



Blasting Machines and Line Testers

Englo develops, designs and manufactures a wide range of blasting machines and digital line testers for use in mining, military, civil and road construction and other applications.

Many Englo blasting machines come with built-in line testers that eliminate the need for a stand-alone ohmmeter, but stand-alone line testers are available as well. Both integrated and separate line testers verify the detonator line resistance to identify short circuits, breaks in the blasting line or circuits with excessive resistance prior to the blast. This technology virtually eliminates misfires caused by detonator wiring problems, which is one of the leading causes of blast related injuries. For safety reasons, the line tester current is limited to 1mA.

Most of the products include output pulse tail cutting to limit the impulse to 4ms and quench the remaining capacitor charge. These safety features are necessary to eliminate potential secondary explosions of the flammable dust generated during the blast.

The blasting machines are portable, compact and lightweight, and can easily be operated by a single person.

The blasting machines can include hand generators or can be battery powered.

All Englo blasting machines are rated IP65 under the international IEC 60529 standard and are splash and dust proof.

Blasting Machines with Hand Generators

By using hand generators the operator does not have to consider the quality and shelf life of a battery.

The blasting machines with hand generators support various firing voltages and come with various feature sets.

As a new feature there is the digital ohmmeter used in ERNA-5.

PONGO: Push-Button Blasting Machine

- Low energy blasting machine
- Push-button immediate firing impulse generation
- Supports blasting of up to two Class 1 detonators in series, with up to 120m total line length
- Ultra-lightweight

ERNA-3: Hand Cranked Blasting Machine With Line Continuity Tester

- Medium energy blasting machine
- Built-in line tester with two color LED

BART-1: Hand Cranked Blasting Machine With Line Continuity Tester

- Medium energy blasting machine
- Built-in line tester with two color LED
- Short 4ms output pulse
- Certified according to EN 13763-26

ERNA-4: Hand Cranked Blasting Machine With Line Tester

- Medium energy blasting machine
- Built-in line tester with selectable Class 1, 2 or 3 line resistance settings
- 3 two color LEDs for line resistance
- Short 4ms output pulse

ERNA-5: Hand Cranked Blasting Machine With Digital Ohmmeter

- Medium energy blasting machine
- Built-in ohmmeter with digital 0-999 Ω reader
- Short 4ms output pulse

BART-2 and BART-2AS: Hand Cranked High Energy Blasting Machine

- High-energy blasting machine
- Mechanical safety block engaged during connecting and loading the line
- Plastic details manufactured from antistatic plastics to avoid static electrical charge accumulation (BART-2AS)
- Removable crank handle
- Certified according to EN 13763-26

Product	Weight (kg)	Voltage (V)	Energy (J)	Line (Ω)	Size (mm)
PONGO	0.15	11.5	0.03	11	\varnothing 32, L= 95
ERNA-3	0.8	440	6.6	380	142 x 125 x 45
ERNA-4		560	12.8	500	
ERNA-5		560	12.8	500	
BART-1	1.3	900	9.3	700	200 x 143 x 55
BART-2	1.4	1250	88.0	1000	
BART-2AS	1.4	1250	88.0	1000	

Battery Powered Blasting Machines

Englo battery powered blasting machines are compact and ultra-lightweight and come with built-in line testers.

GUERILLA: Blasting Machine With Line Continuity Tester

- Lightweight
- Medium energy blasting machine
- Built-in line tester with two color LED
- Battery level indicator LED

MARS-3: Blasting Machine With Digital Line Tester

- Built-in line tester with digital 0-999Ω reader
- Capacity level indicator LED
- Short 4ms output pulse

MARS-2: Blasting Machine with Digital Line Tester

- Lightweight
- Medium energy blasting machine
- Built-in line tester with digital 0-1999 Ω reader
- Battery level indicator LED
- Short 4ms output pulse

Blasting Machine Testers

The blasting machine tester VIGOR is designed for testing the impulse energy of Englo's blasting machines. The tester can be used in both indoor and outdoor conditions.

VIGOR can be customized for the specific blasting machine or blasting machine family that is being tested.

VIGOR doesn't need any batteries and is ready for immediate operation.

Product	Weight (kg)	Power supply	Protection level of tester case	Operating temperature (°C)	Size (mm)
VIGOR	0.26	No batteries needed	IP67	-15 to +50, in 100 % relative humidity	170 x 88 x 33

Digital Line Testers

Englo digital line testers can be used in conjunction with the blasting machines that do not already include a built-in line tester. The line testers are designed for safe testing of electric detonator lines or sections and the connecting cables.

The line tester accurately measures the line resistance over the full range between 0 to 1999 Ω and includes an LCD screen that displays the readout. Momentary and also continuous measurement modes are available.

The continuous mode is initiated releasing the TEST button after 10 seconds and it lasts indefinitely. This is useful in situations where the detonator line can be affected for some time prior to the actual blasting moment, such as intentional covering of blasting charges.

For safety reasons, the line tester current is limited to 1mA. The products are battery powered.

Englo digital line testers are rated IP65 under the international IEC 60529 standard and are splash and dust proof.

OOM-4: Digital Line Tester

- Highly accurate
- Full-range numeric line resistance measurement with display
- Continuous and button-based measurement modes

Product	Weight (kg)	Range (Ω)	Resolution (%)	Max line resistance current (mA)	Size (mm)
OOM-4	0.23	0-1999	+/-0.5	1	140 x 69 x 34



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