

TECHNICAL DATA SHEET



Hanwha Electronic Blasting System II (HEBS II)

Description

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

- HiTRONIC® II Electronic Detonator
- Blaster
- Logger
- Planner (TC57)
- Harness Wire

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

HiTRONIC® II electronic detonators are programmable and reprogrammable from 0ms to 50,000 ms in 1 ms 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 50,000 ms
- Duplex type harness wire to easy connect
- Using three types (Logging, Tagging, Scanning) to read detonator ID
- Remote Firing up to 5 km (3.1 mile, 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 2 kg (4.4 lb) per Set (Blaster, Logger and Planner)

Technical Data

HiTRONIC® II			
Wire Type	Standard		Heavy Duty
	Folded	Bobbin	Bobbin-less
Packing Method			
Length of Wire	6-18 m (19.7-59.1 ft)	15-30 m (49.2-98.4 ft)	6-80 m (19.7-262.5 ft)
	(Custom made length possible)		
Base/Booster Charge		PETN, #8 (820 mg, 0.029 oz)	
Primary Charge		DDNP (70 mg, 0.0025 oz)	
Shell	Material		Copper
	Dimension		φ7.5 mm X 90 mm (φ0.3 in X 3.5 in)
Barcode Type		QR code	
Programmability		1 ms	
Maximum Delay Time		50,000 ms	
Accuracy		CV 0.02%	
Spool Size		Height: 42 mm (1.7 in) Outer Diameter: 90 mm (3.5 in)	
Tensile Strength		Standard: 25 kgf (55.1 lbf) Heavy Duty: 50 kgf (110.2 lbf)	
Wire Color		Standard: Yellow Heavy Duty: Green	
Operation Temperature		-30 to +70°C (-22 to +158 °F)	
Storage Temperature		-30 to +50°C (-22 to +122 °F)	
Transport Temperature		-40 to +70°C (-40 to +158 °F)	
Water Resistance		Standard: 7 bar, 48 hrs Heavy Duty: 7 bar, 28 days	
Drop Weight Impact		EN 13763-11	
Electrostatic Discharge Resistance		Wire to wire: 2,500 pF at 30 kV Wire to shell: 2,500 pF at 30 kV	

* Contact Hanwha's technical representatives for custom made lengths

* Bobbin-less products are packed in PE shrinking wrap.

Hanwha Electronic Blasting System II (HEBS II)

Revised on: February 10th, 2023 (Ver 2.4)


www.hanwhablastservices.com

TECHNICAL DATA SHEET




Hanwha Electronic Blasting System II (HEBS II)

Blaster

Blaster	
Appearance	
Dimension	242 mm x 189 mm x 52 mm (9.5 in x 7.4 in x 2.1 in)
Maximum Detonator Capacity	Stand-alone mode : 3,000 detonators per blast Multiple blast mode : 21 blasters, 63,000 detonators
Maximum Wireless Range without Repeater	5 km (3.1 mile), Line of Sight
Maximum Lead in Wire	2,000 m (1.24 mile)
Weight	1.45 kg (3.20 lb)
Operating Temperature	-20 to +60 °C (-4 to +140 °F)
Storage/Transport Temperature	-30 to +60 °C (-22 to +140 °F)
Charge Temperature	0 to +45 °C (+32 to +113 °F)
Battery	7,000 mAh@12.6 V, Rechargeable
Splash proof	IP65


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

Planner (TC57)

Planner	
Manufacturer	Zebra Technologies Corporation
Type	TC57
Appearance	
Dimension	159 mm x 75.5 mm x 18.6 mm (6.3 in x 3.0 in x 0.73 in)
Maximum Detonator Capacity	1,000 per Planner

Weight	249 g (8.78 oz)
Operating Temperature	-20 to +50 °C (-4 to +122 °F)
Storage/Transport Temperature	-40 to +70 °C (-40 to +158 °F)
Charge Temperature	0 to +40 °C (+32 to +104 °F)
Battery	4,300 mAh@3.6 V DC Rechargeable Li-Ion
Electrostatic Discharge Resistance	+/-15 kV Air, +/-8 kV Contact, +/-8 kV Charge body
Drop	Multiple 1.2 m (3.94 ft) to tile over concrete over -10 to +50 °C (+14 to +122 °F)
Sealing	IP68 and IP65 per applicable IEC sealing specification

Logger


Logger	
Appearance	
Dimension	186 mm x 78.7 mm x 38.5 mm (7.3 in x 3.1 in x 1.5 in)
Maximum Detonator Capacity	500 per Logger
Maximum Lead in Wire	2,000 m (1.2 mile)
Weight	330 g (11.6 oz)
Operating Temperature	-20 to +60 °C (-4 to +140 °F)
Storage/Transport Temperature	-30 to +70 °C (-22 to +158 °F)
Charge Temperature	0 to +40 °C (+32 to +104 °F)
Battery	3,500 mAh@8.4 V, Rechargeable
Electrostatic Discharge Resistance	+/-15 kV Air, +/-8 kV Contact
Splash proof	IP65

TECHNICAL DATA SHEET



Hanwha Electronic Blasting System II (HEBS II)

Harness Wire

Harness Wire	
Appearance	
Length	250 m (820.2 ft) per roll / 400 m (1,312.3 ft) per roll
Properties	Wire - Cu Φ 0.6 mm (Φ 0.024 in), 0.075 Ω /m (0.023 Ω /ft) Wire insulation - PE, Outer diameter 1.2 mm (0.047 in) Tensile strength - 23 kgf (50.7 lbf)

Hazard classification

UN No.(Class / Division):	0511 (1.1B) / 0512 (1.4B) / 0513 (1.4S)
Proper Shipping Name	DETONATORS, ELECTRONIC programmable for blasting
EmS	F-B, S-X (1.1B / 1.4B / 1.4S)

Packaging

HiTRONIC® II electronic detonators are available in the following packaging based on one box.

Grade UN 0511 (1.1B) (470 X 295 X 120 mm, 18.5 X 11.6 X 4.7 in)					
Type	Length (m, ft)	Pcs /Box	Net Weight (kg, lb)	Gross Weight (kg, lb)	
Standard	Folded	6.0, 19.7	50	3.5, 7.7	4.7, 10.4
		9.0, 29.5	40	3.5, 7.7	4.7, 10.4
		12, 39.4	30	3.3, 7.3	4.5, 9.9
		15, 49.2	20	2.6, 5.7	3.8, 8.4
		18, 59.1	20	3.1, 6.8	4.3, 9.5
	Bobbin	15, 49.2	30	4.8, 10.6	6.0, 13.2
		20, 65.6	30	5.9, 13.0	7.1, 15.7
		25, 82.0	30	7.0, 15.4	8.2, 18.1
Heavy Duty	Bobbin -less	30, 98.4	30	8.1, 17.9	9.3, 20.5
		6.0, 19.7	48	4.7, 10.4	5.9, 13.0
		9.0, 29.5	36	4.9, 10.8	6.1, 13.4
		12, 39.4	30	5.2, 11.5	6.4, 14.1
		15, 49.2	25	5.3, 11.7	6.5, 14.3

		20, 65.6	23	6.3, 13.9	7.5, 16.5
		25, 82.0	20	6.7, 14.8	7.9, 17.4
		30, 98.4	20	8.0, 17.6	9.2, 20.3
		35, 114.8	16	7.4, 16.3	8.6, 19.0
		40, 131.2	12	6.3, 13.9	7.5, 16.5
		50, 164.0	7	4.5, 9.9	5.7, 12.6
		60, 196.9	6	4.6, 10.1	5.8, 12.8
		70, 229.7	6	5.4, 11.9	6.6, 14.6
		80, 262.5	5	5.1, 11.2	6.3, 13.9

Grade UN 0512 (1.4B) / UN 0513 (1.4S) (472 X 302 X 175 mm, 18.6 X 11.9 X 6.9 in)					
Type	Length (m, ft)	Pcs /Box	Net Weight (kg, lb)	Gross Weight (kg, lb)	
Standard	Folded	6.0, 19.7	60	4.0, 8.8	6.6, 14.6
		9.0, 29.5	50	4.4, 9.7	6.8, 15.0
		12, 39.4	40	4.4, 9.7	6.6, 14.6
		15, 49.2	30	4.0, 8.8	5.9, 13.0
		18, 59.1	30	4.6, 10.1	6.5, 14.3
	Bobbin	15, 49.2	30	4.8, 10.6	6.2, 13.7
		20, 65.6	30	5.9, 13.0	7.1, 15.7
		25, 82.0	30	7.0, 15.4	8.2, 18.1
Heavy Duty	Bobbin -less	30, 98.4	30	8.1, 17.9	9.3, 20.5
		6.0, 19.7	42	4.1, 9.0	6.4, 14.1
		9.0, 29.5	36	4.9, 10.8	7.0, 15.4
		12, 39.4	30	5.2, 11.5	7.1, 15.7
		15, 49.2	30	6.3, 13.9	8.2, 18.1
		20, 65.6	28	7.7, 17.0	9.5, 20.9
		25, 82.0	22	7.4, 16.3	9.1, 20.1
		30, 98.4	18	7.2, 15.9	8.8, 19.4
		35, 114.8	16	7.4, 16.3	8.9, 19.6
		40, 131.2	14	7.3, 16.1	8.9, 19.6
		50, 164.0	14	9.1, 20.1	10.6, 23.4
		60, 196.9	12	9.3, 20.5	10.8, 23.8
		70, 229.7	12	10.8, 23.8	12.2, 26.9
		80, 262.5	10	10.2, 22.5	11.7, 25.8

Hanwha Electronic Blasting System II (HEBS II)

Revised on: February 10th, 2023 (Ver 2.4)

TECHNICAL DATA SHEET



Hanwha Electronic Blasting System II (HEBS II)

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 (-4 °F ~ +122 °F).

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 (+32 °F), *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

The information in this Technical Data Sheet is correct as of the date issued however, subject to periodic review. Hanwha reserves the right in its sole discretion and without prior written notice to modify the product(s) and/or specifications described herein ("Product"). Hanwha disclaims any warranties with respect to Product, the safety or suitability thereof, or the results to be obtained, whether express or implied, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. Given the variety of factors that can affect the use and application of Product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate Product to determine whether it is fit for a particular purpose and suitable for the user's method of use or application.

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.

This document and any accompanying information is not intended to constitute – and shall not be construed as – an offer or contractual commitment on Hanwha's side. For further information about Product, please contact your distributor or sales representative directly.

TECHNICAL DATA SHEET



Hanwha Electronic Blasting System II (HEBS II)

Please contact the following offices for any emergency or enquiry.

HEAD OFFICE (KOREA)

Hanwha Corporation

Hanwha Building 16th Floor
86 Cheonggyecheon-ro, Jung-Gu,
Seoul, Korea 04541

E-mail commercial@hanwha.com

HMS INDONESIA

PT. Hanwha Mining Services Indonesia

Talavera Tower 12th Floor Suite #03-05A
Talavera Office Park, Jl. TB Simatupang Kav 22-26
Cilandak Barat, Jakarta Selatan, Indonesia 12430

TEL. +62 21 2782 8373

E-mail hmsindonesia@hanwha.com

HMS AUSTRALIA

Hanwha Mining Services Australia

Unit5, 28 Metroplex Ave,
Murarrie QLD, Australia 4172

TEL. +61 456 778 375

E-mail australia.accounts@hanwha.com

HMS LATIN AMERICA

Hanwha Mining Services Chile

Alonso de Cordova 5870, Office 707,
Las Condes, Santiago, Chile 7560885

TEL. +56 2 2993 7542

E-mail hmschile@hanwha.com