


Classification: Public	System/Product: BlastWeb System (BWS)	Document Ref: TDS-00003	Revision: 7
	Document Type: TDS-Technical Data Sheet	Current Author: Suzette Menezes	
 <small>the future of electronic initiation</small>	Title: BlastWeb	Original Author: Bella Basch	
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Product Description

BlastWeb Initiation System is a blasting system specifically designed for underground blasting operations. The BlastWeb System can be used to initiate electronic detonators, electric detonators as well as Shock tube systems via an electronic detonator. The BlastWeb System can be used as a single stand-alone system (fixed or portable) or as part of a centralised blasting network in a number of BCU's connected to a Surface Blast Controller via a mine wide communication backbone.

Blast Control Unit (BCU) provides opportunity to give firing command and initiate the blast instantly from Surface Blast Controller, placed in remote location, but does not allow users to program the blast.

Technical Data


BlastWeb Network

1.5mm² x 2 Core permanently installed cable used between Blast Control Unit and Terminator for each of the six channels.

BlastWeb Blast Control Unit (BCU)

Communicator and blasting box between BlastWeb and Initiators.

Temperature Limits	-20°C to +70°C -4°F to +158°F
Applicable Standards	BCU passes tests specified in: SANS 1717-1 (South African National Standard for The Design and Approval of EDD initiation systems for use in mining and civil blasting) and CEN 13763-27: European CEN - testing specification for Explosives for civil uses – detonators and relays.
Power Supply	110V; 220V; 525V
Battery	User replaceable/rechargeable 12V 7.2Ah sealed lead acid battery.
Display	77.5mm x 59.0mm / 3.05 x 2.32 in. LCD with backlight.
Keypad	Tactile touch pad with numeric and soft-keys.
Weight	± 50Kg
Dimensions	L: 539 - 541mm; W: 480 - 482mm; H: 731 - 733mm L: 21.22 - 21.3in; W: 18.90 - 18.98in; H: 28.78 - 28.89in.
External Connectors	Smartkey; USB; (RS-232 & RS-485 for expansion – rear of unit).
Water Resistance	Splash proof (IP54)

APPROVER	APPROVER SIGNATURE	SIGNATURE DATE	ISSUE DATE
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Communication Network

1.8mm² x 2 Core individually screened armoured cable, Ethernet fibre or RF Leaky Feeder backbone used between Surface Controller and BCU.

BlastWeb Leased Line Modem (LLM)

The USB Leased-line Modem is situated between the Blast Controller and the twisted pair cables going down the shaft and driven from the Blast Controller USB port. It is used to establish data communications between a blast controller, BCU and the underground components.

Temperature Limits	-20°C to +70°C -4°F to +158°F
Weight	634 g / 1.40 lbs.
Dimensions	± L: 164mm W: 105mm; H: 44mm ± L: 6.46in; W: 4.13in; H: 1.73in.
External Connectors	USB port for power supply and data communication to and from PC. 2 screw terminals to connect to communication network BCU. 1 screw terminal to earth unit.
Water Resistance	Splash proof (IP54)

BlastWeb Dual Channel Repeater

Filters, refreshes and repeats signal over twisted pair copper communication network between BCU's underground and Surface Blast Controller on surface.

Temperature Limits	-20°C to +70°C -4°F to +158°F
Weight	±21.3Kg
Dimensions	L: 400mm; W: 210 mm; H: 400mm L: 16.0 4.3in; W: 8.4in; H: 16.0in.
External Connectors	Mains Power Supply cable through WRE gland, 2 X Communication in and 2 X Communication out cable glands.
Power Supply	115Vac, 230Vac and 525Vac.
Battery	A sealed 12V 7.2 Amp/hr zinc –acid battery provides 3 – 5hrs back up during any power failures.
Water Resistance	Splash proof (IP54)

BlastWeb Surface Blast Controller (SBC)

Computer on surface (Surface Blast Controller) that continuously communicates with BCU's at the underground work place and provides real time information on all connected components.

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BlastWeb Software

Secure and encrypted software used for Centralised Blasting.

Detonators

QuickShot[®] Plus, DigiShot[®] Plus, SmartShot[®], DriftShot[®], NetShock[®] detonators and the DriftShot[®] Starter which are used to initiate detonating cord, can be initiated by BlastWeb. All product tradenames except SmartShot is produced in both 3G and 4G ASICs until the 3G ASIC is completely discontinued.

Dynamic Shock Resistance	<=15954.15 Psi / 110 MPa
ESD Resistance	>1 Joule Energy @ 30KV
RF Immunity	Passes CEN/TS 13763-27
Detonator Shell:	Copper: L: 88.9mm, OD: 7.49mm - 7.54mm Aluminium: L 88.4.3mm – 89.4mm; OD 7.49mm - 7.54mm Copper: L 93.5mm - 94.5mm; OD 7.49mm - 7.54mm (Being phased out)
Applicable Standards	SANS 551: The South African National Standard for the design approval of EDD initiation systems for use in mining and civil blasting applications. CEN/TS13763-27: European CEN-testing specification for Explosives civil use – Detonators and relays.
Detonator Strength:	8D (South African Strength Definition) #12 (North American Strength Definition)
Base Charge: QuickShot™ Plus SmartShot™ DigiShot™ Plus DriftShot™ Starter detonators DriftShot™ Netshock	
Net Explosive Quantity (NEQ): QuickShot™ Plus SmartShot™ DigiShot™ Plus DriftShot™ Starter detonators DriftShot™ Netshock	
Timing: QuickShot™ Plus SmartShot™ DigiShot™ Plus DriftShot™ Starter detonators DriftShot™ Netshock	

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Wire: QuickShot™ Plus SmartShot™ DigiShot™ Plus DriftShot™ Starter detonators DriftShot™ Netshock	Rugged, yellow, over extruded 4 wire Rugged, green, over extruded 4 wire Rugged, lime green, over extruded 2 wire Rugged, yellow, over extruded 2 wire Rugged, yellow, over extruded 2 wire Rugged, lime green, over extruded 2 wire	
Connector:	Rugged, water resistant	
Elongation:	< 3% (Steel); >25% (Copper); >20% (Bimetal)	
Tensile Strength:	>500N / 112lbs (Steel) >200N / 45lbs (Copper) >400N / 90lbs (Bimetal)	Tested @ 21°C / 70°F
Abrasion Strength	Passes CEN/TS 13763-27	
Detonator Shell Marking:	Dangerous – Blasting Cap – Explosive Danger – Detonateur – Explosif	
In-Hole Sleep Time:	A maximum of 21 days (tested in water and 100% diesel mediums, pressurised to 1 MPa at +25°C/77°F)	
Accuracy: (Coefficient of Variance)	0.01% up to 20 000ms	
Detonator Temperature Limits: * Detonator is suitable for hot emulsion application.	-40°C to 80°C -40°F to +176°F	

Transportation, Storage and Handling

BlastWeb must be transported, stored, handled and used in conformity with all federal, state, provincial and local laws and regulations. The product has a 5 year shelf life from date of manufacture when stored in accordance with relevant regulatory requirements. Control equipment and accessories should be handled with due care and not dropped, mishandled, subjected to excessive vibration or exposed to any chemical agents. Connectors should be kept clean and the equipment must be kept in a safe environment to avoid misappropriation or misuse.

Packaging

UN Shipping Classification: QuickShot™ Plus SmartShot™ DigiShot™ Plus DriftShot™ Starter detonators DriftShot™ Netshock	1.1B (Manufactured in South Africa) 1.4S (manufactured in South Africa) 1.1B (Manufactured in South Africa) 1.4S (manufactured in South Africa) 1.4B (manufactured in North America) 1.1B (Manufactured in South Africa) 1.4S (manufactured in South Africa) 1.4B (manufactured in North America) 1.4B (Manufactured in North America) 1.4B (Manufactured in North America) 1.1B (Manufactured in South Africa) 1.1B (Manufactured in South Africa)
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BlastWeb Accessories

BlastWeb 2 Wire, 4 Wire & High Voltage (HV) Terminator

The 2 wire are to be used with NetShock, DigiShot Plus and DriftShot detonators and 4 wire terminators are for use with QuickShot and SmartShot electronic detonators. Provides continuous feedback on BCU connectivity and detonator panel status. The HV terminator is for electric detonator use only.

Temperature Limits	-20°C to +70°C -4°F to +158°F
Weight	± 140 g / 0.31 lbs.
Dimensions	L: 124.2 – 125.8mm; W: 54.5 – 55.5mm; H: 40.05 – 41.05mm L: 4.9 - 5.0in; W: 2.15 - 2.19in; H: 1.58 - 1.62in.
External Connectors	2 terminals to connect to 2 wire electronic detonator harness
Water Resistance	Water proof (IP67)

Harness Wire

0.71mm (or 21 gauge wire in North America) twisted pair copper wire with PVC or Polyethylene insulation available in 305 m / 333.55 yds. Connects the terminators to the relevant detonator type being used.

Extenders

100m or 500m 4 wire extenders for use with QuickShot (TM Plus and SmartShot™ detonators.

BlastWeb Smart key

The Red Smart key provides a coded blast command for the detonators when used on a BCU unit.

KEY IS PASSWORD PROTECTED.

The Yellow SmartKey awaits the blast command from the Surface Blast Controller before passing it on to the BCU.

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System Limits

Maximum Total Delay Time	25 000 milliseconds for QuickShot Plus detonators 20 000 milliseconds for all other detonators
Maximum Number of Detonators	1200 / BCU (200 /terminator by 6 channels)
Maximum Number of BCU's	24 / SBC
Lead-In Length	1000m (maximum) from BCU to terminator* 1000 m (maximum) from terminator to the furthest detonator*

* Dependent on blast layout, please refer to training manual before use.

Special Instructions

BlastWeb should only be used by appointed users who have completed both product specific training successfully and who comply with the applicable local regulatory requirements. BlastWeb control equipment and detonators are ONLY suitable for use within the BlastWeb system – no other equipment should be connected to BlastWeb detonators and no BlastWeb equipment should be connected to a non BlastWeb detonator of any type. The Red SmartKey should always be under the direct control of the appointed blast supervisor.

Other

BlastWeb control equipment batteries should be kept in a charged state. If the equipment is to be stored for long periods the batteries may require charging at 3 monthly intervals or need to be removed or replaced. All equipment in the field must be returned to DetNet or its approved repair centres for service in the following intervals:

Handheld equipment (Taggers, etc.): 18 months
Other equipment (excl. accessories): 24 months

Product Disclaimer

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