

Microdet -1

Programable Electronic Detonator

Safety • Quality • Reliability

Electronic Detonator System offers a high degree of Accuracy, Reliability & Programability



Product Specifications

Parameters

Shell Material	Alluminium / Copper
Strength	No.08 / No. 06
Shell Length	85 mm
Shell O.D. 7.5 mm	
Delay Range 0 ms t	o 8000 ms
Max Operating Temp 60 c	
Water Resistance	Excellent
Leg Wire Material C	opper Coated Steel / Copper
Max Leg Wire Length	60 Meters
Bus Bar Wire Material - (Resistance)	Copper, Two Coloured (0.07Ω/mtr.)
Max. Circuit Resistance	100 ohms
Delay Time	+ 1ms upto 500 ms & + 0.2 % above 500 ms

Packaging Details

Length	Spool Size	Qty/Bundle (Nos.)	Qty/Wrapping (Nos.)	Stacking/Box (Nos.)	Qty/Case (Nos.)
1-3 Mtr.	NA	5	10	NA	300
4 mtr	NA	5	10	NA	240
5-9 Mtr.	NA	5	5	NA	150
10-28 Mtr.	Disc dia : 60mm Height: 92mm	NA	NA	8X5X2 Layer	80
29-60 Mtr.	Disc dia : 84mm Height: 92mm	NA	NA	6x3x2 Layer	36

Technical Specifications

The System :

- a) A Programmable Electronic Detonator (Microdet-1) consists of an electronic circuit which controls the delay timing of the detonator. The Microprocessor based electronic circuit permits setting of variable delay timing. Each detonator has a unique detonator ID number allotted to it at the time of manufacture. Also, each detonator is provided with a unique tag number which acts as a detonator ID number.

The electronic circuit has a digital timing circuit and an energy storage device, which will release the energy, only when the 'arm' and subsequently, the 'firing' instruction are given.

The electronic detonator is connected to a connector by a Twin Copper/Copper coated steel wire. The micro logger can be connected to the twin Copper/Copper coated steel wire through the connector.

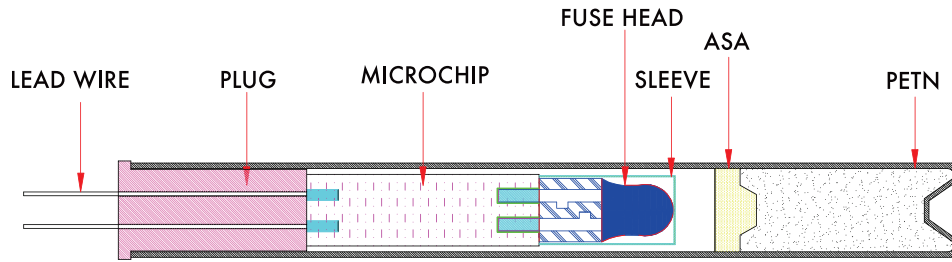
The Electronic Detonator consists of the following parts :

- **Electronic Circuit Board** The electronic circuit or the Chip controls the delay timing and safely allows the firing sequence.
- **The Base charge and Primary charge** : It is made of PETN and AS composition.
- **Connector** : This is a hinged plastic device, which would connect the individual detonator through the twin Copper/Copper coated steel wire to the main circuit. The connector is used for quick connection of the detonator to the main bus line.
- **Lead Wire Spool** : For lead wire length of above 10 meters, the wire is coiled over a plastic spool. The detonator will be inserted and secured in the centre space of the spool shaft.

- b) **The Micro Logger** : This is used to set the delay time of a detonator and has the capability to store information like hole number, detonator ID, delay time and the blast number. The Micro Logger, when connected to the Microdet Detonator and after pressing the log button, it will read the detonator ID number and assign a hole number and delay time to the detonator. It also checks the integrity of the detonator. The required/ desired delay time thus, allotted can be changed or modified before the data is transferred to the blasting machine. After logging all the detonators, the data from the Micro Logger is transferred to the Network tester and Blaster.

- c) **Network Tester** : The Network Tester is used to check the network connections. The connection of all the detonators with harness wire. If any one of those is not connected properly, the hole ID of that particular detonator is displayed on the screen of the Network Tester.

- d) **Micro Blaster** : After all hook up is completed, Blaster is used to counter-check and then to conduct the blast. The blaster checks each detonator one after the other and confirms its readiness to 'Arm'. Thus, an 'arm' signal is given and again blaster checks each detonator and confirms their readiness to 'Fire'. Finally, a 'Fire' signal is given simultaneously to all the detonators to blast them.



The Blast Circuit :

- The circuit is completed, when all the detonators are given a unique hole number and the delay time by the micro logger is primed and connected to the main bus line through the connector.
- The micro logger communicates with the micro blaster and transfers the data from the Logger to the blaster. An option of transferring the data and setting the blast details on PC, is also available.
- The main 'bus line' twin copper wires are connected to the micro blaster, which is placed at a safe place. It counter-checks and tests all the detonators one by one. The micro blaster then arms all the detonators. On receiving the 'All Ready' signal, the 'Fire' signal is given to blast.

Storage and Handling :

- Transfer and storage temperature range from -10°C to 50°C
- Operating temperature range from -20°C to 60°C

Control Equipment :

- Storage at moderate temperature and humidity, Operating temperature range from -20°C to 60°C
- Always use Micro blaster from a safe distance and not to be used as Network tester

Safety Features :

- The Micro Logger checks the integrity of the detonator. Network tester operates at a level which cannot arm the detonator capacitor to fire the fusehead.
- The Micro Blaster is capable of checking the connection of the detonator, current leakages and the circuit continuity.
- It is not possible to arm the detonator without a key.
- A cover is provided over the fire button.
- The Electronic Detonator will be used under the supervision of our qualified blasting engineers or a person trained by our blasting engineer.

Precautions :

- Like all detonators, an Electronic Detonator contains sensitive explosives and so, care is to be taken to avoid any impact, friction and heat.
- When the 'Disarmed' signal is given, the check procedure shall only be started after a lapse of 10 min.
- In case of misfire, the blast site should be approached after a minimum lapse of 30 min. or as required by local regulatory requirements.

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Application Advantage :

The “MICRODET-1” Electronic Detonator is capable of providing :

- Accurate delay timing
- Flexible delay timing
- Safe and Robust in Handling
- Reliability in use
- Easy to use

General Advantages :

- Better Vibration control due to more precise delay timing
- Optimisation of fragmentation
- Better control of rock movement
- Better back break control



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