

PHD6™ SPECIFICATIONS



Six-Gas Detector

Housing	
Material	Polycarbonate with tough rubber overmold
Weight (Alkaline)	1.1 lbs/17.6 oz/499 g (5 sensors)
Weight (Alkaline) + Pump	1.4 lbs/22.4 oz/635 g (5 sensors)
Weight (Lithium-Ion)	1.0 lbs/16 oz/454 g (5 sensors)
Weight (Lithium-Ion) + Pump	1.3 lbs/20.8 oz/590 g (5 sensors)
Dimensions w/o std belt clip	6.63 x 3.13 x 2 in./16.83 x 7.94 x 5.08 cm
Dimensions with std belt clip	6.63 x 3.13 x 2.5 in./16.83 x 7.94 x 6.35 cm
Dimensions w/o std belt clip, with pump	8.5 x 3.13 x 2.38 in./21.59 x 7.94 x 6.03 cm
Dimensions with std belt clip and pump	8.5 x 3.13 x 2.63 in./21.59 x 7.94 x 6.66 cm
Power	
Type	Rechargeable Lithium Ion or Alkaline (3 x AA size) battery pack options
Environmental Ratings	
Dust & Water Resistance Rating	IP65
Drop Testing	Dropped 100+ times from 1 meter to concrete floor
RF Immunity	Conforms to EN 50270
RF Emissions	Conforms to IEC 61000-6-4
ESD Immunity	Conforms to IEC 61000-4-2
Charger (all models) @ 68°F (20°C)	6 hrs max.
Certifications (All certifications include pump, charger and IQ docks (with approved chgr bds))	
	SGS/USTC Class I, Division 1, Groups A,B,C,D Temp Code T3C
	SGS/USTC Class II, Division 1, Groups E,F,G, Class III
	CSA Class I, Division 1, Groups A,B,C,D Temp Code T3C (CSA approval does not include IR sensor)
	ATEX (EPS) Ex ia d IIC 170C (T3)
	IECEX Ex ia d IIC 170C (T3)
	CE Mark
Capabilities	
Controls	3 buttons
Sensor Channels	Maximum of 6
Gas Types	
Available Sensors	O ₂ , LEL, PID, Duo-Tox, CO, H ₂ S, CO-H, SO ₂ , Cl ₂ , NO, NO ₂ , NH ₃ , PH ₃ , HCN, IR-CO ₂ , IR-CH ₄
User adjustable alarms	Oxygen: Danger Low/Danger High; Combustible: Warning/Danger; PID and Toxic: TWA/STEL/Warning/Danger
Calibration	Fresh air and gas calibration with one button
Calibration dates	Most recent for full instrument calibration and for each sensor
Motorized pump	Optional external pump, standard length 10 ft. (3 m), maximum length 100 ft. (30 m)
Security Beep	User adjustable interval from 5 seconds to 60 minutes
Latching Peak Alarms	User enabled
Datalogging	Blackbox datalogger that can be upgraded to a full datalogger at any time. Activation code and BioTrak PC software required. Full datalogger has user adjustable interval from 1 second to 60 minutes.
Datalogging capacity	See table
Computer Interface	IrDA
Event Logger	20 events including max, min, and average for all sensors, time and duration
Alarms	
Visual	Bright red LED alarm visible from top and sides
Audible	Dual Piezoelectric audible alarm, 92 dbA @ 1 foot (30.5 cm) PhD6 Alarm Loudness Test
Vibrating	Optional

Sensors

	O ₂	LEL	IR CH ₄ (%)	IR CO ₂ (%)	PID (PPM)	CO	H ₂ S	Duo-Tox CO	Duo-Tox H ₂ S
Ranges	0-30 % by vol.	0-99 %	0-5.00%	0-5.00%	0-2000 PPM	0-999 PPM	0-200 PPM	0-999 PPM	0-200 PPM
Resolution	0.1%	1% LEL	0.05% CH ₄	250 PPM	0.1 PPM	1 PPM	1 PPM	1 PPM	1 PPM
Warning Low alarm	19.5%*	10%	0.5	0.5	50	35	10	35	10
Danger High alarm	23.5%	20%	1.0	3.0	100	100	20	100	20
STEL alarm	N/A	N/A	N/A	N/A	25	100	15	100	15
TWA alarm	N/A	N/A	N/A	N/A	10	35	1**	35	10
T₉₀	<15 sec	<20 sec (methane)	<30 sec	<30 sec	<10 sec (isobut)	<20 sec	<20 sec	<20 sec	<20 sec

	CO-H	SO ₂	Cl ₂	NO ₂	NO	NH ₃	PH ₃	HCN
Ranges	0-999	0-25	0-50	0-100	0-250	0-100	0-20	0-100
Resolution	1 PPM	0.1 PPM	0.1 PPM	0.1 PPM	1 PPM	1 PPM	0.1 PPM	0.2 PPM
Warning Low alarm	35	2	0.3	0.5	12.5	12.5	0.3	2.4
Danger High alarm	100	5	0.5	1	25	25	1	4.7
STEL alarm	100	5	1	1	25	35	1	4.7
TWA alarm	35	2	0.5	1	25	25	0.3	4.7
T₉₀	<20 sec							

*Danger Low Alarm for O₂

**Compatible with single sensor channel configuration only

Battery Life

Alkaline @ 70°F/22°C	17 hrs.
Li-ion @ 70°F/22°C	22 hrs.
Alkaline (with PID & LEL) @ 70°F/22°C	13 hrs.
Li-ion (with PID & LEL) @ 70°F/22°C	15½ hrs.
Pump added to above	subtract 4 to 6 hrs.

Shelf Life

Alkaline	60 days
Li-ion	60 days

Datalogger Capacity

	Maximum Sessions = 60
	1 sensor = 15,296 datapoints = 254 hr 56 min @ 1 Minute intervals
	2 sensors = 7,648 datapoints = 127 hr 28 min @ 1 Minute intervals
	3 sensors = 7,648 datapoints = 127 hr 28 min @ 1 Minute intervals
	4 to 6 sensors = 3,824 datapoints = 63 hr 44min @ 1 Minute intervals

Instrument

Pump Tubing length	100 feet PhD6 Extended-length Tubing Test
Display	Front mounted graphic LCD, 1.4 in. x 1.4 in., simultaneously displays readings for all gases being monitored
Display Backlight	Bright white LED backlight. User adjustable to be always on, on in dark environment, or activated by Mode button for an interval adjustable from 5 seconds to 60 minutes.
Temperature range	Operating: 0 to 110°F/-18 to 43°C, Intermittent: -20 to 120°F/-29 to 49°C
Temperature range (Certification)	-20 to +50°C
Humidity Range	15 - 95% RH, non-condensing (0-95% <= 4 hours)
Pump Flow Rate	1 LPM nominal



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