



GeoShot™

Technical Data Sheet

Product Description

GeoShot™ is an easy-to use, reliable accurate electronic initiating system primarily for use in seismic blasting applications. The system data logging capability enables direct user to interface with other Seismic equipment reducing user error in compilation of reports.

Technical Data

GeoShot™ Tagger CE3

The GeoShot™ Tagger is used for in-field operations such as assigning detonator GPS locations, testing for leakage and testing detonator integrity. The tagger is intrinsically safe – maximum battery voltage is below blasting voltage and the tagger cannot issue the encrypted blasting command.

Applicable standards.	SANS 1717-1: The South African National Standard for: The design and specifications approval of EDD initiation systems for use in mining and civil blasting applications. CEN 13763-27: European CEN-Testing specification for Explosives for civil uses – Detonators and relays.
Temperature Limits	-30°C to +70°C -22°F to +158°F
Battery	Nominal 12.6V Lithium Ion battery
Weight	Approximately 300g / 0.66 lbs.
Display	128 x 64 px LCD with backlight
Keypad	Tactile touch pad with numeric and soft-keys
External Connectors	2 Terminals to connect to 2 wire detonator harness. Charging terminal.
Operating time from a fresh battery	Approximately 8 hours at 25°C (77°F). Operating time is influenced by detonator load, backlight settings and operation temperature. At low temperatures battery life may be reduced significantly
Software upgrade	Via a PC and a USB dongle
Water resistance	Splash proof (IP 54)

CE4 Tagger

The CE4 Tagger is used for on bench operations such as assigning detonator locations testing communication, leakage of detonator installation and verification of desired blast layout. The tagger is inherently safe maximum – battery voltage is below minimum required blasting voltage (culling voltage) and the tagger cannot issue the encrypted blasting command (i.e. ARM and FIRE commands).

Applicable standards	SANS 55: The South African Standard for design and specifications approval of EDD initiation systems for use in mining and civil blasting applications. CEN 13763-27: European CEN- Testing specification for Explosives for civil uses – Detonators and relays.
Temperature limits (Operational) (Tagger LCD when exposed for 1 hour)	-30°C to +60°C -22°F to +140°F
Battery - Internal, not field replaceable	3.7V Lithium Polymer (MSD-91)
Battery – External battery pack, not included	6 x 1.5V AA Alkaline or 6 x 1.2V Ni-MH / Ni-Cd
Weight of tagger and head	213mm (L) 88 mm (W) 38mm (H)
Weight of external battery	180mm (L) 85mm (W) 27mm (H)
Display (Active LCD area with backlight)	128 pixels x 128 pixels / 44.78 x 44.78mm
Keypad	Backlit tactile silicone keypad with alphanumeric keys.
External Connectors	A series of detonator connections exist for different application purposes. Replaceable Tagger to detonator connector head. USB Connector for data extraction and charging.
Operating time from a fully charged battery	Approximately 10 hours at 25°C (77°F). Operating time is influenced by detonator load, backlight settings and operation temperature. At temperatures below -15°C (5° F) battery life may be reduced significantly.
Software upgrade	Software upgrade is via the USB connector on the Tagger, and a flash drive.
Water resistance	IP 57

GeoShot™ Seismic Interface Unit (SIU)

The GeoShot™ SIU (Seismic Interface Unit) is used to initiate the blast from a point of safety. The ARMING command is initiated via an external trigger button and the FIRE command is sent when a high voltage pulse with the coded signal is received from a capacitive discharge device.

Applicable standards.	SANS 1717-1: The South African National Standard for: The design and approval of EDD initiation systems for use in mining and civil blasting applications. CEN 13763-27: European CEN-Testing specification for Explosives for civil uses - Detonators and relays.
Temperature Limits	-30°C to +70°C -22°F to +158°F
Battery	External 12V lead acid battery power supply
Weight	Approximately 720g / 1.59 lbs.
External Connectors	2 Terminals to connect to 2 wire detonator harness. Charge/High voltage terminal connector. External ARM trigger connector.
Software upgrade	Via a PC and a USB dongle
Water resistance	Splashproof (IP 54)

Detonator

Dynamic Shock Resistance	<=15954.15 Psi / 110 MPa
ESD Resistance	>1 Joule Energy @ 30KV
RF Immunity	Passes CEN TS 13763-27
Detonator Shell: South Africa North American	Copper: L: 93.5mm - 94.5mm, OD: 7.49mm - 7.54mm Copper: L: 93.5mm - 94.5mm, OD: 7.49mm - 7.54mm L: 3.68 – 3.72in, OD: 0.295 – 0.297in
Applicable standards.	SANS 1717-1: The South African National Standard for: The design approval of EDD initiation systems for use in mining and civil blasting applications. CEN 13763-27: 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	PETN
Net Explosives Quantity (NEQ)	1g/detonator
Timing	Programmable
Wire	Rugged, orange, over extruded Copper wire
Connector	Rugged, water resistant
Elongation	Maximum 25%
Tensile Strength	>200 N / 45 lbs. @ 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 (Polyethylene)	Maximum 12 months
Accuracy	± 1ms
Detonator Temperature Limits	-40°C to +80°C -40°F to +176°F

Transportation, Storage and Handling

GeoShot™ must be transported, stored, handled and used in conformity with all federal, state, provincial and local laws and regulations. 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	1.1B (manufactured in South Africa) 1.4S (manufactured in South Africa) 1.4B (manufactured in North America) 1.4B (manufactured in South America)
Detonator Configurations	Shrink wrapped coil
Cable Colour	Orange
Connector	Transparent

System Limits

Maximum Number of Detonators	16 per shotpoint (8 Tagged)
Maximum Lead-in wire	Should not be less than 31m / 100ft
Maximum number of taggers per blast site	32
Maximum number of Tagged detonators that can initiated on 1 blast	8
Maximum number of untagged detonators that can initiated on 1 blast	8
Maximum number of dets that can be tagged per tagger per blast site	16 000
Maximum shotpoints per tagger CE3	8 000
Maximum shotpoints per tagger CE4	100 000

GeoShot™ Accessories

Charger Tagger CE3	The charger is used to recharge the Tagger. It accepts 110V or 220V AC input at 50/60Hz with an output of 12.6V @ 1A DC. Charging time will vary depending on the state of the battery.
Charge Tagger CE4	Mini B USB cable to supply 5V @ 1A. Charging time will vary depending on the state of the battery.

Special Instructions

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

Other

GeoShot™ control equipment batteries should be kept in a charged state. All equipment in the field must be returned to DetNet or its repair approved 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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