

HEBS2 Logger

User Guide



HiTRONIC™

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Wireless Blaster

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I. Logger Component

Logger Component



① Logger

② Charging adapter

II. Logger Specification

Logger Component

Appearance	
Dimension	186mm x 79mm x 39mm
Maximum Detonator Capacity	500ea
Maximum Lead in Wire	1,000m
Frequency Band	Bluetooth LE : 2400 ~ 2483.5MHz
Output Power	Bluetooth : Typical -5dBm ± 2dBm
Display	1.54 inch Display
Battery	Li-ion Rechargeable
Water Resistance	IP65 (Splash proof)
Weight	Max 0.4kg
Operating Temperature	-20 to +60°C
Storage/Transport Temperature	-30 to +70°C

Usage Instructions

HiTRONIC™ Wireless Blasting System can only be used with *HiTRONIC™* Electronic Detonator.

HiTRONIC™ Wireless Blasting System equipment can be safely operated at temperature ranging from -20°C ~ +60°C. However, when to charge equipment, it is recommended to charge at temperature ranging from 0°C ~ +45°C

HiTRONIC™ Wireless Blasting System equipment should be installed where Line of Sight between remote control area and blast area is secured. If Line of Sight is not secured due to obstacles, it is recommended to use repeater.

The communication performance of wireless antenna can be degraded if contacted with hand/body or covered with metallic substances. Check that the wireless antenna is securely attached to equipment before operating. Be aware of damage of wireless antenna when excessive force is applied.

Safety

HiTRONIC™ Wireless Blasting System equipment is designed to provide high level of safety against static electricity, stray electrical currents and radio wave transmission. *HiTRONIC™* Wireless Blasting System equipment must be kept safe from submersion in water and excessive impact.

Storage

HiTRONIC™ Wireless Blasting System equipment is recommended to store in cool and dry atmosphere. In order to store for longer term, charge battery of equipment at level ranging from 50~80 and store at cool atmosphere.

III. Equipment Instructions (Interface)

Interface



- 1) Binding Post** : Connect detonators
- 2) Tagging connector** : Connect detonators
- 3) Power LED** : Power status LED
- 4) BT status LED** : Bluetooth status LED
- 5) Display** : Menu display
- 6) Button** : UP/DOWN/BACK/OK key
- 7) USB-C** : Charging Only

III. Equipment Instructions (MENU)

Menu

Logger Menu BAT 75%

- 1 ID Check
- 2 Line Test
- 3 Configuration

Main Menu

BAT 75%

Detonator ID Check

ID : -

Time : - ms

>Check Poll

<ID Check>

BAT 75%

Detonator ID Check

1 Current

2 Leakage Current

3 Line Resistor

<Line Test>

BAT 75%

Configuration

CC -> 8.00 [V]

CV -> 200 [mA]

REF -> 0.25 [V]

Bluetooth -> ON

<Configuration>

- Check Detonator ID

BAT 75%

MES Current

0.00 mA

<Measure Current>

BAT 75%

MES Leakage Current

0 uA

<Measure Leakage Current>

BAT 75%

MES Line Resistor

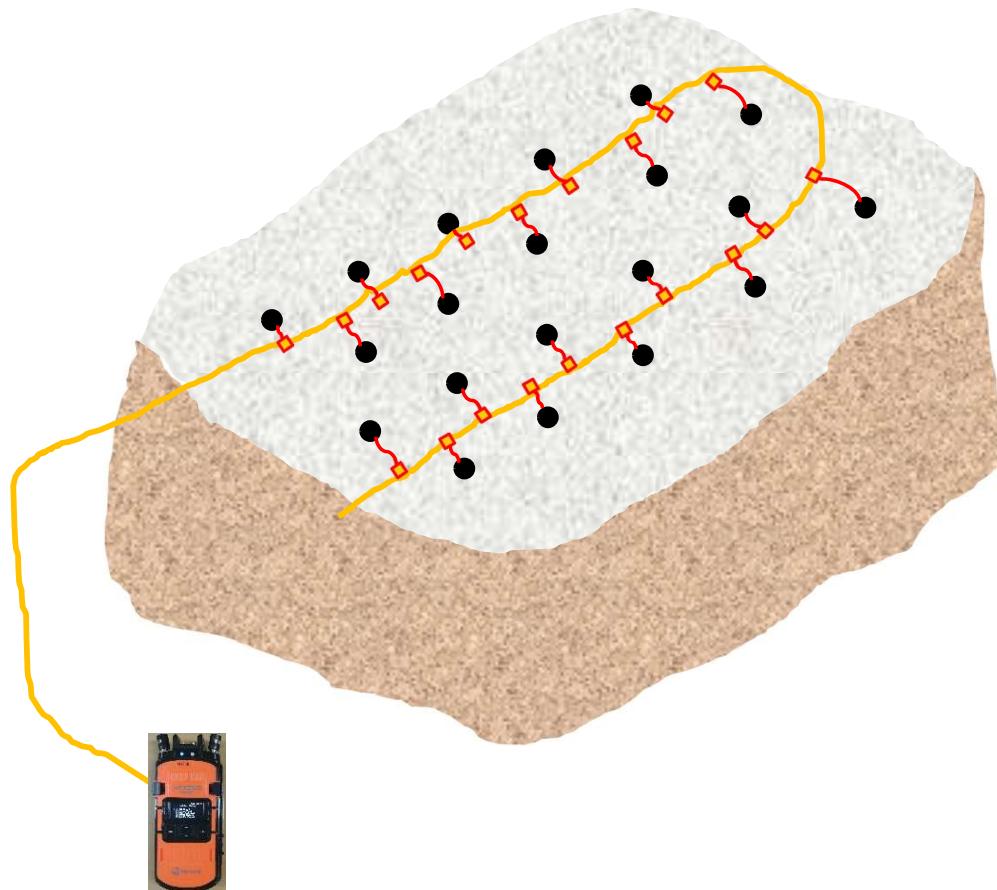
0 ohm

<Measure Line Resistor>

- Measure Line Current
- Measure Leakage Current
- Measure Line Resistor
- Configuration
 - CC : set output voltage
 - CV : set current Limit
 - REF : set communication ref voltage
 - Bluetooth : set On/Off

VI. Operation Method

How to Connect (Open pit mine)



- ① Loading holes (No delay time yet)
- ② Hook-up based on the detonating order
- ③ Conduct of circuit test using Network Tester
- ④ Firing the shot if protective work is not necessary or already completed

VI. Operation Method

Number of Detonators and Connecting Wire Resistance

- **When** : If Connecting Wire resistance is too high, communication may not work or misfire could occur.
- **Solution** : Adhere to the below table of Connecting Wire resistance per number of detonators.

Number of Detonators (EA)	Harness Wire Resistance (Ω)
100	203
200	101
300	68
400	51
500	41
600	34
700	29
800	25
900	23
1000	20

FCC & IC Statement



For a Class A digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:

NOTE:

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC Warning:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC Caution:

Any changes or modification not expressly approved by the party responsible could void the user's authority to operate the device.

FCC NOTE:

The manufacturer is not responsible for any radio or TV interface caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

IMPORTANT NOTE: FCC RF RADIATION EXPOSURE STATEMENT

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

FCC & IC Statement



Regulatory Statement (ISED)

RSS-GEN, 8.4 –(licence-exempt radio apparatus) This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device. Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

RF Exposure

This equipment complies with IC RF Radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet équipement est conforme à l'exposition de la IC rayonnements RF limites établies pour un environnement non contrôlé. L'antenne pour ce transmetteur ne doit pas être dans le même endroit avec d'autres émetteur sauf conformément à la IC procédures de produits Multi-émetteur.