

USER GUIDE



Shearwell SDL150

ISO HDX and FDX-B



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Safety Notice

- ▶ **230 - 240V AC installation should be in accordance with current IEE wiring regulations.**
- ▶ **User is advised to provide suitable protection for the mains supply, such as RCD.**
- ▶ **The SDL 150 should be installed in a location protected from the weather.**
- ▶ **Only use the power cables supplied with the SDL 150 reader.**
- ▶ **Prevent power cables from being a trip hazard in the work area.**
- ▶ **There are no operator serviceable parts inside the SDL 150 reader or the antennae.**
- ▶ **Do not remove the cover or expose the inside of the SDL 150 reader for any reason.**
- ▶ **Do not attempt to repair or replace any part of the reader or antennae.**
- ▶ **Do not allow the SDL 150 reader or cables to stand in water.**

Installation

Electrical requirements:

- ▶ 240 V mains power source or 12V DC power source.

Environmental requirements:

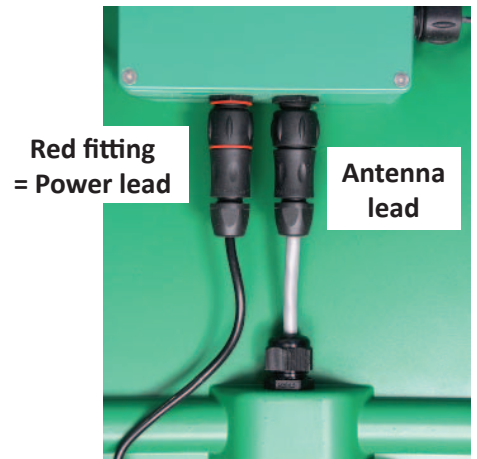
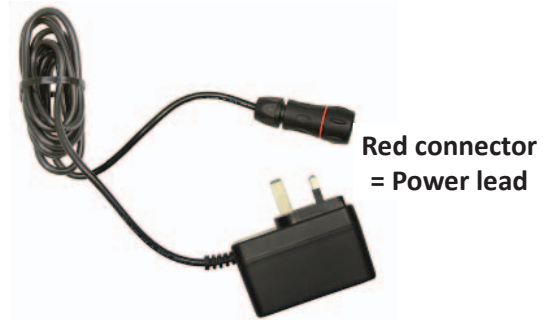
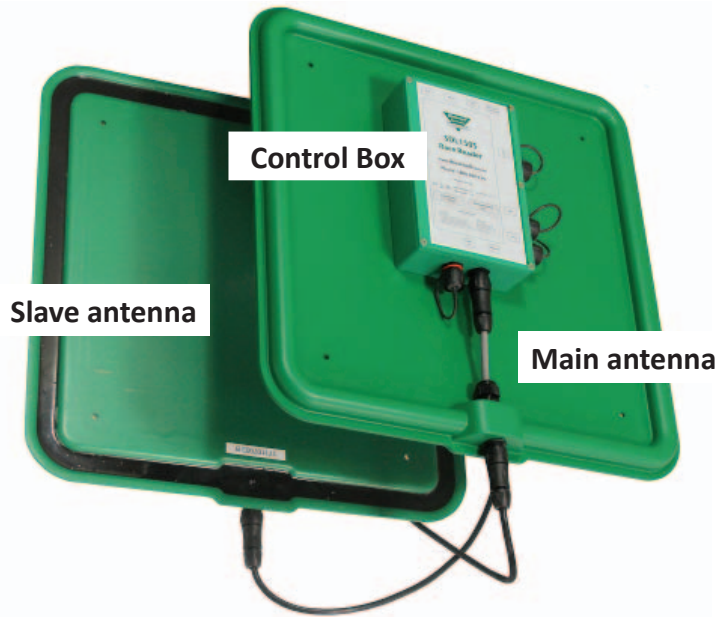
- ▶ Position the SDL 150 in a wooden race for best performance. RFID signals can be reduced if there is too much metal between the ear tag and the reader antennae.
- ▶ The SDL 150 reads the RFID tag of each animal passing through inside the race but it can also pick up the tag numbers of animals standing very close to the outside of the race. Keep animals back at least one meter from the outside of the race to avoid unintentionally reading the wrong tags.
- ▶ Any person working in the vicinity of the SDL 150 should NOT carry EID tags in their pockets to prevent unintentional reading of those tag numbers.
- ▶ The antenna and cables on the outside of the SDL 150 can be damaged by animals chewing or scratching on the equipment. Keep animals well back from the outside of the race.

Installing an SDL 150 race reader

1. Attach the SDL150 to the crate or race using *only* the pre-drilled mounting holes.
2. Attach the slave antenna to the other side of the crate or race.
3. For best tag reading performance:
Sheep - position the antennae 520mm apart; Cattle - position the antennae 720mm apart.
4. Connect the SDL150 and the slave antenna using the supplied cable. The cable should be long enough to run underneath the crate or race without any tension or tight bends. The cable must be protected from moisture, and must not be pinched or stretched.
5. Attach the power cable to the red connector on the underside of the green box and plug the other end into a mains outlet. The red LED will come on. The green LED will flash briefly.
6. Connect the host (laptop/PC/mobile phone/tablet) by Bluetooth to the SDL 150. The blue LED light will come on to indicate a successful Bluetooth connection.
7. The SDL150 can operate on a 12 V supply. A special 12 V lead is supplied by Shearwell Data on request.

Note: Multiple EID readers operating in the same vicinity must be synchronized or they will not perform properly. Contact Shearwell Data Ltd. for more information about synchronizing the SDL150 in a multi-reader situation.

SDL 150 Description



Control box connections



- ▶ **Auxillary LEDs:** To link to an extra light.
 - ▶ **Sync input:** Used to connect multiple SDL150 readers.
 - ▶ **Serial port:** Used to link the SDL150 to a PC. The host computer must conform to the following settings:
 - 19,200 Board
 - 8 data bits
 - 1 stop bit
 - no parity or flow control
- NOTE: *Only use the serial cable supplied by Shearwell.*
- ▶ **Power:** Unit is supplied with a 240V AC plug-top power supply cable to the mains. The other end connects to the port labelled **POWER IN**. This supply provides 12 V AC to the SDL150. If you want to drive the unit from a 12 V DC supply (e.g. battery) please contact Shearwell Data for a suitable cable.
 - ▶ **Antenna:** Cable connects to the main antenna.



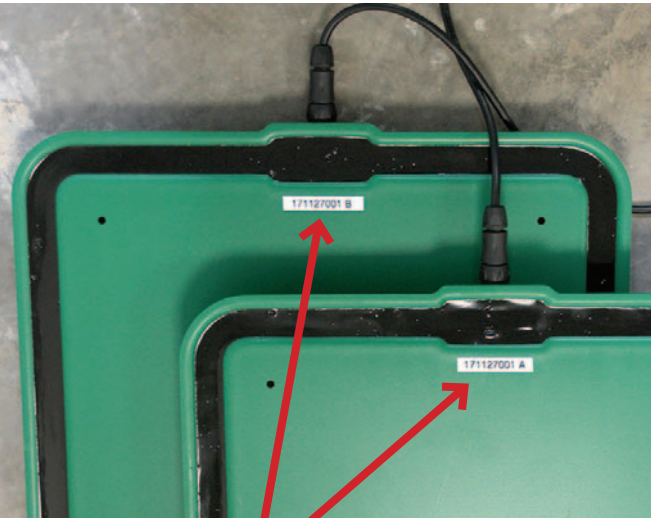
Control box lights

- Dual = Red light when slave antenna is connected.
- Read = Green light for a successful tag read.
- Power on = Red light
- Bluetooth connection = Blue light

The control box has a built-in Bluetooth module. The Bluetooth antenna is visible on the side. The serial number and Bluetooth number are printed on the control box.

Labels

SDL150 Main label



A set of antennae have paired serial numbers - ex. 123A and 123B



SDL150S - Model number on slave antenna



SDL150L - Model number on slave antenna

Technical Specifications

SDL 150

Input voltage to SDL 150	12 V AC from supplied mains adapter or 12V DC from battery.
Input voltage to plug-top power supply	230-240 V AC
Input frequency	50 Hz
Interface	Full duplex RS232 @ 19,200 baud
Scan frequency	134.2KHz
Transponder	ISO Transponder
Auto-tune	Automatic at switch on
Read Indication	LED and customer connection
Dimensions (height x width)	SDL150S: 52 cm x 53 cm SDL150L: 52 cm x 98 cm
Weight	SDL150S (pair): 6.8 Kg SDL150L(pair): 10.45 Kg
Operating Temperature	-5C to 60C
Bluetooth	Class 1 (up to 100 meters)

Host requirements

The SDL 150 output format must be configured correctly to meet the requirements of the host. The default data output format is set to Hexidecimal Raw data which contains the information stored on the EID device. On request Shearwell Data can supply the configuration information required to change the output format to any of the following.

- Hexidecimal: All information stored on the microchip. This includes the re tag counter, species identifier and three reserved digits.
- Decimal : Full 16 digits EID device number in decimal format. An example of this is 0940123456789012.
- ISO Decimal: EID device number is sent in decimal minus the first 0 of the country code and with a space between the country code and the remaining twelve digits. An example of this would be 940 123456789012.
- Full ISO: EID device number is sent in a fully ISO compliant format which contains the 6 ISO standard digits, (re tag counter, species identifier and three reserved digits) and 15 digit device number. An example of this would be 1004000940123456789012.
- WYSIWYG: EID device with country code 0826i are sent as 'UK' followed by 7 digit flock number, followed by a space and the individual 5 digit animal number. An example of this would be UK0123456 12345.

If the EID read is not a UK EID the device number will be displayed in decimal.

Upon switch-on the reader sends a report down the RS232 line. The report indicates the Software Revision and the Tuning Variable. A typical report will be as follows: A = 1 - F

Caution

This equipment has been designed, constructed and tested for compliance with FCC rules that regulate intentional and unintentional radiators. The user is not permitted to make any modifications to this equipment or use it in any manner inconsistent with the methods described in this manual without the express approval from Shearwell Data Ltd. Doing so will void the user's authority to operate this equipment.

