

## INFORMATION FOR YOUR SAFETY

FYS

## Guidelines for Choosing a Fixed Gas System

## 1. Fixed Gas Detection

Industrial processes increasingly involve the use and manufacture of highly dangerous substances, particularly flammable, toxic and oxygen gases. Inevitably, gas occasionally escapes, which creates a potential hazard to the industrial plant, its employees and people living nearby.

## 2. Detection Principles

## Flammable Gas Hazards

Combustion is a chemical reaction in which oxygen is combined rapidly with another substance resulting in the release of energy.

There is only a limited band of gas/air concentration which will produce a combustible mixture. This band is specific for each gas and vapor and is bounded by an upper level, known as the Upper Explosive Limit (or the UEL) and a lower level, called the Lower Explosive Limit (LEL).



## Toxic Gas Hazards

Toxic gases are poisonous and can be dangerous to life at very low concentrations. The measurements most often used for the concentration of toxic gases are parts per million (ppm) and parts per billion (ppb). For example 1 ppm would be equivalent to a room filled with a total of one million balls and one of those balls being red. The red ball would represent 1 ppm.

More people die from toxic gas exposure than from explosions caused by the ignition of flammable gas.

## 3. Applications

Building Environment	Specific Area	Gases Present (Detected by XCD)	Building Environment	Specific Area	Gases Present (Detected by XCD)
Bulk and Specialty Gas Applications	<ul style="list-style-type: none"> <li>• Metal Production</li> <li>• Petroleum, Chemicals and Pharmaceuticals</li> <li>• Energy, Oil and Gas</li> <li>• Food and Beverage</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon Dioxide</li> <li>• Hydrogen</li> <li>• Hydrogen Sulfide</li> <li>• Oxygen</li> </ul>	Waste Water Treatment Plants	<ul style="list-style-type: none"> <li>• Digesters</li> <li>• Plants Sumps</li> <li>• H<sub>2</sub>S Scrubbers</li> <li>• Carbon Monoxide Storage Rooms</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon Monoxide</li> <li>• Hydrogen Sulfide</li> <li>• Methane</li> <li>• Nitrogen Dioxide</li> <li>• Chlorine</li> <li>• Oxygen</li> </ul>
Light Industrial	<ul style="list-style-type: none"> <li>• Specialty Chemicals Industry</li> <li>• Printing Industry</li> <li>• Plastic and Fibers Industry</li> <li>• Agricultural Industry</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon Dioxide</li> <li>• Hydrogen</li> <li>• Oxygen</li> <li>• Flammables</li> </ul>	General Manufacturing	<ul style="list-style-type: none"> <li>• Battery Rooms</li> <li>• Loading Docks</li> <li>• Process Areas</li> <li>• Machinery Rooms</li> </ul>	<ul style="list-style-type: none"> <li>• Carbon Monoxide</li> <li>• Methane</li> <li>• Oxygen</li> <li>• Propane</li> </ul>

## Honeywell

## Sensepoint XCD RTD Toxic Gas Monitor for Class 1, Div 2 Areas

The Sensepoint XCD range provides comprehensive monitoring of flammable, toxic and oxygen gas hazards in potentially explosive atmospheres, both indoors and outdoors.

- A tri-color backlit LCD clearly indicates the unit's status at a glance, even from a distance
- One-man, nonintrusive operation and reduces routine maintenance time and costs
- Quick installation and the fastest routine operation by removing the need for hot work permits in hazardous areas
- Easy to replace plug-in sensors. Downtime is reduced and on-going costs are minimized through the use of poison resistant flammable sensors, poison immune infrared Hydrocarbon sensors and patented Surecell™ toxic sensors and Reflex® sensor health check
- Detector is supplied pre-configured and includes two programmable alarm relays, one programmable fault relay as well as an industry standard 4–20mA output

- Steady green backlight = normal operations
- Flashing yellow = fault
- Flashing red = alarm



Part Number	Description
B86SPXCDULNFX	Flammable Catalytic Bead Sensor, 0–100% LEL
B86SPXCDULNRX	Flammable Methane (CH <sub>4</sub> ) Infrared Sensor, 0–100% LEL
B86SPXCDULNB1	Carbon Dioxide (CO <sub>2</sub> ) Infrared Sensor, 0–2% Volume
B86SPXCDULNO1	Oxygen (O <sub>2</sub> ) Sensor, 25.0% Volume
B86SPXCDULNHX	Hydrogen Sulfide (H <sub>2</sub> S) Sensor, 0–50 ppm
B86SPXCDULNCX	Carbon Monoxide (CO) Sensor, 0–300 ppm
B86SPXCDULNG1	Hydrogen (H <sub>2</sub> ) Sensor, 0–1,000 ppm
B86SPXCDULNXX	Nitrogen Dioxide (NO <sub>2</sub> ) Sensor, 0–10 ppm

# Honeywell

## Single-Gas Detectors

### A. BW Clip® Series – IP67 Rating

Includes: Detector complete with specified sensor, stainless steel alligator clip, test cap, and manual

Part Number	Description
B86BWC2H	2-Year Hydrogen Sulfide (H <sub>2</sub> S)
B86BWC2M	2-Year Carbon Monoxide (CO)
B86BWC2X	2-Year Oxygen (O <sub>2</sub> )
B86BWC3H	3-Year Hydrogen Sulfide (H <sub>2</sub> S)
B86BWC3M	3-Year Carbon Monoxide (CO)
B86CLIPHBCASE	Hibernation Case
B86DXCLIP	BW Clip® IntelliDoX Automated Docking Station
B86DXENBLNA	IntelliDoX Enabler Kit (North America)
B86DXSTAND	Retractable Stand/Wall Mount
B86BWC2RH	2-Year H <sub>2</sub> S Monitor

\* More configurations and accessories available.

BW Clip® Real Time is a zero maintenance detector that shows real time readings and can be calibrated if preferred with event logging in a yellow concussion proof housing.



### B. BW™ Solo – IP68 Rating

Includes: Detector complete with specified sensor, stainless steel alligator clip, calibration/test cap, hose, manual, calibration certification

Part Number	Description
B86BWSHLY	H <sub>2</sub> S Detector
B86BWSMLY	CO Detector
B86BWSXLY	O <sub>2</sub> Detector
B86BWSA2Y	NH <sub>3</sub> High Range Detector
B86BWSZY	HCN Detector
B86BWSVY	ClO <sub>2</sub> Detector
B86DXSOLO	Dock Station



## Choose Your Gas Detector — (Don't Forget to Order Your Gas and Regulator)

For Single Gases	Category	BW Clip® Series	BW™ Solo
<b>What Gas(es) do you need to detect?</b>	Number of Gases Monitored	1	1
	H <sub>2</sub> , CO, or O <sub>2</sub>	•	•
	LEL		
	SO <sub>2</sub>	•	•
	NH <sub>3</sub>		•
	Cl <sub>2</sub> , HCN, NO <sub>2</sub> , ClO <sub>2</sub> , PH <sub>3</sub> , ETO, NO, H <sub>2</sub>		•
	O <sub>3</sub>		•
	CO <sub>2</sub>		
	VOC		
<b>Key differences about these Detectors?</b>		Maintenance Free, 2 or 3 year continuous operation, Hibernation and Real time readings available, No charging required. Low cost of ownership.	Easy to use. Low profile. Wireless option.
<b>How many hours will you need to detect for gas?</b>	Battery Run-Time	2/3 years	12–18 months
	Battery Type	Built-in Lithium	Replaceable 3V
<b>How are you sampling gas?</b>	Integral Pump		
	Remote motorized/manual sampling pump	•	•
	Diffusion	•	•
<b>Need an automated data system?</b>	MicroDock II or IntelliDoX	IntelliDoX	IntelliDoX
<b>Need a confined space kit?</b>	Confined Space Kits		

Head and Face Protection

Hearing Protection

Respiratory Protection

Instrumentation

Fall Protection  
Confined Spaces

Hand Protection

Protective Workwear

First Aid Products

Spill Control &amp; Containment

Facility Supplies

Flammable Storage

# Honeywell

## Multi-Gas Detectors

D



**B86HUX1W1H1M1QIYN**

### A. BW™ MicroClip -- P68 Rating

Includes: Detector complete with specified sensor(s), stainless steel alligator clip, charging adapter, calibration/test cap, hose, manual, and multi-language CD

Part Number*	Description
B86MCXLXWHMYNA	4-Gas (H <sub>2</sub> S, CO, O <sub>2</sub> , %LEL)
B86MCX3XWHMYNA	4-Gas (LEL, O <sub>2</sub> , H <sub>2</sub> S, CO)
B86DOCK221C1P00	Dock Station With Charging Module
B86DOCK201C1P00	Charging Dock Module
B86MCKKDL	Deluxe Confined Space Kit
B86MCKKCC	Carrying Case, Confined Space Kit

\* More configurations and accessories available.



**B86TXWHMYNA**

### B. BW™ Clip4 – IP68 Rating

Includes: Detector complete with specified sensor(s), stainless steel alligator clip, concussion-proof housing, calibration and test cap, and Quick Start Guide

Part Number*	Description	Color
B86BWC4BN	4-Gas Detector (O <sub>2</sub> , LEL, H <sub>2</sub> S, CO)	Black
B86BWC4YN	4-Gas Detector (O <sub>2</sub> , LEL, H <sub>2</sub> S, CO)	Yellow
B86DXBWC4	IntelliDoX Docking Station	
B86DXENBLNA	IntelliDoX Enabler Kit*	

\* Note: One IntelliDoX Enabler Kit is required for each Docking Station. Each Docking Station can support up to 5 IntelliDoX modules.

### C. BW™ Max XT II

Includes: Detector complete with specified sensor(s), stainless steel alligator clip, charging adaptor, 3ft/1m calibration hose with quick connect, 10ft/3m sampling hose with particulate filter and quick connect, reversible screwdriver, kit of five pump filters, manual and multi-language CD

Part Number*	Description
B86TXWHMYNA	4-Gas (H <sub>2</sub> S, CO, O <sub>2</sub> , %LEL)
B86TXWH0YNA	3-Gas (H <sub>2</sub> S, O <sub>2</sub> , %LEL)
B86DOCK221C1M00	Dock Station with Charging Module
B86DOCK201C1M	Charging Dock Module
B86XTCKCC	Carrying Case, Confined Space Kit

\* More configurations and accessories available.



**B86BWC4YN**

**B86BWC4BN**

**B86TXWHMYNA**

### D. BW™ Ultra

Includes: Detector with specified sensor(s), stainless steel alligator clip, built-in BLE, rechargeable battery pack, charging adapter, spare filters, 10 ft sample tubing, quick connect fittings, LCD protector, screwdriver, Quick Reference Guide and USB with Technical Reference Guide

Part Number*	Description	Color
B86HUX1W1H1M1S1BN	BW™ Ultra 5-gas detector (O <sub>2</sub> , LEL, H <sub>2</sub> S, CO, SO <sub>2</sub> )	Black
B86HUX1W1H1M1QIYN	BW™ Ultra 5-gas detector (O <sub>2</sub> , LEL, H <sub>2</sub> S, CO, VOCs)	Yellow
B86DXULTRA	IntelliDoX Docking Station	
B86DXENBL	IntelliDoX Enabler Kit (North America)	

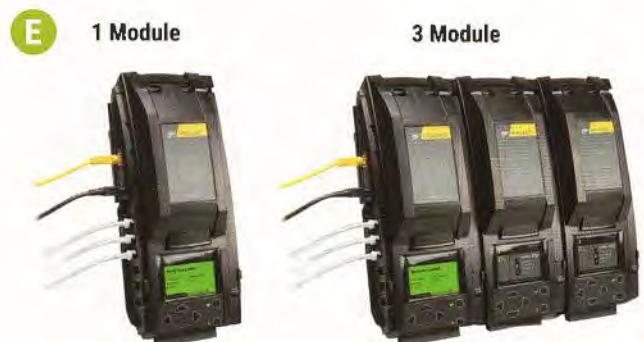
\* More configurations and accessories available.

For VOC's order M5PID-XXQX. For CO<sub>2</sub> order M5IR-XXBX.

### E. BW IntelliDoX Automated Instrument Management System

- Automated detector testing, configuration and record-keeping support for the BW Clip® Series, BW™ MicroClip Series, BW™ Ultra, and BW™ Max XT II
- Expandable to five modules, each with its own LCD screen and keypad for independent operation
- Enhances productivity by performing different functions for up to five detectors, all at the same time
- Industry-leading Fast Bump test for the BW Clip Series to eliminate bottlenecks, while preventing costly purge cycles that waste gas
- Easy setup in under two minutes with no tools required
- Connects via Ethernet to network PCs
- USB transfer of dock module settings or detector data
- Simple reporting to demonstrate compliance and safety

Part Number	Description
B86DXCLIP	BW™ Clip® IntelliDoX Automated Docking Station
B86DXULTRA	BW™ Ultra IntelliDoX Automated Docking Station
B86DXSOLO	BW™ Solo IntelliDoX Automated Docking Station
B86DXENBLNA	IntelliDoX Enabler Kit (North America)
B86DXSTAND	Retractable Stand/Wall Mount



**1 Module**

**3 Module**

## Choose Your Gas Detector — (Don't Forget to Order Your Gas and Regulator)

For Multi-Gases	Category	BW™ MicroClip	BW™ Clip4	BW™ Max XT II	BW™ Ultra
What Gas(es) do you need to detect?	Number of Gases Monitored	1-4	1-4	1-4	1-5
	H <sub>2</sub> S, CO, or O <sub>2</sub>	•	•	•	•
	LEL	•	•	•	•
	SO <sub>2</sub>				•
	NH <sub>3</sub>				•
	Cl <sub>2</sub> , HCN, NO <sub>2</sub> , ClO <sub>2</sub> , PH <sub>3</sub> , ETO, NO, H <sub>2</sub>				• Excludes ClO <sub>2</sub> , ETO and PH <sub>3</sub>
	O <sub>3</sub>				
	CO <sub>2</sub>				• IR Only
	VOC				• PID Only
Key differences about these Detectors?		Slim, lightweight wearability. Low cost of ownership. IntelliFlash-easy visual compliance.	It's ON. Two years of non-stop runtime with no charging, battery or sensor replacement. Simple one button operation.	Built-in diaphragm pump with SmartSample technology. Sample draw length of 75 ft IntelliFlash-easy visual compliance	Hole Watch Mode was developed specifically with Confined Space Entry applications in mind. Intelligent Inert Mode provides appropriate O <sub>2</sub> alarm logic for inert atmosphere applications. Built-in BLE, PID and IR sensor options available.
How many hours will you need to detect for gas?	Battery Run-Time	18 hours; recharges in less than 6 hours <small>* Approximately 20% capacity loss is normal with lithium polymer batteries after 500 charge cycles.</small>	2 year continuous runtime	13 hours	Typical battery runtime: 18 hours (14 hours with PID or IR sensor) at -4°F
	Battery Type	Built-in Rechargeable (Lithium Polymer)	Lithium battery; no replacement required	Built-in Rechargeable (Lithium Polymer)	Removable Rechargeable Lithium Ion Battery
How are you sampling gas?	Integral Pump				Built-in diaphragm pump. Sample draw length 75 ft
	Remote motorized/manual sampling pump	•	•	•	IntelliDoX
	Diffusion	•	•	• (in event of pump failure)	•
Need an automated data system?	MicroDock II or IntelliDoX	MicroDock II or IntelliDoX	IntelliDoX	IntelliDoX	IntelliDoX
Need a confined space kit?	Confined Space Kits	Does not include gas or detector	•	•	•

## A. Confined Space Kits

Deluxe Kit Includes: manual aspirator kit, IR connectivity kit, calibration cap with 1ft/ 0.3 m hose, 0.5 LPM regulator, sampling probe, carrying accessories Contents of the confined space kits may vary based on unit. (Detector and Gas sold separately)

**BW™ Ultra: B86HU-CK-DL** — includes deluxe confined space kit

**BW™ Max XT II: B86XT-XWHM-Y-NA-CS** — includes deluxe confined space kit

A



B86HU-CK-DL



Head and Face Protection  
Hearing Protection  
Respiratory Protection  
Instrumentation  
Fall Protection  
Confined Space  
Hand Protection  
Protective Workwear  
First Aid Products  
Spill Control & Containment  
Facility Supplies  
Flammable Storage

## A. MultiRAE Lite – One to Six Gas Handheld Monitor

- Highly versatile and customizable with over 25 interchangeable sensor options
- Available in pumped or diffusion, wireless and non-wireless models
- Intelligent sensors store calibration data so they can be swapped in the field
- Continuous data-logging (6 months for 5 sensors, 24/7)
- Fully automatic bump testing and calibration with AutoRAE 2

R42B3A2C112E420



### Standard Sensor Configurations – MultiRAE Lite

Part Number	Description
<b>Pumped / 10.6 eV PID / LEL / H<sub>2</sub>S / CO / O<sub>2</sub> / Li-ion / Non-Wireless</b>	
R42B3A2C112E020	Unit Only
R42B3A2C112E021	Unit with Accessories/Confined Space Kit (No Gas or Regulator)
R42B3A2C112E02M	Unit with Accessories/Confined Space and Calibration
<b>Pumped / 10.6 eV PID / LEL / H<sub>2</sub>S / CO / O<sub>2</sub> / Li-ion / Wireless</b>	
R42B3A2C112E420	Unit Only
R42B3A2C112E421	Unit with Accessories/Confined Space Kit (No Gas or Regulator)
R42B3A2C112E42M	Unit with Accessories/Confined Space and Calibration (4Gas + ISO) Kits

## B. AutoRAE 2 Docking System

- Automated testing, calibration, and charging system
- Stand-alone cradle or a controller-based system with up to 10 cradles
- Up to five calibration cylinders can be connected
- Data-logging file recorded automatically on controller or SD card
- Bench top or wall mounted use



R42T02-0103-000

Part Number	Description	Compatible Instrument
R42T02-0107-000	<b>AutoRAE 2 Controller</b> includes Terminal Adapter	Supports all AutoRAE 2 Cradles
R42T02-0103-000	<b>AutoRAE 2 Cradle for MultiRAE Pumped Models</b> contains everything required for deployment in standalone mode as part of a controller-based system with multiple cradles*	MultiRAE Family
R42T02-0003-000	<b>AutoRAE 2 Cradle for ToxiRAE Pro</b> contains everything required for deployment in standalone mode as part of a controller-based system with multiple cradles*	ToxiRAE Pro Family
R42T02-0203-000	<b>AutoRAE 2 Cradle for QRAE 3</b> contains everything required for deployment in standalone mode as part of a controller-based system with multiple cradles*	QRAE 3
R42T02-0403-000	<b>Handheld PID Cradle</b> contains everything required for deployment in standalone mode as part of a controller-based system with multiple cradles. Includes one Flex-I-Probe Quick Connector*	MiniRAE Lite, MiniRAE 3000, ppbRAE 3000, UltraRAE 3000
R42T02-0303-000	<b>Wi-Fi Module for AutoRAE 2 Controller</b> includes: Wi-Fi module, power charger, Ethernet cable and In-the-box accessories*	AutoRAE 2 Controller
R42T02-0108-000	<b>AutoRAE 2 Terminal Adapter</b> *	All

\* No gas, regulators, or external tubing included

## C. ConneXt Pack – Wireless Confined Space Kit

- Kit includes up to 4 wireless QRAE 3 four gas monitors configured with O<sub>2</sub>, LEL, H<sub>2</sub>S and CO sensors, pre-configured to communicate with the included EchoView Host, with all necessary accessories in a rugged carrying-case
- Closed loop wireless network allows real time status
- Configured with pumped or diffusion monitors



R42FD4RB4211000

Part Number	Description
<b>H<sub>2</sub>S Pumped, 1 EchoView Host</b>	
R42F04RB111000	1 Unit QRAE 3 LEL, O <sub>2</sub> , CO
<b>1 EchoView Host</b>	
R42F04RB211000	2 Units QRAE 3 LEL, O <sub>2</sub> , CO, H <sub>2</sub> S
R42F04RB311000	3 Units QRAE 3 LEL, O <sub>2</sub> , CO, H <sub>2</sub> S
R42F04RB411000	4 Units QRAE 3 LEL, O <sub>2</sub> , CO, H <sub>2</sub> S
<b>Diffusion 1 EchoView Host</b>	
R42F04RB1211000	1 Unit QRAE 3 LEL, O <sub>2</sub> , CO, H <sub>2</sub> S
R42F04RB2211000	2 Units QRAE 3 LEL, O <sub>2</sub> , CO, H <sub>2</sub> S
R42F04RB3211000	3 Units QRAE 3 LEL, O <sub>2</sub> , CO, H <sub>2</sub> S
R42FD4RB4211000	4 Units QRAE 3 LEL, O <sub>2</sub> , CO, H <sub>2</sub> S

## D. MicroRAE – 4 Gas Wireless Diffusion Monitor

- Small, lightweight, and easy to use
- Sensor options: O<sub>2</sub>, CO, H<sub>2</sub>S, LEL and HCN
- Bluetooth®, WiFi, and Mesh radio options
- Re-chargable lithium ion battery with up to 15-hour continuous run time
- IP-67 water and dust resistant case
- Real time gas concentration readings and alarm status



R42M0314111200

Part Number	Description
<b>PGM-2600 LEL / H<sub>2</sub>S / CO / O<sub>2</sub> Sensors</b>	
R42M0311111200	LEL/H <sub>2</sub> S/CO/O <sub>2</sub> – Li-ion/BLE
R42M0313111200	LEL/H <sub>2</sub> S/CO/O <sub>2</sub> – Li-ion/BLE + 900MHz + GPS
R42M0314111200	LEL/H <sub>2</sub> S/CO/O <sub>2</sub> – Li-ion/BLE + WiFi + GPS
<b>PGM-2600 LEL / O<sub>2</sub> / CO / HCN Sensors</b>	
R42M0311111300	LEL/O <sub>2</sub> /CO/HCN – Li-ion/BLE
R42M0313111300	LEL/O <sub>2</sub> /CO/HCN – Li-ion/BLE + 900MHz + GPS
R42M0314111300	LEL/O <sub>2</sub> /CO/HCN – Li-ion/BLE + WiFi + GPS

A MSA10153984



B MSA10076729



C



MSA10092522

MSA10092523

MSA10092521

### A. ALTAIR® 2X Gas Detectors

- Conduct bump tests without bottled gas calibration accessories on ALTAIR® 2XP
- 1 or 2 gas detector using XCell sensor technology
- Breakthrough sensor design
- Faster response and shorter span calibrations
- Typical life of four years – double the industry average
- Superior response time, stability, accuracy and reliability
- End-of-sensor-life warning

Part Number	Description
MSA10153984	2XP, Hydrogen Sulfide (H <sub>2</sub> S)
MSA10153985	2XT, Sulfur Dioxide, Hydrogen Sulfide (SO <sub>2</sub> /H <sub>2</sub> S)
MSA10153986	2X, Carbon Monoxide (CO)
MSA10154040	2XT, Carbon Monoxide, Hydrogen Sulfide (CO/H <sub>2</sub> S-LC)
MSA10154077	2X, Sulfur Dioxide (SO <sub>2</sub> )
MSA10154079	2X, Ammonia (NH <sub>3</sub> )
MSA10154080	2X, Chlorine (Cl <sub>2</sub> )

### B. ALTAIR® Pro Single-Gas Detectors

- Tough rubberized housing with dust and water protection rated IP67
- One-button operation, event-logging and data-logging
- Superior dust and water protection rated IP67
- Alarms are indicated by flashing LED's, an audible alarm and an internal vibrating alarm
- Replaceable battery and sensor

Part Number	Description
MSA10074137	Pro O <sub>2</sub>
MSA10076729	Pro Hydrogen Cyanide (HCN)
MSA10076717	Pro Chlorine Dioxide (ClO <sub>2</sub> )

### C. ALTAIR® Maintenance-Free Single-Gas Detectors

- Triple-alarm system features two bright flashing LED's, a piercing audible alarm and a vibrating alarm
- 95 dB audible alarm (distinct sounds for High and Low alarms)
- Hard polycarbonate case, encapsulated in a thick rubberized shell
- Rated to IP67 protection levels for dust/water ingress
- Two years or 18 hours of alarm (1,080 minutes)

Part Number	Description
MSA10092522	Single Gas Carbon Monoxide (CO)
MSA10092521	Single Gas Hydrogen Sulfide (H <sub>2</sub> S)
MSA10092523	Single Gas Oxygen (O <sub>2</sub> )

### D. Accessories and Parts for ALTAIR®, ALTAIR® Pro and ALTAIR® 2X

Part Number	Description
MSA710882	100 L Gas Cylinder, 60 ppm CO
MSA473180	100 L Gas Cylinder, 300 ppm CO
MSA467897	58 L Gas Cylinder, 40 ppm H <sub>2</sub> S, RP
MSA711062	34 L Gas Cylinder, 40 ppm H <sub>2</sub> S, Econo-Cal
MSA467895	Single Gas Regulator, 0.25 lpm
MSA602294	Single Gas Tubing, 16"
MSA10153800	34 L Gas Cylinder, 60 ppm CO, 20 ppm H <sub>2</sub> S
MSA10153803	34 L Gas Cylinder, 60 ppm CO, 10 ppm NO <sub>2</sub>
MSA10153807	58 L Gas Cylinder, 20 ppm H <sub>2</sub> S, 10 ppm SO <sub>2</sub>
MSA10153846	116 L Gas Cylinder, 20 ppm H <sub>2</sub> S



The Safety Company

## A. ALTAIR® 5X/5X PID Multigas Detectors

- Measures up to 6 gases including natural gas
- High performance XCell® Sensors last up to 60% longer than industry average
- MotionAlert feature tells others that user has become immobile
- Advanced PID sensor option for VOC detection
- Bluetooth® connection
- MSA Connect App available for Android®-platform

Part Number	Description
<b>ALTAIR® 5X Detector Industrial Kits – monochrome display</b>	
<b>Integral pump, 10' sampling line and 1' probe</b>	
MSA10116926	5X Multigas Detector Industrial Kit (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S)
MSA10116927	5X Multigas Detector Industrial Kit (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S, SO <sub>2</sub> )
<b>ALTAIR® 5X Detector Deluxe Kits – color display, integral pump, 10' sampling line and 1' probe</b>	
MSA10116928	5X Multigas Detector Deluxe Kit (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S)
MSA10116929	5X Multigas Detector Deluxe Kit (LEL, O <sub>2</sub> , CO, H <sub>2</sub> S, SO <sub>2</sub> )
<b>ALTAIR® 5X with Advanced PID (photoionization) Sensor Options</b>	
MSA10165445	5X Multigas Detector COLOR (LEL, CO, H <sub>2</sub> S, 2K PID)
MSA10165446	5X Multigas Detector (LEL, CO, H <sub>2</sub> S, 2K PID, SMPL)

**Accessories**  
MSA10082834 USB IR Receiver



MSA10116929

## B. ALTAIR® 4XR Multigas Detectors

- Sense gas 2 times faster than the industry average with our XCell® sensors
- Quickly update MSA ALTAIR 4XR settings and send event notifications via the ALTAIR Connect app (available on the Google Play Store)
- Dust- and waterproof IP68 rating
- MotionAlert option tells others that user has become immobile
- Bump and calibrate at a specified "Time of Day" with your MSA GALAXY® GX2 Automated Test System
- 4 year instrument and sensor warranty

Part Number	Description
MSA10178557	4XR Multigas Detector LEL, O <sub>2</sub> , H <sub>2</sub> S, CO
MSA10178566	4XR Multigas Detector LEL, O <sub>2</sub> , CO
MSA10178559	4XR Multigas Detector LEL, O <sub>2</sub>

## C. XCell® Sensors

- Breakthrough sensor design
- Faster response and shorter SPAN calibrations
- Typical life of four years, double the industry average
- Superior response time, stability, accuracy and reliability
- End-of-sensor-life warning to minimize downtime and inventory replacement

Part Number	Description
<b>ALTAIR® 4XR/5X Detectors</b>	
MSA10106722	Combustible Sensor
MSA10106729	O <sub>2</sub> Sensor
MSA10106725	CO/H <sub>2</sub> S Two-Tox Sensor
MSA10121213	CO/H <sub>2</sub> S-LC Two-Tox Sensor
MSA10121217	CO/NO <sub>2</sub> Two-Tox Sensor
<b>ALTAIR® 5X Detectors Only</b>	
MSA10106728	Cl <sub>2</sub> Sensor
MSA10106727	SO <sub>2</sub> Sensor
MSA10080224	NO <sub>2</sub> Sensor
MSA10106726	NH <sub>3</sub> Sensor
MSA10114750	NO Sensor
MSA10105650	XCell Sensor Plug



**B** MSA10178557  
in Alert Status



MSA10178557  
in Safe Status







A



MSA10105756    MSA10128627    MSA10127422

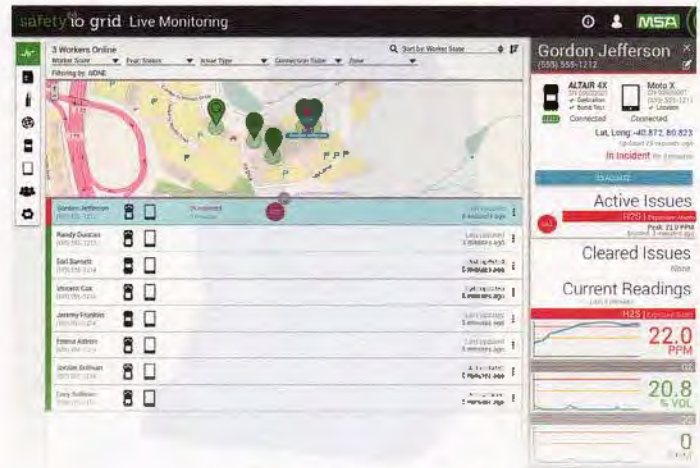
**A. GALAXY® GX2 Automated Test System**

- Provides simple and intelligent testing and calibration of MSA ALTAIR® Gas Detectors
- Simple to use, with touch-free operation for calibration or bump tests
- Exceeds 50% reduction in cost of ownership
- Faster total testing of ALTAIR® Family of Gas Detectors
- Manage System banks for calibration gas cylinder expiration dates and pressure levels
- RFID-tagged calibration gas cylinders to help ensure use of correct gas
- View test and exposure data, at a glance
- Safety io Grid Portable Gas Detector Management System Software provides:
  - Secure web-based setup & access
  - IT-free maintenance
  - Real-time worker health & safety notifications
  - Incident & compliance awareness, management & reports

Part Number	Description
MSA10128627	GALAXY® GX2, ALTAIR® 5/5X, 4 Valve
MSA10128628	GALAXY® GX2, ALTAIR® 5/5X, 1 Valve
MSA10128642	GALAXY® GX2, ALTAIR® 4/4X, 1 Valve
MSA10128644	GALAXY® GX2, ALTAIR® 2X, 1 Valve
MSA10105756	Electronic Cylinder Holder
MSA10125135	Non-Electronic Cylinder Holder
MSA10127422	ALTAIR® 4/4X Detector Multi-Unit Charger
MSA10127427	ALTAIR® 5/5X Detector Multi-Unit Charger
MSA10127111	4GB SD Card

**MSA Link Software**

MSA10082834    USB Infrared Reader For Use With ALTAIR® 5X



Safety io Grid Live Monitoring

**B. Regulators**

- Save money by delivering calibration test gas at a rate of .25 lpm versus competitors test gas which flows at a rate of .50 lpm

Part Number	Description
MSA10034391	Gas Miser® Demand Regulator Model RP, Universal
MSA467895	Model RP Cylinder .25 lpm Flow Control
MSA711175	Model RP Combination Regulator, .25 lpm



MSA10034391

MSA467895

Head and Face Protection  
Hearing Protection  
Respiratory Protection  
Instrumentation  
Fall Protection  
Confined Spaces  
Hand Protection  
Protective Workwear  
First Aid Products  
Spill Control & Containment  
Facility Supplies  
Flammable Storage

**INDUSTRIAL  
SCIENTIFIC**

**A** I2418109327-031



**B** I24TX1-2



**A. DSX™ Docking Stations**

**DSX™ Standalone**

- Requires no PC or network configuration
- Direct USB data storage eliminates concerns about storage space or losing compliance data
- Automatic instrument wake-up and battery charging
- Auto detection of calibration gas type and expiration date upon cylinder connection

**DSXi™ Cloud-Connected**

- Bump test and calibration schedules can be tracked and set to be performed automatically, ensuring that instruments are ready for use prior to the start of a shift
- Cloud-based data storage provides peace of mind with automatic file back-up, and easy recovery in case of unexpected data loss
- Manage your fleet, data and software updates from any web-enabled device
- Email alerts and notifications provide information on worker exposure and instrument usage, as well as instrument service needs with iNet™ Control software (included)

Part Number	Description
I2418109327-031	Ventis® DSX Standalone
I2418109329-031	MX6 iBrid® DSX Standalone
I2418109330-031	Tango® TX1 DSX Standalone
I2418109331-031	GasBadge® Pro DSX Standalone
I2418109406	DSX Standalone to DSXi Activation Certificate
I2418109327-131	Ventis® DSXi Cloud-Connected
I2418109329-131	MX6 iBrid® DSXi Cloud-Connected
I2418109330-131	Tango® TX1 DSXi Cloud-Connected
I2418109331-131	GasBadge® Pro DSXi Cloud-Connected

**DSX Kits**

I2418109401*	Ventis® (LEL, CO, H <sub>2</sub> S, O <sub>2</sub> ) DSX Standalone Kit
I2418109400*	Tango® TX1 (H <sub>2</sub> S) DSX Standalone Kit
I2418109405*	Ventis® (LEL, CO, H <sub>2</sub> S, O <sub>2</sub> ) DSXi Cloud-Connected
I2418109404*	Tango® TX1 (H <sub>2</sub> S) DSXi Cloud-Connected Kit

**B. Tango® TX1 Single Gas Monitors**

- DualSense® Technology increases worker safety by using two sensors to detect the same gas
- Operates continuously in an "always-on" mode for two years
- Optional AlarmAmp™ increases audible alarms to 110 dB

Part Number	Description
I24TX1-1	CO Gas Monitor
I24TX1-2	H <sub>2</sub> S Gas Monitor
I24TX1-4	NO <sub>2</sub> Gas Monitor
I24TX1-5	SO <sub>2</sub> Gas Monitor
I24TX1-G	CO/H <sub>2</sub> Low Gas Monitor
I2417154915-0	Alarm Amp-Black
I2417154915-1	Alarm Amp-Orange

**C. GasBadge® Pro Single Gas Monitors**

- Full-featured, single gas detector
- Lifetime warranty
- Interchangeable sensors to monitor unsafe levels of oxygen or any one of the following toxic gases: carbon monoxide, hydrogen sulfide, nitrogen dioxide, sulfur dioxide, chlorine, chlorine dioxide, phosphine, ammonia, hydrogen cyanide and hydrogen
- iNet® Ready and DSX™ Docking Station compatible

Part Number	Description
I24181000601	Carbon Monoxide (CO)
I24181000602	Hydrogen Sulfide (H <sub>2</sub> S)
I24181000603	Oxygen (O <sub>2</sub> )
I24181000604	Nitrogen Dioxide (NO <sub>2</sub> )
I24181000605	Sulfur Dioxide (SO <sub>2</sub> )



**C** I24181000603

# INDUSTRIAL SCIENTIFIC

## A. MX6 iBrid® Multi-Gas Monitors

- 24 "Plug-and-Play" field-replaceable sensors including PID and Infrared options
- Up to 6 gases monitored simultaneously including oxygen, toxic and combustible gas, and volatile organic compounds (VOCs)
- Simple, user-friendly, customizable, menu-driven navigation
- Optional integral sampling pump
- Full-color graphic LCD is highly visible in a variety of lighting conditions

Part Number	Description
I24MX6K1230101	LEL, CO, H <sub>2</sub> S, O <sub>2</sub> , Li-ion Battery, Without Pump
I24MX6K1230211	LEL, CO, H <sub>2</sub> S, O <sub>2</sub> , Li-ion/ER Battery, With Pump
I24MX6K123R211	LEL, CO, H <sub>2</sub> S, O <sub>2</sub> , PID Li-ion/ER Battery, With Pump
I24MX6K103Q211	LEL, CO, O <sub>2</sub> , CO <sub>2</sub> , Li-ion/ER Battery, With Pump

## B. Ventis® Multi-Gas Monitors

- Monitors 1–4 gases
- 7 sensor options
- Configure with or without a pump
- Available in black or safety orange
- iNet® ready and DSX™ Docking Station compatible

Part Number	Description	Color
<b>Configurations with Desktop Charger</b>		
I24VTSK12311001	LEL, CO, H <sub>2</sub> S, O <sub>2</sub> , Li-ion	Black
I24VTSK12321101	Pump, LEL, CO, H <sub>2</sub> S, O <sub>2</sub> , Ext Li-ion	Black
I24VTSK10311011	LEL, CO, O <sub>2</sub> , Li-ion	Orange
I24VTSK10321111	Pump LEL, CO, O <sub>2</sub> , Ext Li-ion	Orange



## C. Ventis® Pro5 Multi-Gas Monitors

- Detects up to five gases, including toxics, using flexible sensor configurations
- Eliminates the need for two pieces of equipment for personal monitoring and confined space entry
- Improves team safety by sharing alarm data with nearby Ventis® Pro5 monitors
- Endures the harshest conditions with IP68 rating
- Reinforces safe behavior alarm action messages like "EVACUATE" or "VENTILATE"
- Guaranteed for Life™ warranty

Part Number	Description	Color
<b>Configurations with Desktop Charger</b>		
I24VP5KJ5Y2111101	LEL (Pentane), CO/H <sub>2</sub> S, SO <sub>2</sub> , O <sub>2</sub> , Ext Li-ion, Pump	Orange
I24VP5KJ4Y4101101	LEL (Pentane), CO/H <sub>2</sub> S, NO <sub>2</sub> , O <sub>2</sub> , Slim Ext Li-ion	Orange
I24VP5KJ6Y2110101	LEL (Pentane), CO/H <sub>2</sub> S, NH <sub>3</sub> , O <sub>2</sub> , Ext Li-ion, Pump,	Black
I24VP5U12Y2110101	CO <sub>2</sub> /LEL IR, CO, H <sub>2</sub> S, O <sub>2</sub> , Ext Li-ion, Pump	Black

## D. Radius® BZ1 Area Monitors

- Detects up to seven gases simultaneously using 19 sensor options including PID
- Reduces battery swapping with a typical run time of 7 days (168 hours)
- Cuts through high-noise environments with alarms that sound at 108 dB
- Know what's happening at a distance thanks to the largest display of any area monitor
- Customizable alarm action messages such as "EVACUATE" or "VENTILATE"

Part Number	Description
I24BZ1K123000111	LEL (Pentane), CO, H <sub>2</sub> S, O <sub>2</sub> , Wireless
I24BZ1K123001111	Pump, LEL (Pentane), CO, H <sub>2</sub> S, O <sub>2</sub> , Wireless
I24BZ1K123500111	LEL (Pentane), CO, H <sub>2</sub> S, O <sub>2</sub> , SO <sub>2</sub> , Wireless
I24BZ1K123501111	Pump, LEL (Pentane), CO, H <sub>2</sub> S, O <sub>2</sub> , SO <sub>2</sub> , Wireless
I24BZ1K1235R0111	LEL (Pentane), CO, H <sub>2</sub> S, O <sub>2</sub> , SO <sub>2</sub> , Wireless
I24BZ1K1235R1111	Pump, LEL (Pentane), CO, H <sub>2</sub> S, O <sub>2</sub> , SO <sub>2</sub> , Wireless



Head and Face Protection  
Hearing Protection  
Respiratory Protection  
Instrumentation  
Fall Protection  
Confined Spaces  
Hand Protection  
Protective Workwear  
First Aid Products  
Spill Control & Containment  
Facility Supplies  
Flammable Storage

# INDUSTRIAL SCIENTIFIC

## A. iNet® Services

**iNet® Exchange** is a subscription-based service for gas detectors covering repair and replacement.

- Ensure gas detectors are always ready for use with proactive replacement
- Pay only for the equipment you need, when you need it
- Eliminate ongoing support and maintenance expenses like shipping, calibration gas and parts

### Gas Detection Rental

Whether the driving factor is a turnaround or outage, special project, natural disaster, or repair replacement, you can depend on Industrial Scientific rentals for your short-term gas detection needs.

- 25,000 monitors in stock, ready to ship
- Factory-serviced ensuring quality and reliability
- Weekly and monthly rentals available

## B. Ventis® Slide-on Pumps

- Sample draw distance of up to 50 ft
- No tools required to attach/remove to or from the monitor
- Uses same battery packs and chargers as Ventis
- Three battery options:
  - Lithium-ion battery – 18 hours
  - Extended-range lithium-ion battery – 36 hours
  - Alkaline battery – 10 hours
- Ultra-bright LEDs alarm and 90 dB audible alarm at 30 cm

Part Number	Description	Color
I2418109162-1011	Li-ion, UL/CSA	Black
I2418109162-1111	Li-ion, UL/CSA	Orange
I2418109162-2011	Ext Li-ion, UL/CSA	Black
I2418109162-2111	Ext Li-ion, UL/CSA VSP	Orange
I2418109162-3011	Alkaline, UL/CSA	Black
I2418109162-3111	Alkaline, UL/CSA	Orange



I2418109162-1011



I2418109162-1111



**iNet® Now** is live monitoring software that provides real-time text and email alerts for gas hazards, panic and man-down situations allowing you to see and respond to incidents as they happen

- Receive notification and take immediate action when a worker encounters hazardous conditions
- Eliminate the human error and time it takes for lone workers to complete manual check-in processes
- Improve your gas detection program visibility by viewing worker status in real time

## C. Bump-N-Go Bump Testing Gas

- Bump test anytime, anywhere with the pocket-sized gas cylinder
- Get 250 bumps out of one bottle, at a lower cost-per-bump, thanks to a pushbutton regulator that eliminates wasted gas
- Save time and money by ordering the six-pack option

Part Number	Description
<b>Individual Cylinders</b>	
I2418109566	Bump-N-Go Cylinder, 100 ppm CO
I2418109567	Bump-N-Go Cylinder, 40 ppm H <sub>2</sub> S
I2418109568	Bump-N-Go Cylinder, 100 ppm CO, 75 ppm H <sub>2</sub> S, 15% O <sub>2</sub> , 25% LEL (Methane)
<b>Six-Pack Cylinders</b>	
I2418109579	Bump-N-Go Cylinder, 6-pack, 100 ppm CO
I2418109578	Bump-N-Go Cylinder, 6-pack, 40 ppm H <sub>2</sub> S
I2418109577	Bump-N-Go Cylinder, 6-pack, 100 ppm CO, 75 ppm H <sub>2</sub> S, 15% O <sub>2</sub> , 25% LEL (Methane)

Regulator	Description
I2418109565	Pushbutton regulator for use with Bump-N-Go Cylinders






# Portable Calibration Gases

**Compact size.**  
**Hassle-free disposables.**  
**Amazing accuracy.**

We offer a complete line of high accuracy, high precision gases to ensure accurate and reliable calibration of your gas detectors. Conveniently sized, non-refillable cylinders are lightweight and easy to carry, even into small, hard-to-reach areas.



## Portable Calibration Gas Cylinders

Description	Pressure	Valve	Size	Shelf Life	Available Regulators
<b>58-Liter (Aluminum)</b> H <sub>2</sub> S, SO <sub>2</sub> Quad Mixes NH <sub>3</sub> , Cl <sub>2</sub> , PH <sub>3</sub> , HCN, NO, NO <sub>2</sub>	500 psig	C-10	14.25" x 3.5"	15 months 15 months 12 months	<b>Fixed Flow with C-10 Connection</b> <b>Fixed Flow Options:</b> <b>0.1–6.0 LPM</b> 
<b>34-Liter (Aluminum)</b> H <sub>2</sub> S, SO <sub>2</sub> Quad Mixes NH <sub>3</sub> , Cl <sub>2</sub> , PH <sub>3</sub> , HCN, NO, NO <sub>2</sub>	500 psig	C-10	10.64" x 3.125"	15 months 15 months 12 months	
<b>103-Liter (Steel)</b> Pures 2, 3, and 4 Component Mixes	1,000 psig	C-10	13.6" x 3.3"	48 months 48 months	
<b>34-Liter (Steel)</b> Pures Mixes	500 psig	CGA 600	10.75" x 2.9"	48 months 48 months	<b>Demand Row</b> 
<b>17-Liter (Steel)</b> Pures Mixes	240 psig	CGA 600	10.75" x 3.0"		
<b>10-Liter Aerosol (Aluminum)</b> Pures and Non-Reactive Mixes H <sub>2</sub> S, SO <sub>2</sub> Quad Mixes	160 psig	Trigger Aerosol	9.4" x 2.9"	48 months 15 months 15 months	<b>Fixed Flow with CGA 600 Connection</b> <b>Fixed Flow Options:</b> <b>0.1–6.0 LPM</b> 

Please ask your representative for more information and selection assistance on our complete line of portable calibration gases and gas regulators.

Head and Face Protection  
 Hearing Protection  
 Respiratory Protection  
 Instrumentation  
 Fall Protection  
 Confined Spaces  
 Hand Protection  
 Protective Workwear  
 First Aid Products  
 Spill Control & Containment  
 Facility Supplies  
 Flammable Storage



## A. 3M™ Air Monitoring Systems

- Meets or exceeds OSHA accuracy requirements for many workplace contaminants
- Easy-to-use monitors attach to the pocket or lapel
- Can also be used as area monitors if there is sufficient air movement
- Some monitors include prepaid analysis

Part Number	Description
3MR3500	Organic Vapor Monitor
3MR3510	Organic Vapor Monitor with Prepaid Analysis
3MR3520	Organic Vapor Monitor with Back-Up Section
3MR3550	Ethylene Oxide Monitor with Prepaid Analysis
3MR3720	Formaldehyde Monitor with Prepaid Analysis



3MR3500

3MR3520

**WARNING!** Do not use for ammonia; carbon monoxide; ethylene oxide; formaldehyde; hydrogen sulfide; isocyanates; methane; ethane; propane; methyl alcohol (methanol); methyl chloride; methyl, dimethyl, or trimethyl amines; organic solids; sulphur dioxide; reactive or polar compounds such as amines, phenols, aldehydes and low molecular weight alcohols; extremely low concentrations within a sampling period of less than 8 hours; particulates. Ethylene Oxide can be monitored using 3MR3550/3551 Ethylene Oxide Monitor. Formaldehyde can be monitored using 3MR3720/3721 Formaldehyde Monitor.

## B. Gastec® Pump and Detector Tubes

- Precisely identify and measure over 600 gases and vapors
- Easy-to-pull handle and one-stroke precision piston action provides field-proven, foolproof operation with no partial samples
- Accurate and reliable analysis with lower standard deviation
- A direct-read scale printed on each tube means faster sampling time with no confusion, dual scales or concentration charts
- Designed, manufactured and calibrated together for precise, accurate readings
- Other tubes available



B STDGV100STR

Part Number	Description
STDGV100STR	Gas Sampling Pump with Thermal Ring



Part Number	Tube	TLV (ppm)	Measuring Range (ppm)
STD3L	Ammonia	25	0.5-78
STD121SP	Benzene	0.5	0.2-66
STD13	Carbon Disulfide	1	0.63-100
STD1LA	Carbon Monoxide	25	8-1000
STD8LA	Chlorine	0.5	0.01-16
STD91L	Formaldehyde	C 0.3	0.1-40
STD17	Hydrogen Fluoride	0.5	0.25-100
STD4H	Hydrogen Sulfide	1	10-4000
STD4L	Hydrogen Sulfide	1	1-240
STD4LL	Hydrogen Sulfide	1	0.25-120
STD15L	Nitric Acid	2	0.1-40
STD9L	Nitrogen Dioxide	0.2	0.5-125
STD60	Phenol	5	0.4-187
STD5LA	Sulfur Dioxide	0.25	0.5-60



## C. Sensidyne Gilian® BDX-II Abatement Air Sampler

- Internal components are sealed from dust, fibers and moisture
- Comes complete with charger, hose and clip
- Battery pack is rechargeable
- Easily calibrated, flow rate of 0.5 to 3 LPM

Part Number	Description
SNS801863171	Abatement Air Sampler
SNS800271	Standard Flow Wet Cell Calibrator Kit
SNS783000804	Battery Pack
SNS911990IUSR	Single Station Charger, 120V

C SNS801863171



## MAIL/FAX ORDER/RFQ FORM

**All Safety Products, Inc.**  
**www.allsafetyproducts.com** Sales Rep Code \_\_\_\_\_  
 P.O. Box 6353  
 Lakewood, CA 90714-6353 Phone: 562.630.3700

**Office Use Only**  
 Sales Order/RFQ # \_\_\_\_\_  
 Date Order/RFQ Received \_\_\_\_\_

**Bill To:**

**Ship To:**

Company Name			Company Name		
Contact Name			Contact Name		
Address			Address		
City, State, Zip			City, State, Zip		
Contact Phone Number Fax #			Contact Phone Number Fax #		
E-Mail Address			E-Mail Address		
PO Number	Acct #	Required Date	Ship Method	Payment (CC, Check, PO...?)	

Quantity	Part #	Cat. Page #	Description	Unit Price	Amount

Comments: \_\_\_\_\_

**Office Use Only**

Credit Card#:	
Type of Card (MasterCard/Visa/American Express – No Discover):	
Name on Card:	
Card Bill Address:	
Card Bill City, State, Zip:	
CVV Code (on back of card, usually 3 or 4 digits)	
Expiration Date:	
Buyer Approval:	
	Subtotal:
	Sales Tax:
	Shipping:
	Total: