

blasting  
machines

mining  
ohmmeters

lightning  
protection

testing  
devices

# TRIO

*safe simple reliable*

*Explosion proof, microprocessor driven  
blasting machines for "gassy" mines*

## EKA MD™ SERIES

*EKA MD series are microprocessor driven  
blasting machines, primarily intended for use  
in "gassy" mines.*



### Description

The EKA MD series are Ex-proof electronic blasting machines, driven by military approved microprocessor for ultimate level of safety, battery saving and simplicity of use. The primary purpose of EKA MD blasting machines is blasting in underground coal mines and tunneling.

### Firing ability

Depending of the needs and the requirements of the end-user, EKA MD blasting machines can be produced to fire up to 230 electric blasting caps (EBC) type A (Class I), or up to 215 EBCs type U.

The pack of standard, fresh alkaline batteries provides up to 2000 charging cycles.

### Safety

A self-test feature makes costly testing equipment and time consuming inspection procedures unnecessary.

Charging and firing is done by magnetic sensors without any mechanical or moving parts, thus enabling a reliable and long-lasting operating age. The device will not fire until fully charged to the designated voltage. The firing impulse cut-off time is less than 4 ms and can be pre-programmed in steps of 1 us.

EKA MD™ series come with a carrying case made from military grade textile fabric.



The body of the machine is screwed with special tamper-resistant screws, ensuring that it will be closed through all the operation period and that the battery changes can take place only in the service area.

The operating parameters of the blasting machine are continuously monitored through operating cycle by microprocessor. If any parameter is found to misbehave during the operating cycle, the blasting machine will automatically de-energize and shut down, signaling the malfunction. Furthermore, if the magnetic key is accidentally left in the "Charge" slot for more than 30 s or if the voltage drop is more than 50 V after the charging,

### General purpose:

- Underground coal mining
- Tunneling

the blasting machine will automatically de-energize and shut down. Otherwise, it will automatically recharge itself to the desired voltage immediately before firing.

The built-in "Battery low" indication ensures that the batteries are replaced in timely manner (before entering the pit).

[www.trioblasting.com](http://www.trioblasting.com)

## Mechanical protection

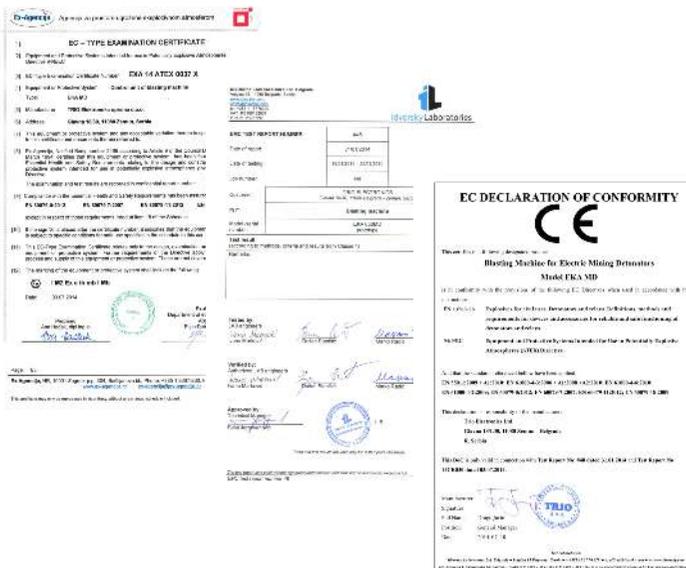
The machine case is extremely tough and is made from stainless steel, which makes the electronic circuitry: water, vapor, dust and tamper resistant, and gives an extremely high level of mechanical protection. The electronic components are casted in a monolithic block using a special compound, resistant to water, moisture, lyes, acids and all types of chemicals.

### EKA MD series technical characteristics

| Voltage min. (V) | Capacity (uF) | Energy min. (J) | Firing ability <sup>1)</sup> |          |                  |          | Weight                      | 1,5 kg                  |
|------------------|---------------|-----------------|------------------------------|----------|------------------|----------|-----------------------------|-------------------------|
|                  |               |                 | Type A (3 mJ/Ω)              |          | Type U (16 mJ/Ω) |          | Size                        | 115 x 67 x 32 mm        |
|                  |               |                 | EBCs                         | Rmax (Ω) | EBCs             | Rmax (Ω) | Ingress protection          | IP 54                   |
| 400 - 430        | 22,0          | 1,76            | 122                          | 250      | 78               | 108      | Operation temp.             | -20 °C to +55 °C        |
| 600 - 630        | 11,0          | 1,98            | 169                          | 350      | 92               | 125      | Storage temp.               | -40 °C to +70 °C        |
| 650 - 680        | 23,5          | 4,96            | 214                          | 440      | 180              | 230      | Power source <sup>2)</sup>  | 6 X 1,5 V alkaline bat. |
| 650 - 680        | 50,0          | 10,56           | 226                          | 460      | 215              | 272      | Ex protection <sup>3)</sup> | I M2 e ib mb Ex Mb      |

- 1) the number of detonators with 2x3 m copper leg wires and approximately 15 Ω (2 x 75 m) of 0,6 mm copper mining cable  
Data source: **Schaffler GmbH & Co**
- 2) a pack of 6 x AA size 1,5 V alkaline batteries
- 3) in accordance with EN 60079-0, EN 60079-7, EN 60079-11 and EN 60079-18

The EKA MD™ series are certified in accordance to ATEX directive: Equipment and protective systems intended for use in potentially explosive atmospheres; and fully comply to the requirements of the EN 13763-26: Definitions, methods, and requirements for devices and accessories for reliable and safe function of detonators and relays.



The EKA MD™ blasting machines can only be opened with the use of a tamper-resistant screwdriver, which is included.

A special buckles allow for easy carrying of the device around the belt or on shoulder in a way that one does not need to remove the device from the case during use.



If you have any questions, or need further information, please contact us:  
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