

# ARBRA BEETHOVEN BATTERY EXPLODERS

**Arbra**  
Instruments

- Hand-held
- Safe
- Robust
- Reliable

## Beethoven Battery Exploder

### ARBRA Instruments

Arbra Instruments have been specialist manufacturers of shot firing exploders since the early 1940's.

The Arbra trade name 'Beethoven' is famous throughout the mining and quarrying industry for quality and reliability. All exploders manufactured by Arbra are used to 'fire' electric detonators which are used in series to initiate high explosive charges.

The exploders may be used to fire a single detonator (i.e. nonel system) as well as a circuit of detonators connected in series.

The exploder provides enough energy to start all the detonators before the circuit is broken by the explosion. Arbra exploders are available for detonators in the range 0-13 Amps in several different models.

These exploders are one of a range of products manufactured by Arbra Instruments and our sales office would be delighted to help you select the most appropriate one for your application.

Arbra also offer a range of blasting accessories including an Approved Ohmmeter for use in 'Permitted Areas'.



### Construction

The MK23 & MK30 are manufactured in a robust high impact ABS moulded case. It is completely water and dust proof. A unique feature of the exploder is the use of sliding billet terminals. This feature makes cable connection especially easy and prevents the cables from damage.

SPECIFICATION	MK23	MK30
Minimum capacitance ( $\mu$ f)	20	200
Maximum fire voltage (Vdc)	105	130
Maximum charging time (Sec.)	2	3
Minimum fire charge (Joules)	0.11	1.69
Maximum time to be safe after firing switch released (Sec.)	5	5
Battery (Alkaline)	PP3	PP3
Weight (Kgs)	0.5	0.5



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## Exploder Features

Automatic firing is achieved by holding the key in the fire position until the detonator fires.

When the key is released any residual charge left in the capacitor is discharged through a resistor. The exploder becomes automatically safe if the key is removed at any time.

A neon indicator flashes to indicate that firing has taken place.

The table below describes the recommended circuit resistance which can be successfully fired with the Arbra Beethoven battery operated exploders. These figures assume bottom limits for the exploder and detonator manufacturers published figures for 99% firing success.

## Warranty

All Arbra exploders are covered by a 12 months warranty.

## MK 23 Exploder

The MK23 exploder is designed to fire a single detonator.

## MK 30 Exploder

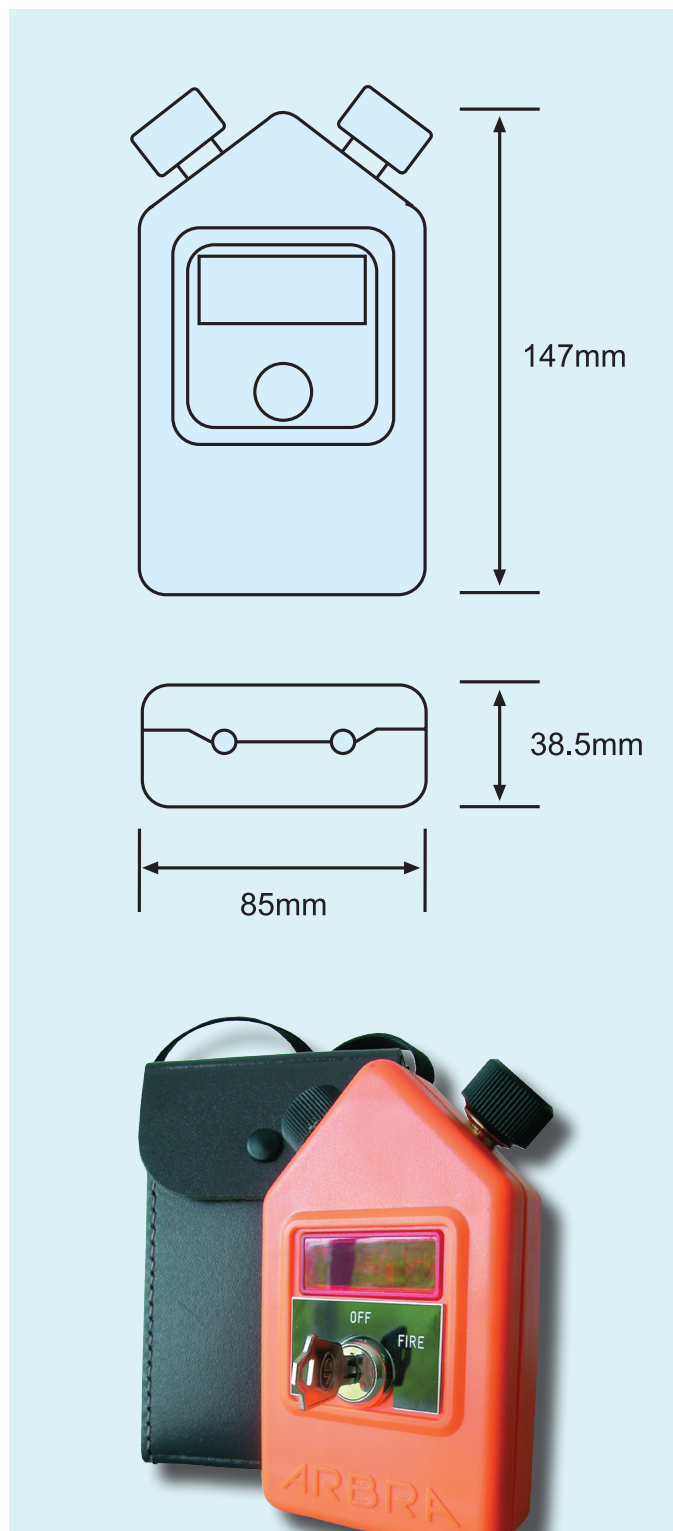
The MK30 exploder can fire a series of detonators in addition to a single detonator.

## Accessories

A range of ohmmeters for circuit testing including an approved version for use in permitted areas.

A range of energy testers suitable for testing each of the Arbra 'Beethoven' range.

Also available, a range of hand generator operated exploders.



		EXPLODER FIRING CAPACITY MAXIMUM TOTAL CIRCUIT SERIES RESISTANCE OHMS	
DETONATOR CHARACTERISTICS		MK23	MK30
Firing Current Amps	1.2		
Firing Energy mJ/Ohms	5	24	102
Firing Current Amps	1.7		
Firing Energy mJ/Ohms	15	7	54