

# HAZ-SCANNER

## Environmental Perimeter Air Station EPAS

- ♦ Direct reading
- ♦ Simultaneously monitor PM and toxic gases, including U.S. EPA criteria air pollutants, and air parameters
  - Configure with up to 14 interchangeable sensors and EPAS-specific meters
  - Can equip to monitor two PM sizes simultaneously
- ♦ Two kits available: Basic and Build Your Own (*see reverse side for details*)
- ♦ Real-time display, wireless data transmission, and storage
- ♦ Communication options include:
  - Wireless RF data transmission
  - Wi-Fi server transmitter (2.4/5 GHz)
  - Cellular mobile network (GPRS)
  - Ethernet/web enabled
  - Wireless network software to connect up to 8 EPAS to a central PC or Mac
- ♦ Portable and easily deployed
- ♦ Operate from battery, AC, or optional solar panel
- ♦ Easy-to-use graphing and reporting software – compatible with PC and Mac

The portable HAZ-SCANNER™ EPAS is a true environmental air station providing ambient air quality monitoring of critical EPA criteria pollutants and air parameters. EPAS is the only instrument on the market to offer true simultaneous monitoring of PM10 and PM2.5. EPAS is available in two kits: basic and build your own. Both offer the ability to configure with different toxic chemical sensors, size-selective impactors, and EPAS-specific meters to simultaneously measure up to 14 critical air parameters. Several wireless and networking options are available as well as datalogging capabilities. Graphing and reporting software is compatible with PC and Mac.

### HAZ-SCANNER Wireless EPAS Applications

- Ambient/urban air quality monitoring
- Hazardous incident response
- Waste site remediation/land reclamation monitoring
- Military/homeland security
- Perimeter monitoring
- Near roadway monitoring

Go to [www.skinc.com/prod/Haz-Scanner.asp](http://www.skinc.com/prod/Haz-Scanner.asp) for more information.



HAZ-SCANNER EPAS shown with optional solar panels

SKC Inc. 724-941-9701

SKC-West 714-992-2780

SKC Gulf Coast 281-859-8050

SKC South 434-352-7149

[www.skinc.com](http://www.skinc.com)



## HAZ-SCANNER EPAS

## Environmental Perimeter Air Station

## EPAS Basic Kit Ordering

EPAS Basic Kit includes PM10 impactor (measures TSP when no impactor is installed), CO sensor (0 to 10 ppm), NO<sub>2</sub> sensor (0 to 5 ppm), EPAS system with internal sample pump and internal battery in a NEMA 4 enclosure,\* universal battery charger (110-240 V AC, supplied with U.S., Euro, AUS, and UK adapter cables), external power connector cable, gas scrubber, precipitation/solar cap, impactor sleeve with compression plate and dust seal, and thumb drive with instruction manual and HAZ-SCANNER Software. *Basic EPAS can be expanded with up to 11 additional*

Cat. No. ....770-500K1

Expand basic EPAS by adding up to 11 sensors/EPAS-specific meters, each at an additional cost.

Sensor Category	Maximum Additional Slot(s)	Find Sensor Options
Particulate (PM)	1	See list below (sensor specifications on pages 3 and 4)
Toxic Gas	6	
Meters/Meteorological	4	

\* EPAS is for use in general electrical classified areas; the unit/sensors/meters are NOT intrinsically safe for hazardous environments.

## EPAS Build Your Own Ordering

Build Your Own System Foundation Kit includes EPAS system with internal sample pump and internal battery in a NEMA 4 enclosure,\* universal battery charger (110-240 V AC, supplied with U.S., Euro, AUS, and UK adapter cables), external power connector cable, and thumb drive with instruction manual and HAZ-SCANNER Software. *Requires configuration with up to 14 sensors, see below*

Cat. No. ....770-500

Build your own EPAS System by adding up to 14 sensors/EPAS-specific meters, each at an additional cost.

Sensor Category	Maximum Additional Slot(s)	Find Sensor Options
Particulate (PM)	2	See list below (sensor specifications on pages 3 and 4)
Toxic Gas	8	
Meters/Meteorological	4	

\* EPAS is for use in general electrical classified areas; the unit/sensors/meters are NOT intrinsically safe for hazardous environments.

Choose 1 additional particulate sensor for Basic Kit (optional). Choose up to 2 for Build Your Own.

☐ PM1.0 ☐ PM2.5 ☐ PM10

Choose up to 6 interchangeable gas sensors for Basic Kit (optional). Choose 8 for Build Your Own.†

<input type="checkbox"/> Ammonia (EC)	<input type="checkbox"/> Hydrogen sulfide (EC)
<input type="checkbox"/> Carbon dioxide (NDIR)	<input type="checkbox"/> Nitric oxide (EC)
<input type="checkbox"/> Carbon monoxide (EC)	<input type="checkbox"/> Nitrogen dioxide (EC)
<input type="checkbox"/> Chlorine (EC)	<input type="checkbox"/> Oxygen (EC)
<input type="checkbox"/> Ethylene oxide (EC)	<input type="checkbox"/> Ozone (metal oxide semiconductor)
<input type="checkbox"/> Hydrocarbon: methane-specific (NDIR)	<input type="checkbox"/> Phosphine (EC)
<input type="checkbox"/> Hydrocarbons: non-methane (NDIR)	<input type="checkbox"/> Sulfur dioxide (EC)
<input type="checkbox"/> Hydrogen chloride (EC)	<input type="checkbox"/> VOCs (PID)
<input type="checkbox"/> Hydrogen cyanide (EC)	

Choose up to 4 EPAS-specific optional meters or meteorological sensors.†

<input type="checkbox"/> Temperature and Relative humidity (NTC and CAP)	<input type="checkbox"/> Wind speed/direction (3-cup anemometer/vane)
<input type="checkbox"/> Rain gauge (tipping bucket)	<input type="checkbox"/> Dew point temperature (software calculation)
<input type="checkbox"/> Solar radiance (photodiode)	<input type="checkbox"/> Sound/Noise (Type 2 SLM)
<input type="checkbox"/> Barometric pressure (piezo resistive)†	<input type="checkbox"/> Atomic/Nuclear radiation (Geiger counter)

† Barometric pressure sensor applies to both the gas sensor count and the meter count.

Contact an SKC specialist to help you configure the EPAS system that will meet your applications.

## SKC Limited Warranty and Return Policy

SKC products are subject to the SKC Limited Warranty and Return Policy, which provides SKC's sole liability and the buyer's exclusive remedy. To view the complete SKC Limited Warranty and Return Policy, go to <http://www.skinc.com/warranty.asp>.



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## Performance Profile

The HAZ-SCANNER EPAS is optimized for ambient air applications; custom calibration for specific ranges or applications is available upon request.

<b>Display</b>	LCD real time	<b>Humidity</b>	95% non-condensing (use inlet heater)
<b>Operation</b>	4-key splash-proof membrane switch	<b>Communication Options</b>	<b>Wireless Radio Modem:</b> 900 MHz (U.S.), 868 MHz (Euro) up to 5 miles - line of sight ( <i>optional</i> ) <b>Wi-Fi Server Transmitter:</b> 2.4/5 GHz, for up to 3 miles - line of sight ( <i>optional</i> ) <b>Cellular Mobile Network:</b> LTE/UMTS/HSPA & GSM/GPRS/EDGE and CDMA cellular router <b>Ethernet/Web:</b> A wired LAN/WAN connection to web server <b>Wireless Network Software:</b> Connect up to 8 EPAS to a central PC or Mac
<b>Power</b>	12-V Absorption Glass Mat (AGM) rechargeable battery, 100-240 V AC, or optional solar panel	<b>Auxiliary Analog Input</b>	0 to 2.5 VDC (1 channel for alternative meter)
<b>Display Measurements</b>	Max, Min, TWA, STEL		
<b>Recording Time</b>	1 sec to 21 weeks		
<b>Sampling Rate</b>	1 sec, 1 min, 10 min, 1 hr, adjustable		
<b>Data Storage</b>	454,545 data points		
<b>Internal Sample Pump</b>	2 L/min		
<b>Digital Output</b>	RS-232 (PC), RS-423 (Mac)		
<b>Software</b>	PC or Mac		
<b>Dimensions (weatherproof case)</b>	6 x 14 x 10 in (15.2 x 35.6 x 25.4 cm)		
<b>Weight</b>	12 lbs (5.4 kg)		
<b>Operating Temperature</b>	23 to 122 F (-5 to 50 C)		
<b>Storage Temperature</b>	-40 to 140 F (-40 to 60 C)		

## HAZ-SCANNER EPAS Sensor/Meter Specifications

Parameter	Sensor*	Measurement/Concentration Range	Accuracy	Minimum Resolution	Display Resolution	Additional Information
<b>Particulates</b>	90° infrared light scattering	0 to 5000 µg/m <sup>3</sup>	Greater of < ± 10% of reading or 0.2% full scale	10 µg/m <sup>3</sup>	1 µg/m <sup>3</sup>	Measures particle sizes 10 µm or TSP (included in Basic Kit) or 1, 2.5, or 4 µm (optional) in the 0.1 to 100-µm size range
<b>VOCs</b>	PID (10.6 eV)	0 to 50,000 ppb (0 to 50 ppm)	Greater of < ± 10% of reading or 2% full scale	5 ppb	1 ppb	Minimum detection level is 0.01 ppm
<b>Toxic Gas: NH<sub>3</sub> - Ammonia</b>	Electrochemical	0 to 100 ppm	Greater of < ± 10% of reading or 2% full scale	< 0.2 ppm	0.1 ppm	
<b>Toxic Gas: CO<sub>2</sub> - Carbon Dioxide</b>	NDIR	0 to 5000 ppm	Greater of < ± 10% of reading or 2% full scale	50 ppm	1 ppm	
<b>Toxic Gas: CO - Carbon Monoxide</b>	Electrochemical	0 to 10,000 ppb (0 to 10 ppm)	Greater of < ± 10% of reading or 2% full scale	20 ppb	1 ppb	Included in Basic Kit
<b>Toxic Gas: Cl<sub>2</sub> - Chlorine</b>	Electrochemical	0 to 100 ppm	Greater of < ± 10% of reading or 2% full scale	< 0.2 ppm	0.1 ppm	
<b>Toxic Gas: (C<sub>2</sub>H<sub>4</sub>O) - Ethylene Oxide</b>	Electrochemical	0 to 1500 ppm	Greater of < ± 10% of reading or 2% full scale	8 ppm	1 ppm	EPAS is NOT approved for intrinsically safe applications
<b>Toxic Gas: Methane, CH<sub>4</sub></b>	NDIR	0 to 1% Vol, 0 to 10,000 ppm, 0 to 20% LEL	Greater of < ± 10% of reading or 2% full scale	± 50 ppm or 0.1% LEL	50 ppm/0.1% LEL	
<b>Toxic Gas: (Non-methane) Hydrocarbons (HC)</b>	NDIR	Calibrated for 0 to 20% LEL of selected gas	Greater of < ± 10% of reading or 2% full scale	± 50 ppm or 0.1% LEL	50 ppm/0.1% LEL	Specify gas type when ordering: ethane, propane, butane, pentane, hexane, ethanol, ethylene, or ethylene oxide
<b>Toxic Gas: HCl - Hydrogen Chloride</b>	Electrochemical	0 to 100 ppm	Greater of < ± 10% of reading or 2% full scale	< 0.2 ppm	0.1 ppm	
<b>Toxic Gas: HCN - Hydrogen Cyanide</b>	Electrochemical	0 to 100 ppm	Greater of < ± 10% of reading or 2% full scale	< 0.2 ppm	0.1 ppm	
<b>Toxic Gas: H<sub>2</sub>S - Hydrogen Sulfide</b>	Electrochemical	0 to 25 ppm	Greater of < ± 10% of reading or 2% full scale	0.15 ppm	0.01 ppm	0 to 5000-ppb range available

\* Not approved for intrinsically safe applications; do not use in explosive gas environments

Specifications continued on next page 



## HAZ-SCANNER EPAS

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## HAZ-SCANNER EPAS Sensor/Meter Specifications (Cont)

Parameter	Sensor*	Measurement/ Concentration Range	Accuracy	Minimum Resolution	Display Resolution	Additional Information
Toxic Gas: NO - Nitric Oxide	Electrochemical	0 to 5000 ppb	Greater of $\pm 10\%$ of reading or 2% full scale	5 ppb	1 ppb	
Toxic Gas: NO <sub>2</sub> - Nitrogen Dioxide	Electrochemical	0 to 5000 ppb (0 to 5 ppm)	Greater of $< \pm 10\%$ of reading or 2% full scale	5 ppb	1 ppb	Included in Basic Kit
Toxic Gas: NO <sub>x</sub> - Nitric Oxide and Nitrogen Dioxide	Calculated values	0 to 10,000 ppb	30 ppb	30 ppb	1 ppb	Software modification required to display NO <sub>x</sub> . Requires both NO and NO <sub>2</sub> sensors
Toxic Gas: O <sub>2</sub> - Oxygen	Electrochemical	0 to 30% Vol	Greater of $< \pm 10\%$ of reading or 2% full scale	0.6%	0.1%	
Toxic Gas: O <sub>3</sub> - Ozone	Metal oxide semi-conductor (MOS)	0 to 150 ppb (0 to 0.15 ppm), or 0 to 500 ppb (0 to 0.5 ppm)	Greater of $< \pm 10\%$ of reading or 2% full scale	1 ppb	1 ppb	
Toxic Gas: PH <sub>3</sub> - Phosphine	Electrochemical	0 to 100 ppm	Greater of $< \pm 10\%$ of reading or 2% full scale	< 0.2 ppm	0.1 ppm	
Toxic Gas: SO <sub>2</sub> - Sulfur Dioxide	Electrochemical	0 to 5000 ppb (10 to 500 ppb for ambient applications)	Greater of $< \pm 10\%$ of reading or 2% full scale	5 ppb	1 ppb	
Rainfall/Precipitation	Rain gauge	0 to 5 inches daily	$\pm 1\%$ at 2 in/hr	0.01 in	0.01 in/tip	
Temperature	NTC	-4 to 140 F (-20 to 60 C)	$\pm 3\%$ of reading degree F or C	1 degree F or C	1 degree F or C	Counts as a single sensor
Relative Humidity (RH)	CAP	0 to 100% RH	$\pm 2\%$ RH	1% RH	1% RH	
Solar Radiance Intensity	Photodiode	0 to 1800 watts/square meter (W/m <sup>2</sup> )	+ 5% of full scale (reference Eppley PSP at 1000 W/m <sup>2</sup> )	1 W/m <sup>2</sup>	1 W/m <sup>2</sup>	
Sound	Type 2 SLM	30 to 135 decibels (dB)	$\pm 1.5$ dB	0.1 dB	0.1 dB	
Atomic/Nuclear Radiation	Geiger counter	1 to 19,999 counts per minute (cpm) or 0.001 to 100 milliRad/hr	$\pm 10\%$ Typical, $\pm 15\%$ Max	1 cpm or 0.001 mR/hr	1 cpm or 0.001 mR/hr	
Wind Speed and Direction	3-cup anemometer and continuous rotation potentiometric wind direction vane	Speed: 0 to 125 mph (0 to 55.9 m/s, 0 to 201 km/hr) Direction: 5 to 355 degrees	Speed: 1 mph ( $\pm 0.4$ m/s, -1 km/hr) Direction: $\pm 3\%$ / $\pm 3$ degrees	Speed: 1 mph ( $\pm 0.4$ m/s, 0.1 km/hr) Direction: 1 degree	Speed: 1 mph ( $\pm 0.4$ m/s, 0.1 km/hr) Direction: 1 degree	
Barometric Pressure	Piezo resistive	28.25 to 30.75 in Hg	$\pm 0.09$ in Hg	0.01 in Hg	0.01 in Hg	Counts as a "Toxic Gas Sensor" due to location in case
Dew Point Temperature	Software calculation from RH and temperature	3.2 to 122 F (-16 to 50 C)	$\pm 3$ F	1 F	1 F	Results software calculated using Temperature and RH sensor (required, available separately). Dew Point Temperature does not count as a separate meter

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