



ENERGISER

BS102

Product Brochure



THE STINGER BS102 SECURITY FENCE ENERGISER



1. GENERAL

The basic system consists of the BS102 energiser plus a control unit.

The control unit has full control on all functions of the BS102. However, if communication should fail, the BS102 can still make its own decisions regarding when to switch on a siren or strobe light. If more complicated systems are required, all the building blocks to realize different configurations are available.

The advantage of this approach is that the basic system fulfils the minimum requirements at market related cost. Any system can however be assembled, with additional cost for each extra requirement.

Up to 127 BS102 units can be controlled via the Stinger PC program, in combination with other Stinger products like SDS, CDS and BS120 Systems.

The BS102 is a two-zone system. There is no need for an HT return wire, as an End of Line Resistor (EOL) terminates each zone at the end of that zone. The advantage of this system is, that it is now impossible for criminals to by-pass the system by shorting the live- and return wire at the beginning of the fence, which is common practice with standard energisers.

2. BS102 MONITOR

The monitor has three different functions for each zone.

2.1 HT current monitoring

During a short circuit or arcing situation, the current flowing into the live wire will momentarily rise above a predefined level, resulting in an “HT Short” Alarm.

Three consecutive shorts are required before an alarm situation is announced.

2.2 LV current monitoring

An independent operating LV(Low voltage) monitor measures the LV Loop currents, which are determined by the End of Line Resistors. Should the live wire be cut, this current will drop below a pre-determined value, resulting in an “ocircuit” alarm.

Should the live wire short against a ground wire, the loop current will rise to a high value, resulting in a “LV short circuit” condition. Three consecutive events are required before an alarm is announced

2.3 Earth loop monitoring

The earth wire for each zone must be wired in a loop. The monitor measures the value of an injected current flowing in this loop. Should this value drop below a pre-set level due to a cut ground wire, a “GND Loop open circuit” alarm is announced.

2.4 Data storage (Log file)

All events, including date and time of an alarm or system problems will be stored in the microprocessor memory. The first-in, first-out memory can store max. 100 events.

2.5 Connections to the BS102 Unit.

- a. Two siren outputs (left zone and right zone). Max. on-time is 3 minutes. (These outputs can also be used to switch the inputs of a security transmitter).
- b. Two strobe light outputs (left and right zone) remain “on” until reset (manual / automatic reset function selectable.)

- c. One Aux. Input, which can be used to monitor the status of a gate.
- d. Mains input voltage can be between 100V and 250V (DC or AC).
- e. RS485 communication port with fused 12V connection for peripherals. (E.g. Cable, F.O. converter, UHF radio).
- f. One common ground connection and two ground wire return connections (left and right).
- g. Two live wire connections (left and right). (The E.O.L. resistor must always be mounted at the end of a live wire). The E.O.L. resistor could also be mounted inside the energizer steel enclosure, provided the end of the live wire is wired back to this enclosure. It is in this case however possible for an intruder to short the live wire to the return wire and bypass the system.

3. THE REMOTE CONTROL UNIT (RCU)

This unit can be used for the BS102 and the BS120 system. The RCU can communicate via a fixed address or via a broadcast address. The “reset” function is available during normal operation.

The display can during normal operation display per energizer and per zone: HT alarm, LV open ckt, LV short ckt, battery low, mains failure, earth loop open, communication failure, HT low (system fault). Display scrolls between different faults.

The User menu is accessible by the user via or without a user PIN code, while the Installer menu should preferably only be accessed by an experienced installer via an installer PIN code.

3.1 User Menu options (with or without password protection).

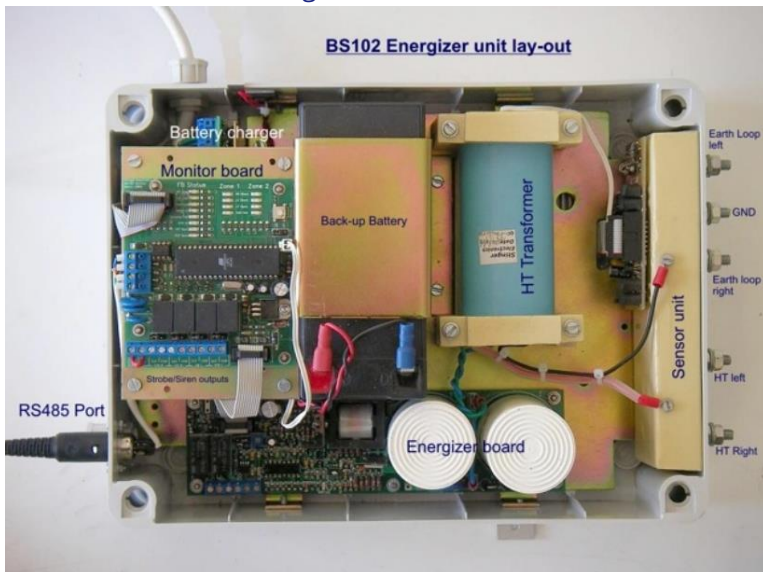
1. Switch the HV on or off for (optional) each individual unit.
2. Switch the display back light permanent on or to automatic on if an alarm occurs.
3. Enable/disable sirens
4. Read Fence voltage per unit.
5. Read event log (Last 100 entries)
6. Save settings.

3.2 Installer menu options (with Password protection)

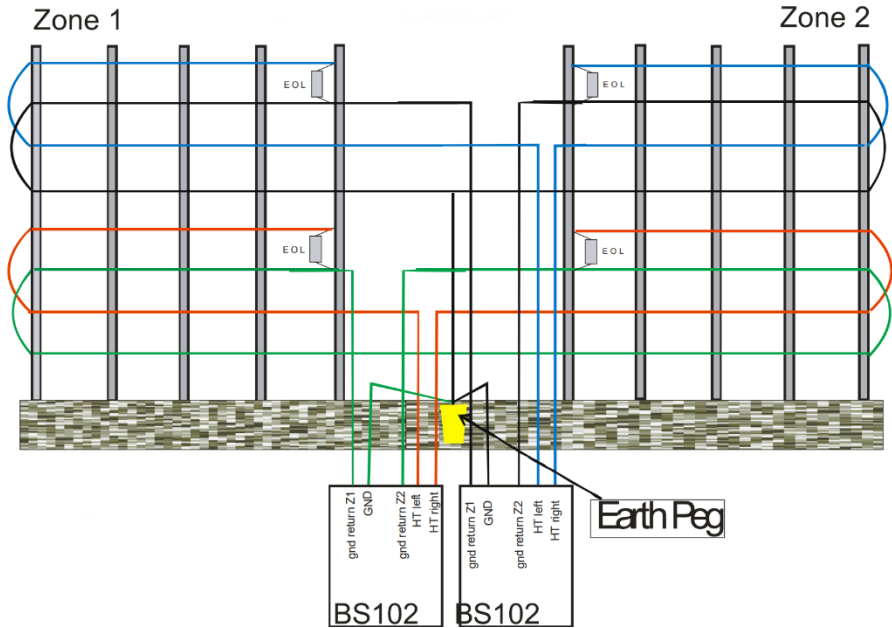
1. Choose language to be used for the display. (English, Dutch, German)
2. Address a BS102 or BS120 via the broadcast address and change the fixed address.
3. Select Master- or Slave mode (in case more than one RCU needs to be implemented.)
4. Enable/ disable Master- or Slave mode.
5. Select the Baud rate for communication with- or without radio.
6. Select synchronized- or not synchronized system.
7. Enter the number of BS102 units to be used in a system (Max. 20).
8. Address a BS102 via the broadcast address and change the fixed address.
9. Set Time and date of the real time clock (RCU clock runs from B/U battery!)
10. Change the password for the installer menu or the user menu.
11. Enable or disable the password for the user-menu.

For the optional BS102/BS120SMS RCU, enter cell phone user details and assign possible alarms to each user.

Fence connections BS102 Energizer



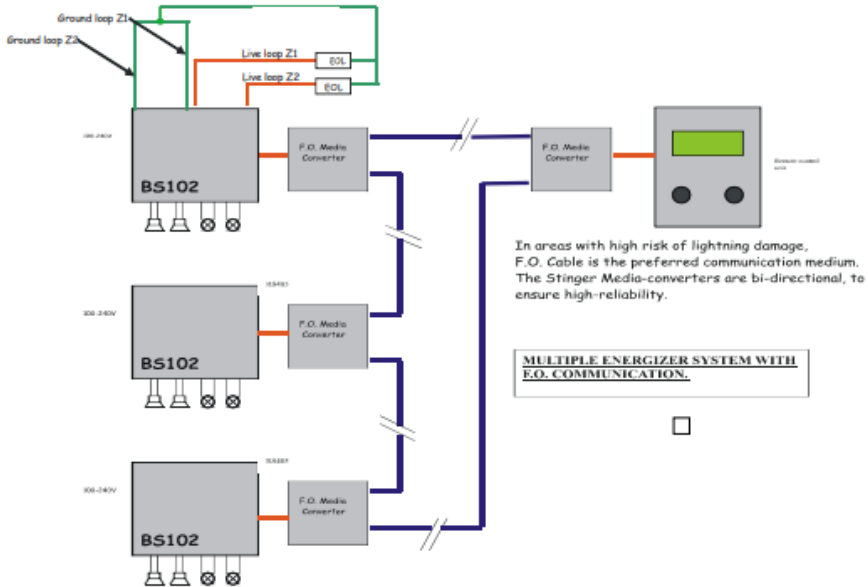
Fence connections for two BS102 Energizers Redundant Configuration



Several earth points can be connected to the earth wire along the fence without interfering with the ground loop protection.

It is advisable to mount the End of Line resistor as high as possible at the end point of a zone, thus minimizing the chance of tampering.

4. COMMUNICATIONS



Communication to master, slave control units, or computer can be only done via copper cable if there is no danger of lightning damage.

In case of operating in a lightning prone area, one must opt for optical fibre or radio communication. Radio communication has however drawbacks, so Optical Fibre communications is the first choice.

The Stinger F.O. media converter has been especially designed to provide a double loop communication system.

5. SPECIFICATIONS

Input Power

Input Voltage	100V-250V AC or 12V DC (Solar Panel)
Power Consumption	15VA
Built-in back-up Battery	7.5 A/H, 12V Gelyte Lead Acid Battery back-up time > 5 Hours.

Energizer module

The energizer has an on-board watchdog circuit, which monitors the max. output energy and the max. pulse repetition rate.

If any one of these potentially lethal conditions would occur, the energizer will be switched off immediately during 1 minute. If the problem thereafter still persists, the cycle will be repeated. A led will indicate the type of problem for easy service.

HV Output (High mode)	RSA	EU
Output Voltage (open)	8250V	6800V
Output Voltage (500 Ohms)	7500V	6000V
Output Voltage (100 Ohms)	6000V	4000V
Output pulse Energy	7.9 J	4.9J
Output pulse length (10% points)	130 μ s	130 μ s
Pulse Repetition Rate	1.3 s	1.3 s
HV Output (Low mode)	30V	
Output	DC 25mA(max load current)	

Max. live wire resistance	1k Ω
Dimensions	340 X240 X 130
Weight	5.9kG

The system complies with the following specifications:

- IEC 60335-1
- IEC 60335-2-76
- IEC 1000-3-2
- IEC 61326-1
- CISPR Pub. 14.
- SABS Test report No. 2330/AE1011