ORBISPHERE M1100 LUMINESCENT DISSOLVED OXYGEN SENSOR

Allows you to monitor oxygen in the beverage production process.

Minimal Drift and Annual Calibration

The M1100 sensor provides immediate oxygen readings with a measurement frequency of two seconds. The instrument carries consistent readings with no drift for 12 months without calibration (when utilizing standard weekly CIP processes), surpassing other optical sensors that display significant drift after only a few months in similar conditions.

Minimal Maintenance Optical Technology

The M1100 pioneered the use of luminescent technology in beverage applications, and as a result, the sensor doesn't require the replacement of membranes or any electrolytes. Additionally, the sensor's accuracy is unaffected by process changes or pressure shocks—further reducing maintenance. Annual maintenance is limited to just a few minutes for a zero point calibration. Chemicals are not required for this process, making the task easier and safer without reducing measurement precision.

Low Level Oxygen Measurement with Accurate ppb

The M1100-L sensor has a lower detection level of 0.6 ppb. This highly accurate instrument's readings are essential to control low oxygen levels in beer production, to decrease unnecessary line stoppages, and to increase production uptime.

High Level Oxygen Measurement with Accurate ppm

The M1100-H sensor has a range of 0 – 40 ppm, and is ideal for use in wort applications for example. Even in this harsh wort environment the instrument maintains very good accuracy and minimal drift. Only a yearly maintenance and calibration will be required in most cases.

Specifications*

M1100 (Low Level Sensor)

Range	0 to 2000 ppb (Dissolved O_2)
Temperature range	Accurate from -5 to 50 °C (23 to 122°F) Resistant to temperature from -5°C to 100°C (23 to 212°F)
Repeatability	± 0.4 ppb 1 % whichever is greater
Reproducibility	± 0.8 ppb 2 % whichever is greater
Accuracy	± 0.8 ppb 2 % whichever is greater
Lowest Detection Limit	0.6 ppb
Response Time	(90%)< 10 s (gas phase) <30 s (liquid phase)
Display Resolution	0.1 ppb
Calibration	Single point zero calibration with standard 99.999% nitrogen (quality 50) or equivalent oxygen free gas
Sample Pressure	1 to 20 bar absolute (14.5 to 290 psia)

M1100 (High Level Sensor)

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Range	0 to 40 ppm (dissolved), 100% O_2
Temperature range	Accurate from -5 to 50 °C (23 to 122°F) Resistant to temperature from -5°C to 100°C (23 to 212°F)
Repeatability	± 0.015 ppm or 2 % whichever is greater
Reproducibility	± 0.02 ppm or 3 % whichever is greater
Accuracy	± 0.02 ppm or 3 % whichever is greater
Lowest Detection Limit	0.015 ppm
Response Time	< 50 s (liquid phase)
Display Resolution	0.1 ppb
Calibration	Two points at cap replacement (zero and air), one during use (air)
Sample Pressure	1 to 20 bar absolute (14.5 to 290 psia)

ORBISPHERE 410 Controller

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Enclosure Construction	Wall (pipe) mount: stainless steel Panel mount: aluminum
Enclosure Rating	Wall (pipe) mount: IP65, NEMA 4x Panel mount: IP65
Compliance certifications	EMC: EN61326-1:2006
	CE: EN61010-1:2010
	ETL, conforming to UL 61010-1 and CSA 22.2 No. 61010-1
Display	Color TFT touchscreen display
Analog Outputs	3 smart 0/4 - 20 mA (500 ohms), programmable as linear or tri-linear, configurable to send diagnostics or alarm information
Relays	3 measurement alarm relays (2A-30 VAC or 0.5A-50 VDC), configurable to send diagnostics information
	1 system alarm relay (2A-30 VAC or 0.5A-50 VDC)
Communication	RS485
	Profibus DP (Optional)
	Ethernet
	USB-client to download data from a computer
	USB-host to download data with a USB memory stick
Data Storage	Rolling buffer or store once mode for up to 1000 measurements and 1000 operator actions
	Holds calibration records for last 10 calibrations
User Interface	Touch screen panel displays: concentration, trend graph, diagnostics, alalrm status, historical data
Dimensions (H x W x D)	Wall Dimensions: 9.1 in x 9.8 in x 6.3 in (230.5 mm x 250 mm x 160 mm)
	Panel Dimensions: 6.14 in x 8.86 in x 9.84 in 156 mm x 220 mm x 253.5 mm
Power supply	Universal 100/240 VAC @ 50/60 Hz, 25 VA
	10-36 VDC, 25 W

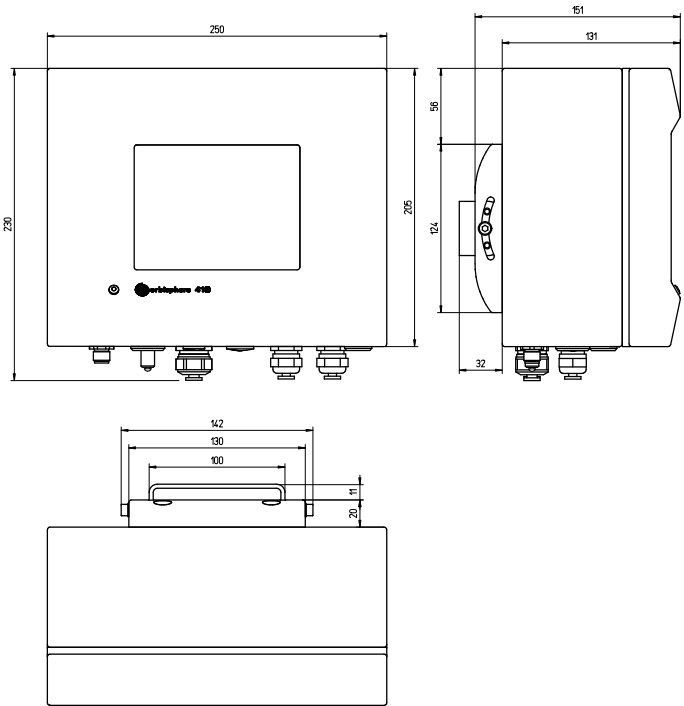*Subject to change without notice.*
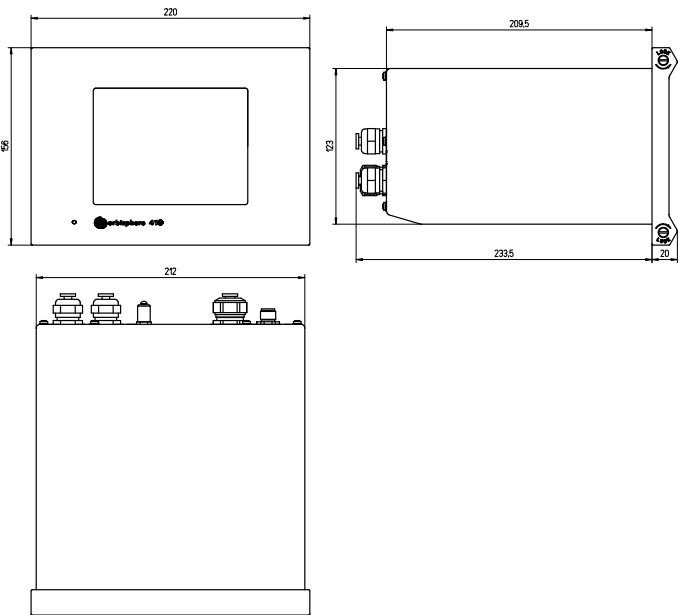
Dimensions

In millimeters.

28 mm Sensor
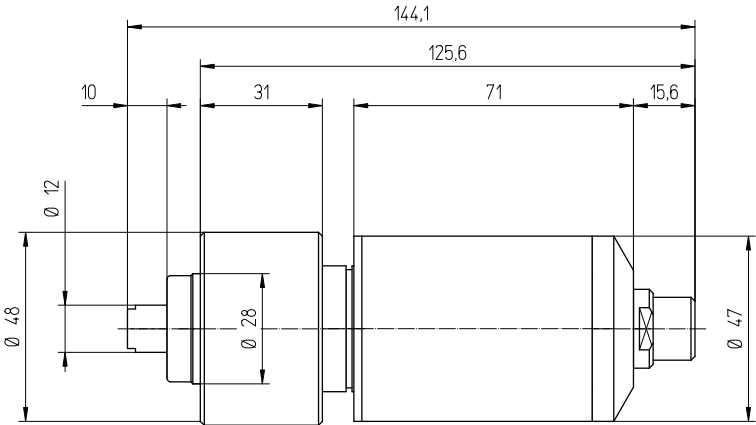
12 mm Sensor
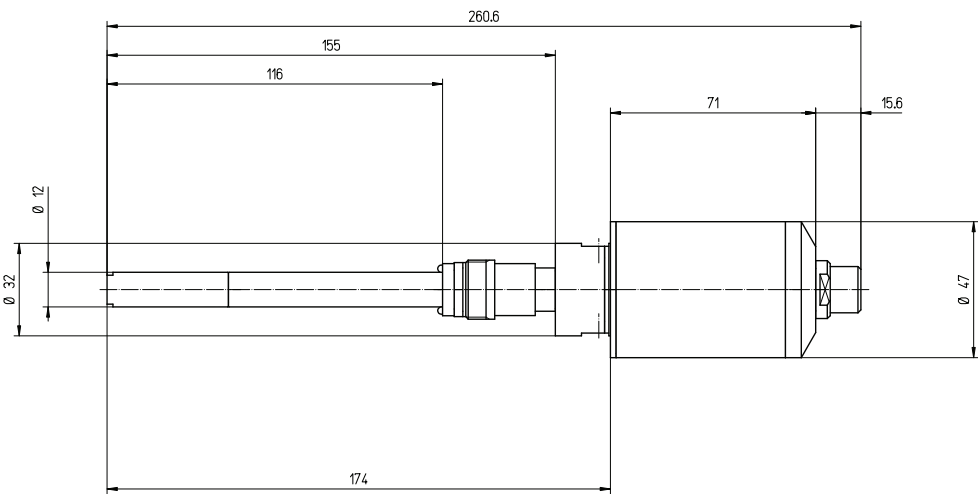
Controller (Wall / Pipe Mount)

Controller (Panel Mount)

Ordering Information

Pre-Configured Systems

DGKM110H-W21123   Kit containing M1100-S00H sensor, 410M/W1C10000 controller, 32510.03 3 m cable

DGKM110H-W211215 Kit containing M1100-S00H sensor, 410M/W1C10000 controller, 32510.15 15 m cable

DGKM1100-W21123   Kit containing M1100-S00 sensor, 410M/W1C1000 controller, 32510.03 3 m cable

DGKM1100-W21121   Kit containing M1100-S00 sensor, 410M/W1C1000 controller, 32510.03 10 m cable

Controllers and Sensor

410M/W1C00000   ORBISPHERE 410 Controller (Wall Mount)

410M/P1C00000   ORBISPHERE 410 Controller (Panel Mount)

M1100-S00   Luminescent oxygen sensor for in-line applications, 0-2 ppm, with 28 mm ORBISPHERE fitting

M1100-S10   Luminescent oxygen sensor for in-line applications, 0-2 ppm, with 12 mm fitting

M1100-S00H   Luminescent oxygen sensor for in-line applications, 0-40ppm, with 28 mm ORBISPHERE fitting

M1100-S10H   Luminescent oxygen sensor for in-line applications, 0-40ppm, with 12 mm fitting

Accessories

32003   Sensor insertion and retraction valve; for mounting on Varinline® access unit with 28 mm sensor

33095   28 mm stationary housing; for mounting on Varinline® access units

33096   PG 13.5 stationary housing or 12 mm sensors; for mounting on Varinline® access units

M1100-L   Replacement luminescent spot for low range sensors (0-2 ppm)

M1100-H   Replacement luminescent spot for high range sensors (0-40 ppm)

32510.05   Sensor Cable 5 m (16.4 ft.)

32001.011   Flow chamber in stainless steel (316) with 1/4" fittings. Supplied with EPDM O-rings

32001.010   Flow chamber in stainless steel (316) with 6mm fittings. Supplied with EPDM O-rings

These are common kits. There are additional options available.