

i-kon™ Centralized Electronic Blasting System (CEBS)

Description

i-kon™ Centralized Electronic Blasting System (CEBS) is a remote blasting system for initiation of an *i-kon™* electronic detonator blast from the surface of an underground mine.



i-kon™ Remote Blasting Box



i-kon™ Lock Box

Applications

i-kon™ CEBS hardware can be connected to existing mine-wide communication infrastructure. A computer with *i-kon™ CEBS* control software and an *i-kon™ Lock Box* are installed at the control point (usually an office on surface) and the *i-kon™ Remote Blasting Box (RBB)* and its associated *i-kon™ Loggers* are deployed in the working areas of the underground mine.

Key Benefits

- i-kon™ CEBS* enables the full functionality of the *i-kon™* electronic blasting system, including *SHOTPlus®-i* and *SHOTPlus®-UG* blast design software.
- i-kon™ CEBS* is adaptable to existing communication networks – no additional wiring is required.
- The system is ready for immediate use in almost any underground mine, with hardware versions for analogue telephone networks, LAN and wireless LAN (WLAN) networks and leaky feeder systems.
- i-kon™ CEBS* allows large, complicated, multi-level blasts to be planned with sophisticated timing and executed with high reliability.
- Multiple security features make *i-kon™ CEBS* virtually immune to outside tampering or operator error.
- The computer displays a full detonator status report at the control point before firing which allows the blaster to confirm that all is well with the blast at firing time.
- The *i-kon™ RBB* monitors blast vibrations for 15 seconds. The recorded seismic data is displayed on the control computer, which confirms that the blast is of expected duration and consistency; if not, the blaster-in-charge is alerted to approach the underground workings with caution.
- The *i-kon™ CEBS* control software automatically generates a detailed blast report which includes the seismic data.

Recommendations for Use

i-kon™ CEBS equipment can only be used with *i-kon™* detonators. Never use *i-kon™ CEBS* control equipment with another manufacturer's electronic detonators or electronic blasting control equipment. Use the help of an Orica service person to install and commission the system. Follow the recommended procedures for testing the system for reliability of communications before actual use. Run all circuit wiring so as to minimize the chances of wire damage due to vehicles, people and falls of ground. Most *i-kon™* blasting equipment, including *i-kon™ CEBS Remote Blasting Box*, has rechargeable batteries which should always be fully charged before use. For best results, always use *i-kon™ CEBS* and other blasting equipment according to its Operating Manual and within its specified technical limits. Return *i-kon™ CEBS* equipment for servicing at the recommended interval.

Technical Properties

Capacity – maximum blast size	2.400 <i>i-kon™</i> detonators (control of 12 <i>i-kon™</i> Loggers)
Maximum length of harness wire per <i>i-kon™</i> Logger	2.000 m, which corresponds to 260 Ohms under ideal conditions of no current leakage
Maximum blasting cable between <i>i-kon™</i> Loggers and <i>i-kon™</i> RBB	130 Ohms under ideal conditions of no current leakage
Maximum length of LAN cable	100 m
Maximum line-of-sight separation of WLAN RBB from node	30 – 100 m depending on conditions, interference, etc.
Operating temperature	-20 °C to +60 °C
Storage temperature	-25 °C to +65 °C
Effective operating window per battery	Stand-by mode: 8 hours Sleep mode: 16 hours
<i>i-kon™</i> RBB Environmental Ratings	Water and shock resistant (IP54 lid open, IP 67 lid closed)
Control equipment external dimensions	<i>i-kon™ Lock Box</i> : 280 x 200 x 77 mm <i>i-kon™ RBB</i> : 406 x 330 x 174 mm

Product Classification

Authorised Name: *i-kon™ Remote Blasting Box*

Approval Number: -

Storage and Handling

i-kon™ CEBS equipment should be transported and stored at -25 °C to +65 °C. It may be used in the temperature range -20 °C to +60 °C. Avoid rough handling and keep the lid of the *i-kon™ RBB* closed whenever possible.

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Safety

The *i-kon™ CEBS* system has excellent safety features. The *i-kon™ RBB* has a physical key and a Smart Dongle that is required to convey the *i-kon™ RBB* serial number and a generated one-time code from the *i-kon™ RBB* to the control point. Until the Smart Dongle is docked in the *i-kon™ Lock Box* at the control point, and the code is activated, the *i-kon™ RBB* cannot program detonators. In addition, the computer and the lockbox are not equipped with the firing code for *i-kon™* detonators; this must be supplied by the Master Dongle which is under the control of the blaster-in-charge. These and other features make *i-kon™ CEBS* a system with the highest safety and security. Always use explosives and associated equipment according to manufacturer's recommendations.

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