

# VITALALERT®

## CANARYCOMM-IS

### OVERVIEW CANARYCOMM-IS

Vital Alert TTE technology enables secure, emergency and day-to-day text, voice and data communications in some of the most hostile and difficult communication environments in the world such as tunnels, sewers, subways, buildings, mines and military operations.

The CanaryComm-IS is an intrinsically safe Through-the-Earth communications solution designed for use in environments with flammable gases or dust, such as coal mines. The system can be relocated with the in-mine shelter as needed, and with text messaging and text-based alerts enabled, miners and rescue teams can communicate to surface when air contamination makes speech dangerous.

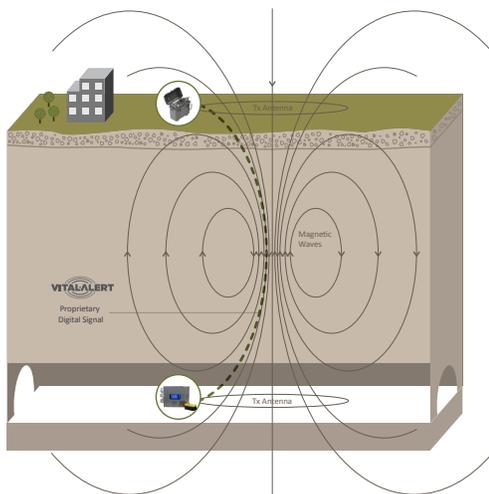
The system is MSHA (USA) and MA (China) certified.



### CORE CAPABILITIES

#### THROUGH-THE-EARTH (TTE) COMMUNICATION

CanaryComm-IS utilizes digitally modulated magnetic induction to transmit signals through solid rock, soil and concrete. Vital Alert has invested years of research developing proprietary digital modulation and signal processing methods to push state of the art TTE radio to new levels and reach areas no one else can.

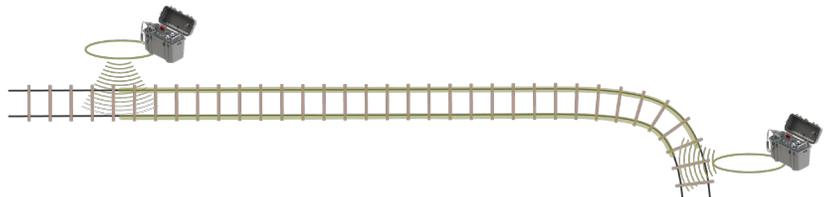


#### INTRINSICALLY SAFE

The CanaryComm-IS is housed in an XP enclosure which is designed to prevent the combustion of air-methane mixtures in the event of an internal fault. Triple redundant current and voltage limiting circuits are used on each external interface, including the transmit antenna, to ensure they are intrinsically safe. The CanaryComm-IS has been approved for use in coal mines by MSHA (USA) and MA (China).

#### MAGNETIC COUPLING

Very low frequency TTE signals possess the ability to “flow” along metallic structures such as train tracks, conveyor belt lines, and elevator shafts. By utilizing magnetic coupling TTE communications can be extended spectacularly wherever a metallic structure is present. Vital Alert has achieved communication ranges in excess of 15,000 feet using this technique.



### MARKETS



INFRASTRUCTURE



PUBLIC SAFETY



MINING



MILITARY



WIRELESS DETONATION

# CANARYCOMM SPECIFICATIONS

## ELECTRICAL SPECIFICATIONS

Operating Frequency	1 to 9 kHz (unlicensed) VLF band
Signal Type	Digitally modulated magnetic field
Data Throughput	Up to 1 kbps full duplex
Voice Communications	1 circuit, half duplex (PTT) at 800 bps
Power Supply	1 or 2 external intrinsically safe 12V battery with built-in charger
Battery Endurance	> 48 hours continuous transmission
Range Through Solid Material	> 300m (with intrinsically safe transmit antenna)

## EXTERNAL INTERFACES

Audio	Integrated noise cancelling headset Text to voice converter Real-time voice and messaging are supported
System Configuration	Menu based

## USER INTERFACES

Radio Switch	On/Off/Charge
Status Display	Receive signal and battery levels
Indicators	Power, RX, TX, Alarm LEDs
Keyboard	IS wireless keyboard, IP-67, for text messaging and system configuration

## PHYSICAL SPECIFICATIONS

The CanaryComm-IS terminal is housed in a small XP enclosure. The Rx and Tx antennas are located outside the enclosure.

Dimensions	46cm x 37cm x 20cm (18" x 14.5" x 8")
Weight	50kg (110lbs)
Operating Temperature	0°C to +40°C
Water, Dust Ingress	IP 65

## REGULATORY COMPLIANCE

The CanaryComm-IS TTE Terminal is designed to the following regulatory standards:

FCC Part 15 Class A

MSHA Approval No. 23-A140007-0

## OPTIONS

No optional equipment is currently approved for use with the CanaryComm-IS

# ALL PRODUCTS

All products are designed for seamless interoperability to accommodate flexible configuration.

INFRASTRUCTURE, PUBLIC SAFETY, MILITARY			MINING	WIRELESS ACTUATION
				
CanaryTalk	CanaryCommpac	CanaryComm	CanaryComm-IS	CanaryBlast CanaryRemote
TTE voice and data communication where depth is a priority over portability	TTE voice, text and data communication where ultra-portability is a priority over depth	TTE voice, text and data communication where depth is a priority over portability	Intrinsically safe system for TTE voice, text and data communication	TTE remote control unit for one-way wireless detonation and remote actuation
7.4kg	2kg	14kg	50kg	0.5kg
Portable	Portable	Portable	Fixed	Portable
Two Way Link	Two Way Link	Two Way Link	Two Way Link	One Way Link
Voice, Data	Voice, Data	Voice, Data, Text	Voice, Data, Text	Data
Up to 300m range	Up to 300m range	Up to 300m range	Up to 300m range	Up to 70m range
5m loop antenna	Variable loop antenna	Variable loop antenna	Variable loop antenna	Integrated ferrite antenna

Note: The range at a particular location is dependent on the propagation conditions and noise level

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### Intellectual Property:

Vital Alert holds the exclusive rights to the Las Alamos National Laboratories (LANL) patents for digital transmission through-the-earth and has 4 additional patents granted and pending.

### Certifications:

MSHA certification (USA):  
Approval number 23-A14007-0

MA certification (China):  
Approval number MCH140229

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