases

Reliable and Accurate

Excellent Long term Stability

Long Calibration Interval

Latest Measurement Technology

Advanced Features

Lowest Cost of Ownership

Salient Features

In-built Fine Filter
& Flow Indicator

Calibration History
with Deviation values

Alarm and Fault
History

Backlit LCD Display
20 x 4 Character

Isolated 4-20 mA Output;
Dual Range with Range ID
relay output

Output Freeze / Follow
during Calibration

Calibration Check
Facility

Password Protected Calibration,
Setup & Diagnostics Menu

Modbus RTU
over RS 485

4-20mA output range is USER
configurable over entire
measurement range

Alarm Set Points are USER
configurable & can be set as
Lo - LoLo / Lo - Hi / Hi - HiHi

Cyclic and Remote
Auto-calibration (Optional)

Internal Sample Pump for
Low pressure Sample (Optional)

Measurement Capabilities

TABLE - 1	Oxygen					Moisture/ DewPoint
Model Variant	3015	3030	3090	3130	3190	M015
Measurement Range	0 - 1000 ppm	0 - 25 %	0 - 100 %	0- 100 %	95 - 100%	0 - 3000 ppm / -100 to +20°C dp
Sensor Technology	Electro Chemical			Paramagnetic		Ceramic sensor
Sensor Life	> 18 Months	> 2 Years		Not Applicable		N. A.
Minimum Range	0 - 100 ppm	0 - 5%		0 - 5%	N. A.	0 - 500 ppm
Display Resolution	0.1 ppm	0.01 %		0.01 %	0.01 %	0.1 ppm
Intrinsic Error (Accuracy)	1% of reading ± 2ppm	± 0.01 % FS	± 0.1% of FS	± 0.1 % of FS	± 0.5% of FS	1 % of FS
Repeatability	Zero: ± 2ppm Span: 1% of reading	± 0.04 %	± 0.5 %	± 0.1 % of FS	± 0.5% of FS	1°C dp
Response Time-T90 @ 1 LPM	< 30 Sec	< 20 Sec		< 5 Sec	< 5 Sec	5 Min @ 5LPM (dry to wet)

All measurements in ACCURRA-S has **in-built Temperature Compensation**

Oxygen Purity Analyser ACCURRA-S Model 3090 and 3190 has **in-built Ambient Pressure Compensation**

TABLE - 2	Carbon Mono-Oxide		Carbon Di-Oxide		Methane
Model Variant	2015	2030	6015	6030	4030
Measurement Range	0 - 1000 ppm	0 - 100 %	0 - 5000 ppm	0 - 20% or 100%	0 - 100%
Sensor Technology	Electro Chemical	NDIR	NDIR		NDIR
Sensor Life	> 2 Years	> 5 Years	> 5 Years		> 5 Years
Minimum Range	0 - 100 ppm	0 - 5 %	0- 100 ppm	0 - 5 %	0 - 5 %
Display Resolution	0.1 ppm	0.01 %	0.1 PPM	0.01 %	0.01 %
Intrinsic Error (Accuracy)	1% of FS	2 % of FS	1 % of FS	± 1% of FS	2% of FS
Repeatability	Zero: ± 2ppm Span: ± 10ppm	2 % of Reading	Zero: ± 10 ppm Span: ± 50 ppm	± 0.05%	2% of Reading
Response Time-T90 @ 1 LPM	< 30 Sec	< 30 Sec	< 60 Sec	< 60 Sec	< 45 Sec

Dual Channel Accurra- S



ACCURRA-S has the capability to house two measurements. Each Sensor has it's own electronics and micro controller making the hardware completely independent.

Further each sensor has its own Display, Keypad, Current output, set of Relays and Modbus ID. The pneumatic Lines is however common. This architecture makes ACCURRA-S amongst the most reliable Analysers in the industry.

Salient Features

Output Freeze Function Output signals- 4-20mA and Alarm Relays can be hold to last value during Calibration Check, Calibration and Auto Calibration. This is a user configurable feature.
Dual Range Current Output Two ranges can be defined for the current output. e.g. 0 - 10% and 0 - 25%. When the reading is below 10% the current output will correspond to 0 - 10%. When the reading crosses 10% the current output will correspond to 0 - 25% and vice versa. This feature is very useful during start up. The Range ID Relay when configured can be used for remote indication.
Auto-Calibration This feature is optional. If selected then you can initiate Auto calibration through keypad or by setting the internal cyclic timer or initiate remotely through MODBUS command. The Auto-calibration relays used are internal to the analyser.
Sample Pump The ACCURRA-S can control an external Sample pump. It can also have an option of Internal Sample Pump. This pump will be off during calibration. When Sample Pump option is selected Range change option is unavailable.
History The ACCURRA-S store Calibration, Alarm and Fault record. This is helpful in analysis of process. Calibration History helps to know Drift / Residual Sensor Life.
Diagnostics The ACCURRA-S has inbuilt hardware diagnostic check which can be used for various hardware simulation during failure.

Sample Condition

Suitable for Non- Corrosive, Non-Toxic, Non Flammable, Non-condensing dry, free from entrained oil.
In case your Sample does not comply to the specifications, please contact us for a Sample Conditioning System that is customised to your application needs.
Sample Flow rate: 1 LPM (Recommended) ACCURRA -S has in-built Sample Flow indicator however the flow has to be regulated externally by user.
Sample Temperature : 5° C - 45° C Max
Sample Pressure: 2 - 10 psig Max The Sample Pressure has to be regulated externally by the user.
Sample Dust/Particulate: < 3 Micron ACCURRA -S has in-built Sample Filter however if the dust level is high install upstream Filter externally.
Sample Dew Point: 5° C less than the lowest ambient Temperature
Material in Contact with Sample : SS316, Viton, PTFE, Glass, Aluminium, Acrylic.

Hardware Specifications

Display	Backlit LCD, 4 Line x 20 Character, Alphanumeric.
Analog Output	1 x 4-20 mA, isolated, Max Load 500 Ω Range Dual Range. Analog Output range is freely selectable by user over entire measurement range.
Output Relays	6 x 1CO rated @ 1A 230V AC. All relays are configured as Failsafe Relay 1 : Alarm 1 Relay 2 : Alarm 2 The Alarm set points are user configurable and can be set as Lo - LoLo / Lo - Hi / Hi - HiHi . Relay 3 : Fault Alarm The Fault is activated during Calibration or Instrument Failure. Relay 4 : Sample Pump / Range ID This relay can be used to run a Internal Sample Pump OR indicate Output Range Change. The Internal Sample pump is an optional feature. Relay 5 and 6 : For Internal Auto-calibration (Optional)
Modbus Communication:	MODBUS protocol over RS 485. READ: Measured Value, Status, Setup Parameters & History. WRITE: Initiate Auto Calibration

Optional Hardware

Auto - Calibration This option includes the necessary Solenoid Valves and the software & hardware associated with it. The Solenoid Valves are internal and are controlled by ACCURRA-S.
Sample Pump This option includes internal Sample pump which is controlled by ACCURRA-S. During calibration this pump is OFF. When Sample Pump option is selected Range ID option is unavailable.

Environmental Conditions

Ambient Temperature:	+5°C to + 45°C
Storage Temperature:	+0°C to + 50°C
Area Classification:	Safe Area

Other Specifications

Gas Inlet / Outlet	1/4" OD SS316
Enclosure	19" Rack / Panel mounted Dimension 134 (H) x 483 (W) x 180 (D) mm Protection Suitable for Safe Area, IP 20 Weight Approx. 6 Kgs
Power Supply	24V DC, 30W or 100 - 240 V AC 50/60 Hz, 45W

Ordering Code

	1	2	3	4	5	6	7	8	9	10	11
ACCURRA-S -											

	1st Component - Gas				2nd Component - Gas				Auto Calibration	
Carbon Monoxide ppm (Ec)	2	0	1	5					X	None
Carbon Monoxide % (NDIR)	2	0	3	0					S	Yes, Internal Solenoid Valve
Oxygen ppm (Ec)	3	0	1	5						
Oxygen Percentage (Ec)	3	0	3	0						
Oxygen Purity (Ec)	3	0	9	0						
Oxygen Percentage (Pm)	3	1	3	0						
Oxygen Purity (Pm)	3	1	9	0						
Methane % (NDIR)	4	0	3	0						
Carbon Di-oxide (ppm) (NDIR)	6	0	1	5						
Carbon Di-oxide (%) (NDIR)	6	0	3	0						
Moisture / Dew Point (Cs)	M	0	1	5						
None	X	X	X	X						

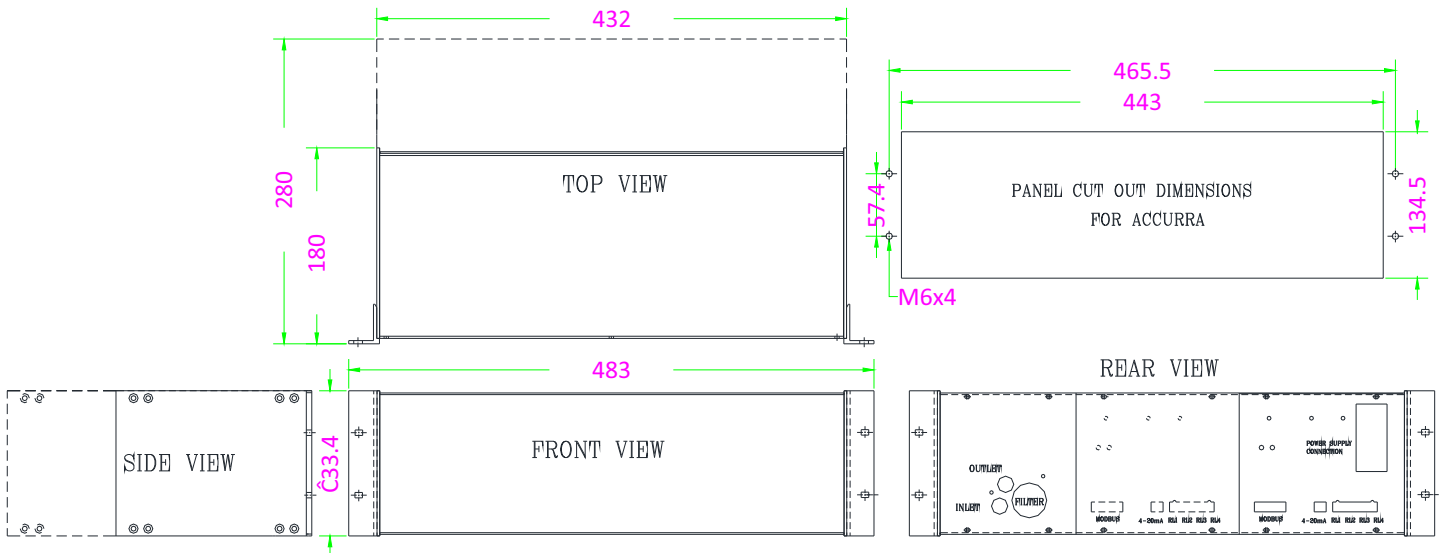
Range ID / Sample Pump	
R	Range ID
P	Yes, Internal Sample Pump

Power Supply	
D	24 V DC
A	100 - 260 V AC

"Ec" : Electrochemical Sensor
 "Pm" : Paramagnetic Sensor
 "NDIR" : Non-Dispersive InfraRed
 "CS" : Ceramic Sensor

Note: Auto Calibration and Internal Sample Pump is not available in all Models. Please contact M/s Sarvesh Analytics for available options

Dimensional Details



Notes: - The final responsibility to check whether this product meets the requirement of the Process and / or Analyser remains solely with the customer.
 - M/s SARVESH ANALYTICS PVT. LTD. has a policy of continuous improvement of product & services and hence reserves the right to change the specifications and features without prior notice.

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ACCURRA-S 3090

Purity OXYGEN Analyser

Applications

O₂ Plants

O₂ Concentrators

Purity Measurements

Inward Quality Check

O₂ Storage Tanks

O₂ Certifications

O₂ measurement above 90 - 100% is susceptible to Ambient Pressure and Temperature variation. A day and night ambient pressure variation can give rise to 10 % error in O₂ reading. To overcome this error ACCURRA-S 3090 has Ambient Pressure and Temperature compensation. With these compensations the error is minimized to less than 0.5%. This makes it the most accurate analyser in the market for O₂ Measurement in 90 – 100% range.

Salient Features

In-built Temperature Compensation

In-built Fine Filter & Flow Indicator

Backlit LCD Display
20 x 4 Character

Calibration Check Facility

4-20mA output range is USER configurable over entire measurement range

In-built Ambient Pressure Compensation

Calibration History
(to know Drift / Residual Sensor Life)

Isolated 4-20 mA Output;
Dual Range with Range ID relay output

Password Protected Calibration, Setup & Diagnostics Menu

Alarm Set Points are USER configurable & can be set as Lo - LoLo / Lo - Hi / Hi - HiHi

Intrinsic Error less than $\pm 0.5\%$

Output Freeze / Follow during Calibration

Alarm and Fault History