

Hanwha Electronic Blasting System II (HEBS-II)

Description

Hanwha Electronic Blasting System II (HEBS-II) consists of:

- HiTRONIC II™ Electronic Detonator
- Blaster
- Logger
- Planner
- Harness Wire

HEBS-II is designed to maximize blasting performance by utilising advanced electronic technology. HEBS-II can be handled easily and has safety and reliability features to protect against electromagnetic pulse (EMP) and stray current.

HiTRONIC II™ electronic detonators are programmable and reprogrammable from 0ms to 50,000ms in 1ms intervals, so the system can deliver a range of timing/blasting options with high accuracy and precision.

HEBS-II is suitable for use in underground, quarry and open pit environments as well as controlled blasting applications requiring timing control and accuracy.

HiTRONIC II™ electronic detonators should be used with Blaster, Logger and Planner units specific to HEBS-II.



Features & Benefits

- Fully Programmable, accurate and precise electronic delay timing for maximum 50,000ms
- Duplex type harness wire to easy connect
- Using three types (Logging, Tagging, Scanning) to read detonator ID
- Remote Firing up to 5km (Line of Sight)
- Two-way communication and testing functions; delay time programming, connection and circuit testing

- Enhanced safety and security achieved via Planner and Logger with the ability to read unique detonator ID numbers and unique communication protocol and dual capacitors for programming and blasting
- Inherently safe with multiple inbuilt redundancies and safety mechanisms
- High portability and usability with a weight of less than 2kg per Set (Blaster, Logger and Planner)

Technical Data

HiTRONIC II™

HiTRONIC II™			
Type	Folded	Spool	HD
Base Charge	PETN, #8 (730mg)		
Primary Charge	DDNP		
Shell	Material	Copper	
	Dimension	ø7.5mm x 90mm	
Barcode Type	QR code		
Programmability	1 ms		
Maximum Delay Time	50,000 ms		
Accuracy	0.02 CV%		
Length of Wire	6 ~ 18 m	15~ 50 m	6~ 80m
	(Custom made length possible)		
Spool size	Normal: Small – Height: 42mm Outer Diameter: 90mm		
	Large – Height: 42mm Outer Diameter: 110mm		
Tensile strength	Normal: 23 kgf,		
	Heavy duty: 50 kgf		
Wire Color	Normal : Yellow Heavy Duty :Green / white&Green		
Operating Temperature	-30 to +70 °C		
Storage Temperature	-30 to +50 °C		
Transport Temperature	-40 to +70 °C		
Water resistance	Normal: 7bar, 48hrs Heavy duty: 7bar, 120hrs		
Drop weight impact	EN13763-11		
Electrostatic Discharge Resistance	Wire to wire : 2,500pF at 30kV		
	Wire to shell : 2,500pF at 30kV		

***Contact Hanwha's technical representatives for custom made lengths**

Hanwha Electronic Blasting System II (HEBS-II)

Blaster

Blaster	
Appearance	
Dimension	242 x 189 x 52 mm
Maximum Detonator Capacity	Stand-alone mode : 3,000 detonators per blast Multiple blast mode : 21blasters, 63,000 detonators
Maximum Wireless Range without Repeater	5km, Line of Sight
Maximum Lead in Wire	2,000 m
Weight	1.45 kg
Operating Temperature	-20 to +60 °C
Storage/Transport Temperature	-30 to +60 °C
Charge Temperature	0 to +45 °C
Battery	7,000mAh@12.6V, Rechargeable
Splash proof	IP65


***Need to consult with the technician about maximum operating distance and detonator quantity**

Planner

Planner	
Appearance	
Dimension	155 x 75.5 x 18.6 mm
Maximum Detonator Capacity	1,000 per Planner
Weight	249 g
Operating Temperature	-20 to +50 °C

Storage/Transport Temperature	-40 to +70 °C
Charge Temperature	0 to +40 °C
Battery	4,300mAh@3.6V DC Rechargeable Li-Ion
Electrostatic Discharge Resistance	+/-15kV Air, +/-8kV Contact, +/-8kV Charge body
Drop	Multiple 1.2m to tile over concrete over -10 to +50°C
Sealing	IP67 and IP65 per applicable IEC sealing specification

Logger


Logger	
Appearance	
Dimension	186 x 78.7 x 38.5 mm
Maximum Detonator Capacity	500 per Logger
Maximum Lead in Wire	2,000 m
Weight	330 g
Operating Temperature	-20 to +60 °C
Storage/Transport Temperature	-30 to +70 °C
Charge Temperature	0 to +40 °C
Battery	3,500mAh@8.4V, Rechargeable
Electrostatic Discharge Resistance	+/-15kV Air, +/-8kV Contact
Splash proof	IP65

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Harness Wire

Harness Wire	
Appearance	
Length	250 m per roll
Properties	Wire - Cu Φ 0.6mm, 0.075 Ω /m Wire insulation - PE, Outer diameter 1.2mm Tensile strength - 23kgf

25.0	20	6.7	8.2
30.0	20	7.9	9.4
35.0	16	7.3	8.8
40.0	12	6.3	7.8
50.0	7	4.7	6.2
60.0	6	6.9	8.4
70.0	6	5.5	6.9
80.0	5	5.4	6.8

Hazard classification

UN No. (Class / Division):	0030(1.1B) / 0456 (1.4S)
Proper Shipping Name	DETONATORS, ELECTRIC for blasting
EmS	F-B, S-X (1.1B / 1.4S)

Packaging

HITRONIC II™ electronic detonators are available in the following packaging based on one box. *HITRONIC II™* electronic detonators can be packed in PE shrinking wrap.

Grade		UN 0456 / 1.4S (470 X 295 X 160 mm)						
Type (Folded/ Spool)	Length (m)	Pcs/ box	Net Weight (kg)	Gross Weight (kg)				
Normal	Folded	6.0	60	4.5	7.4			
		9.0	50	5.0	7.7			
		12.0	40	4.5	6.8			
		15.0	30	4.2	6.1			
		18.0	30	4.4	6.4			
	Spool (small)	15.0	30	5.0	6.5			
		20.0	30	6.0	7.5			
		25.0	30	7.5	9.0			
		30.0	30	8.5	10.0			
		35.0	16	7.1	8.4			
		Spool (Large)	40.0	16	8.5	9.8		
			50.0	16	10.4	11.7		
			HD	Spool	6.0	42	4.2	5.6
					9.0	36	4.8	6.2
12.0	30	5.2			6.6			
15.0	30	6.0			7.5			
20.0	28	7.6			9.1			
25.0	22	7.3			8.8			
30.0	18	7.1			8.6			
35.0	16	7.3			8.8			
40.0	14	7.3			8.8			
50.0	14	9.1			10.6			
60.0	12	9.5			11.0			
70.0	12	10.5			12.1			
80.0	10	10.6			12.2			

Grade		UN 0030 / 1.1B (470 X 295 X 120 mm)				
Type (Folded/ Spool)	Length (m)	Pcs/ box	Net Weight (kg)	Gross Weight (kg)		
Normal	Folded	6.0	50	3.5	4.5	
		9.0	40	4.0	5.0	
		12.0	30	3.5	4.5	
		15.0	20	3.0	4.0	
		18.0	20	3.5	4.5	
	Spool (small)	15.0	30	5.0	6.0	
		20.0	30	6.0	7.0	
		25.0	30	7.5	8.5	
		30.0	30	8.5	9.5	
		Spool (Large)	35.0	16	7.1	8.1
			40.0	16	8.5	9.5
			50.0	16	10.4	11.4
		HD	Spool	6.0	48	4.7
	9.0			36	4.8	6.2
12.0	30			5.2	6.6	
15.0	25			5.0	6.4	
20.0	23			6.3	7.8	

Usage Instructions

All of the *HEBS-II* equipment, including Blaster, Logger, Planner and Harness Wire, must only be used with *HITRONIC II™* electronic detonators. (Do not use this equipment with any other detonator, electric or electronic.) *HEBS-II* equipment can be safely operated at temperatures ranging from -20°C ~ +50°C.

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Revised on: April 29th, 2020 (Ver 1.2)
www.hanwhacorp.co.kr/eng/explosives

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HiTRONIC II™ electronic detonators must be handled with care, attention should be paid to protect the wire insulation during stemming and loading of the holes.

Access to and use of *HiTRONIC II™* electronic detonators should be restricted to trained and authorized personnel.

Safety

HiTRONIC II™ electronic detonators can be initiated by exposure to shock, impact, friction or heat.

HEBS-II components are designed to provide a high level of safety against static electricity, stray electrical currents and radio wave transmission. *HEBS-II* equipment must be kept safe from submersion in water and excessive impact.

Storage

All ignition sources, such as matches and lighters, are strictly prohibited within minimum of 8 meters radius of the detonators.

HiTRONIC II™ electronic detonators should be stored in a properly conditioned magazine of cool and dry atmosphere.

HiTRONIC II™ electronic detonators must be used within 12 months after opening the packaging. Detonators that are older than five years should not be used.

Store in a secure magazine, access to products and storage should be restricted to authorized personnel.

Delay detonators should be used in order of manufacturing date as they deteriorate with age. Use oldest stored product first.

HEBS-II devices (Blaster, Logger, and Planner) should be stored at 30% to 50% battery charge for long-term storage for 1 month or longer.

Be aware that when used below 0°C, *HEBS-II* device's battery service time may be significantly reduced.

Disposal

For disposal of explosive materials, please dispose of in accordance with relevant local and federal regulations or contact Hanwha regional technical manager for safe disposal.

Disclaimer

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The use of Product is an intrinsically dangerous activity and must be restricted to qualified and trained users in possession of any necessary permits and licenses, and comply at all times with appropriate safety and risk prevention measures and with applicable laws.

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