

# alpha **Personal Network**

Modular personal monitoring & alarm system with telemetric capabilities



*Because every life has a **purpose...***



# The Homo Securitrus

*MSA is proud to present the Homo Securitrus, our safety blueprint for emergency first responders and other professionals whose job places them in hazardous environments. The alpha Personal Network, a wireless short-range and long-range monitoring, detection and communication system, adds a whole new multi-layered dimension of safety. A direct increase in personal protection is enhanced by a further proficiency-based safety advantage. Ease-of-use features enable personnel to better focus on their work. Risk potentials are reduced by concentrating on important tasks and increased performance during operation. The alpha Personal Network is the safety net for today's high-risk operations.*



## alphaBASE

The alphaBASE base station communicates with up to 24 active alphaSCOUTs to provide complete telemetric capability.

## alphaCONTROL 2

The alphaBASE is powered by alphaCONTROL 2. All gas readings and alarms can be seen by incident command in real time. Complete incident data is automatically logged and analysed, replacing time-consuming manual reports. Conventional monitoring without any radio link is possible as well.

## alphaMITTER

The alphaMITTER sends air pressure data to the alphaSCOUT or alphaHUD once per second.



## alphaHUD

The alphaHUD Heads-Up-Display provides hands-free monitoring of air supply through the data received from alphaMITTER or alphaSCOUT. It visually delivers evacuation signals sent from the alphaBASE to alphaSCOUT and gas alarms provided by the ALTAIR 5X.

## alphaSCOUT

Using the alphaSCOUT is like having a guardian angel by your side. This handy wireless device functions as a pressure gauge, mini-computer and motion sensor/alarm combined. After receiving pressure data from the alphaMITTER, the alphaSCOUT calculates remaining service time based on your breathing rate. Should you be unable to move, an integrated sensor activates an alarm to let your team know you need help. In combination with the alphaBASE, the alphaSCOUT is able to transmit complete SCBA monitoring data and receive evacuation and alarm confirmation from incident command.

## ALTAIR® 5X

The ALTAIR 5X multi-gas detector measures up to 6 gases simultaneously. This data is transmitted wireless to the alphaBASE via the alphaSCOUT.



short-range transmission

long-range transmission

# alpha Personal Network Components

*The alpha Personal Network is a system of modular and wireless components that can be individually integrated to enhance your operation safety and capability as needed. A basic setup includes personal monitoring, pressure data and motion alarm. This can be extended to include telemetry and evacuation notification. Existing AirGo, AirMaXX and BD 96 SCBA systems can be upgraded to include alpha Personal Network capability.*

*Despite its technological sophistication, the alpha Personal Network system can be operated intuitively and is largely automated. All components are designed to withstand the kind of rough treatment that inevitably occurs in an emergency operation. They are also ATEX approved for zone 0 environments.*



## alphaSCOUT

### Function

The alphaSCOUT is automatically activated by turning on the cylinder valve. To pass it on to replacement personnel, simply depressurise the SCBA. The alphaSCOUT can now be switched off and made available for the next user.

Individualised alphaTAGs are used to identify each new user.

### alphaSCOUT as Repeater

Alarms are transmitted even when there is no direct radio contact. Any colleague's active alphaSCOUT can function as a relay station to extend the signal range. In repeater mode the alphaSCOUT can also be used as a stand-alone repeater. Just place a unit between a remote firefighter and the alphaBASE when conditions call for it.

### Features & Benefits

- Wireless & SCBA-independent
- Significant savings through shared units
- Monitors and displays pressure, motion, remaining service time and battery status
- 25 hrs of continuous battery-powered operation
- Data radio module integrated in alphaSCOUT TM housing
- Several special functions can be activated:
- Can act as "telemetric motion sensor" during inspection work without SCBA
- Can act as dedicated "repeaterSCOUT" to extend range
- In "beeper mode" alarms are dispatched to responsible personnel







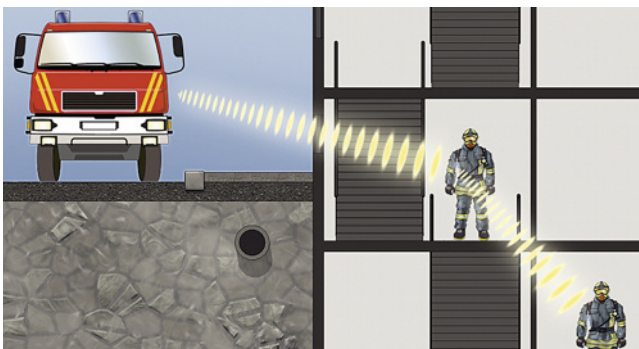
## alphaHUD

Using a non-distracting LED display at the perimeter of your field of vision, the alphaHUD heads-up-display lets you monitor your air supply while keeping your hands free. The wireless alphaHUD provides pressure status and alarm information. It is easily attached to the inside of your Ultra Elite mask.

Advantages include greatly improved operational efficiency and safety. In combination with chemical protection suits, where the ability to use a hand-operated gauge is limited, alphaHUD is indispensable. When used in conjunction with the alphaSCOUT and alphaBASE command communication option, the alphaHUD can also deliver an evacuation signal.

### Features & Benefits

- Two banks of lights on the left and right of your field of vision for balanced perception
- Brightness automatically adjusts to the ambient light for non-obtrusive visibility
- LEDs glow for two seconds then gradually dim for eight seconds providing constant, non-distracting readability
- At low-pressure, a blinking alarm signal is also visible externally from both sides of the mask as a buddy light
- Display of evacuation alarm
- Display of alarms from linked ALTAIR 5X multi-gas detector



*In shielded surroundings the signal of the first alphaSCOUT is extended by the integrated repeater of the second alphaSCOUT.*

## alphaTAG

Each user can identify himself with the alphaSCOUT he is using through the alphaTAG identification tag. A second alphaTAG can be used to register the corresponding station, watch or vehicle.



## alphaTAG writer

Individual alphaTAGs are programmed by the alphaTAG writer, using a convenient PC software module.



## alphaMITTER

A short-range transmitter attached to the SCBA, the alphaMITTER sends air pressure data to the alphaSCOUT or alphaHUD once every second. It can be retrofitted to AirGo, AirMaXX and BD 96 SCBA systems with SL pneumatics.



## Accessories

W-LAN Booster to connect PCs in a larger incident

- For interlinking fire service vehicles at larger incidents
- Acts as a common W-LAN access point
- Uses high-power radio to communicate with other boosters
- Benefit: a very large, self-organising and reliable local area network
- On request only

## ALTAIR 5X

The versatile ALTAIR 5X is capable of measuring up to 6 gases simultaneously and can be fitted with a wide range of both toxic and infrared sensors. The multifunctional alarms, MotionAlert and InstantAlert, are standard.

ALTAIR 5X comes with the proven high performance triple alarm system, 24 hour bump test checkmark and comprehensive data-logging facility.

The real strength of the ALTAIR 5X comes from the MSA XCell Sensor Technology. MSA XCell Sensors offer superior stability, accuracy, repeatability, and an extended lifetime. Doubling the industry average, they speed up response, clear and calibration times.

On top of this ALTAIR 5X can offer the Wireless USB option that allows the integration into the alpha Personal Network.

ALTAIR 5X W-USB can monitor operative personnel using breathing apparatus and portable gas detection equipment while sending information to alphaBASE. All gas readings and alarms can be seen by incident command monitoring personnel in real time.



**XCell®**  
SENSORS

## alphaBASE

The alphaBASE sender/receiver unit comes in two variations. alphaBASE standard is compatible with all Windows-based PCs using a USB 1.1 interface. An external aerial with magnetic foot can optionally be used for vehicle mounted applications.

A battery-powered version of the alphaBASE or the alphaBASE standard can also be used with the xplore TABLET PC. The combination alphaBASE battery-powered and xplore TABLET PC allows full freedom of movement for mobile applications.

The xplore TABLET PC with its compact design is the ultimate tool for managing information on the go. The housing is extremely robust and watertight making it suitable for use in emergency service operations or other harsh environments. The high-resolution screen provides good viewing in all lighting conditions, including direct sunlight.



*xplore TABLET PC with  
alphaBASE battery powered*

## alphaBASE standard & battery powered

- 24 alphaSCOUTs can be logged onto one base station
- Real time monitoring due to fast refresh of data
- alphaBASE standard can be mounted in vehicles using an external aerial
- alphaBASE battery powered attaches to xplore TABLET PC for a mobile & rugged system

*Additional accessories are available on request.*



*alphaBASE standard plus  
PC and alphaBASE battery*

## xplore TABLET PC

- Extremely rugged & watertight (IP65) for use on emergency operation grounds
- High-brightness display is visible in all lighting conditions, including direct sunlight

*Additional accessories are available on request.*



*xplore TABLET PC portrait and  
landscape mode support*

# alphaCONTROL 2 Software

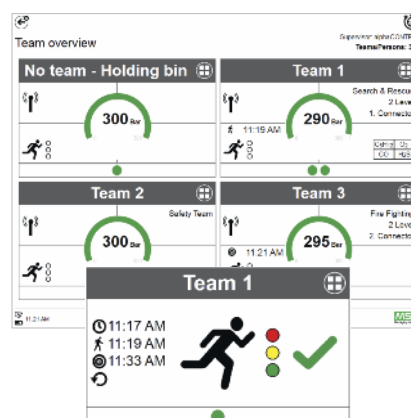
alphaBASE works together with alphaCONTROL 2 for automatic monitoring without the need for operator intervention. alphaCONTROL 2 facilitates an electronic, and optionally telemetric respiratory monitoring. The new and improved entry control software was developed with ease of use at the forefront. It has the ability to document your operations and create an operational report in seconds.

alphaCONTROL 2 is a natural progression from your conventional tally board. It can deliver all the information that your tally board supplies as well as monitoring the air supply of individual users in combination gas measurements. Furthermore, the operational documentation is more reliable and efficient.

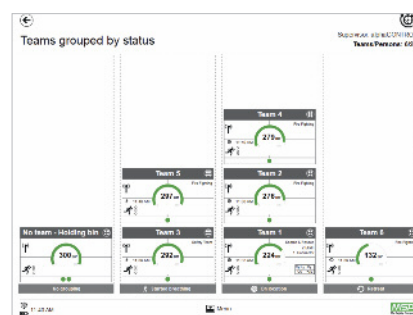
The real-time display shows: user, team assignments, cylinder pressure including time remaining and gas concentration. Motion alarm, manual alarm, low cylinder pressure and gas alarms are highlighted by pop-up windows and audible signals. Complete incident data is also automatically logged and analysed, replacing time-consuming manual reports and maximising traceability.

- Automatic monitoring without operator intervention
- Real-time display of personnel status for instant overview
- Automatic report generation spares valuable resources
- Distinct alarms for low pressure and motion
- Can be used for conventional monitoring without radio link
- Professional substitute to traditional accountability boards
- Integral part of modular public and private safety management software
- Centralised monitoring of multiple alphaBASEs linked via wireless LAN

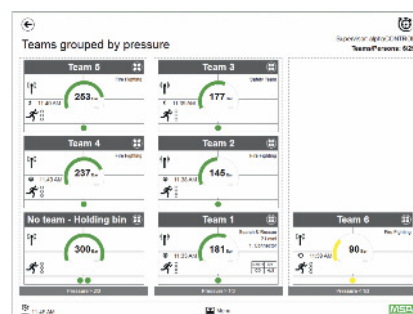
For more information please see alphaCONTROL 2 leaflet 50-200.2.



Team driven monitoring



Operational status



Residual pressure view



Documentation & statistics



*The alpha Personal Network components can be used in several combinations for a wide variety of applications, ranging from routine inspection work to large scale emergency first response. A few of the most popular uses are detailed below.*

## SCBA monitoring

Keep an eye on all your crew members, even in major incidents: alpha Personal Network enables full telemetric monitoring of pressure, motion and other data. The alphaBASE can either be installed in a command vehicle or used as a hand-carried, mobile system with the battery powered alphaBASE mounted onto an xplora TABLET PC. Create your reports by mouseclick. Adding the ALTAIR 5X gas detector enables full monitoring and documentation.

**alphaMITTER + alphaSCOUT TM + alphaHUD + alphaBASE + ALTAIR 5X**



## When you work alone

Industrial plant inspection tours normally don't require respiratory protection. Nevertheless on large and complex sites it may be necessary to monitor personnel who are working alone. The combination of a standalone alphaSCOUT TM with an alphaBASE located in a supervised area is an ideal solution for this application. Adding the ALTAIR 5X gas detector enables full monitoring & documentation.

**alphaSCOUT TM + alphaBASE + ALTAIR 5X**



## With chemical protective suits

Checking pressure in a chemical suit is particularly tiresome and distracting, since you have to take your arm out of the sleeve to find the gauge. That's why professionals who need to work in chemical suits especially appreciate the added safety and efficiency provided by an alphaMITTER and alphaHUD combination. Air pressure and other vital information are monitored directly in the lower perimeter of your field of vision – hands free.

**alphaMITTER + alphaHUD**



## Ordering Information

Part No	Description
10058211	alphaMITTER, retrofittable to AirMaXX, eXXtreme or AirGo with SingleLine (Q) (incl. support bracket for alphaSCOUT)
10069803	alphaMITTER, retrofittable to BD 96 with SingleLine (Q), (incl. support bracket for alphaSCOUT)
10086118	alphaHUD (incl. battery)
10058212	alphaSCOUT TM complete with batteries and alphaTAG
10065874	Support bracket to attach alphaSCOUT (set of 10)
10065873	alphaTAG (set of 5)
10065875	alphaTAG writer (incl. USB cable)

*All breathing apparatus related devices are approved according to EN 137, and meet EN 137:2006 (including Flame Engulfment Test).*

Part No	Description
10058214	alphaBASE receiver box*, EU incl. alphaCONTROL 2 Software
10070795	alphaBASE (battery operation)*, EU incl. alphaCONTROL 2 Software
10153880	alphaCONTROL 2 Software
10153880-SP	alphaCONTROL 2 Software Basic
10076041	xplore TABLET PC (incl. operating system), alphaBASE (battery operation), accessories (2 accumulators, charging device) in one robust suitcase – incl. alphaCONTROL 2
on request	ALTAIR 5X W-USB

*\* Intended for the use in combination with alphaBASE and alphaTAG writer where at least one free USB port is required. alphaBASE (battery operation) can be used with the xplore TABLET or in conjunction with the optional USB adapter.*

## Technical Details

### Long range radio

The alpha Personal Network takes advantage of state-of-the-art, digital radio transmission. With excellent receiver sensitivity and 500 mW output power, the highly reliable signal has a range up to 4 km.

### Frequency

866 MHz (35 cm band) provides a licence-free frequency with good penetration. The base station automatically picks a free channel.

### Polling interval

The alphaBASE polls all logged-on alphaSCOUTs sequentially. A complete polling cycle takes 3.4 seconds, which equals the maximum reaction time.

### Capacity

Up to 24 alphaSCOUTs can be logged onto a base station. Several transmitter/ receiver systems can be operated simultaneously in close proximity to one another.

### Unique signal pairing

The wireless USB 2.4 GHz (W-USB) signal exchange between alphaMITTER, alphaSCOUT and alphaHUD creates a defined network around the person. When an alphaHUD/alphaSCOUT makes contact with an alphaMITTER, they establish a unique signal pairing that cannot be confused by other devices in the vicinity. Nevertheless devices are quickly interchangeable as the pairing of an alphaHUD/alphaSCOUT with another alphaMITTER is easily conducted.

### Your direct contact



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