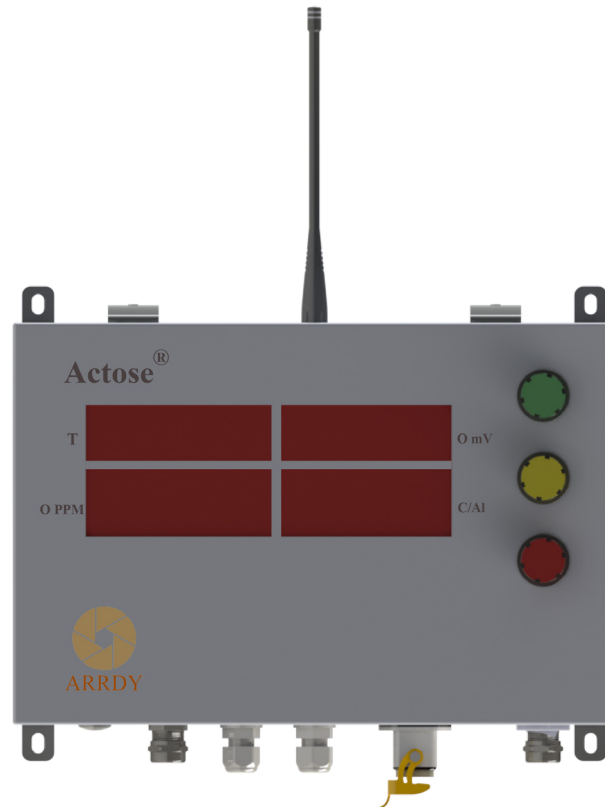


Actose®

Oxygen Measurement Instrument



Actose® is a state of the art digital instrument for measurement of temperature and oxygen in molten metal. The highly reliable microprocessor based instrument has an exceptionally low power rating and runs on 5 V DC power. The stainless steel enclosure with IP65 ingress protection makes it ideal for use in rugged field environments.

The Actose® instrument is built with advanced features and analog signal acquisition algorithms to measure thermocouple and oxygen mV input signals and determine the equilibrium measurement by a moving window standard deviation convergence technique. The analog signals from different types of thermocouples such as type S , R, B or K after they are immersed into molten metal are analyzed. The oxygen EMF channel is a separate isolated channel on the instrument motherboard. This channel independently applies the moving window standard deviation convergence to determine the equilibrium emf. The active oxygen content, % carbon or % aluminium are subsequently calculated using the measured temperature and measured emf. The 4 window 1.1" 7 segment display displays the equilibrium values for the Temperature, Oxygen mV, Oxygen ppm and Carbon/Aluminium% based on the oxygen ppm.

Actose® instrument has a dedicated ethernet port which can be used to connect the instrument to the Acumet® user software. All instrument parameters such as sampling rate, thermocouple type, measurement window and tolerance, etc. can be changed using the software. The Acumet® user application also provides an option to view real time traces, and view/download historical data.

The Acumet® user application software can be factory installed on an business PC and supplied along with the instrument as a complete unit or can be installed on customer PC as per requirement. The instrument has the capability of measuring thermocouple and active oxygen measurements via a wired compensated field cable as well a via a dedicated wireless lance unit. For additional details of this unit, please contact Arrdy Engineering Innovations Pvt. Ltd.

Technical Specifications:

Actose Instrument Remote Unit	
Measurement Units	Temperature (thermocouple) and active oxygen measurement in °C or °F and mV/PPM
Input	2 channel isolated Analog Input- 1 each for Temperature and Active Oxygen EMF
Sampling Rate	10-20 S/s adjustable
Thermocouple Input Range	Type S: 200°C - 1765°C Type R: 200°C - 1765°C Type B: 600°C - 1820°C All thermocouple measurements based on ITS90
Accuracy	Class 2 thermocouple measurement (0.25% of FS). EMF Channel ±0.01mV over FS
EMF Input Range	±2500mV
EMF Resolution	0.1mV
Display	4 Window 7-segment display. Digit Height 1.1"
Remote Display	Acumet® Application
Communication between remote display and instrument	Dedicated TCP/IP port conforming to IEEE 802.3
Instrument Settings and History	Through Acumet® Application
Operating Temperature	-15°C to 75°C
Features	Automatic thermocouple insertion detection, automatic thermocouple break detection, auto switch between carbon and aluminium calculation
Additional Features	Wireless connectivity with Actose Wireless Lance
Signalization	LED lights on instrument to detect probe insertion- "READY"- Green LED; Measurement in progress- Yellow LED; End of Measurement- Red LED. Simultaneous optically isolated solid state relay outputs for secondary signalization with large format signalling lights
Housing	SS304 Enclosure with IP65 ingress protection and safety latch with lock
Power	110-250VAC, 50-60Hz. Continuous power consumption ≤40VA
Measurement principle	Moving window standard deviation convergence on both channels
Measurement time	4-20 seconds
Offset Adjustment	-10°C to +10°C. -20mV to +20mV
Standard outputs	TTL 20mA current loop, MODBUS, RS232
Optional outputs	4-20mA analog output (12bit, 2 channel), PROFIBUS, PROFINET, Ethernet TCP/IP
I/O Connections	All connections via terminal block. Cable entry through double sealed cable glands
Dimensions (max. excluding antenna)	330mm x 260mm x 140mm

Business PC with pre-installed Actose Application:

Kindly note that purchase of this PC is optional and additional to the instrument. The Acumet® user software for viewing real-time traces, changing settings, viewing historical data is distributed free and can be installed on any Windows 10 or later 32/64-bit systems. The instrument communicates with the software via a dedicated port. The instrument in turn can be configured to relay data on the LAN and the instrument can be accessed via the pre-configured port on the LAN. On request a dedicated PC with preinstalled software can be provided.

The following are the minimum hardware requirements for installing and using the Acumet® user software.

Minimum Hardware Requirements for Acumet® Software Installation	
Processor Speed	1.5GHz or higher
Display Resolution	1920x1080. Refresh Rate > 40Hz
Operating System	Windows 10 32/64-bit or later
Storage	250GB SSD or HDD or higher
EMC	Class A
Connectivity	USB(2 or more), RJ45 port for Ethernet Connection (1 or more)

For more details, please contact



ARRDY

Arrdy Engineering Innovations Pvt. Ltd.

B-30, Industrial Estate, Kalunga-770031

Odisha, India

Email: arrdy@arrdy.com, Website: www.arrdy.com