

## SenNet DL 150 / 151

### General features

- DL 150** → RS485 / RS232 (console TTL levels)  
2GB internal storage memory / external micro-SD.
- DL151** → All the general features of DL150 + 9 single phase electricity meter or three 3-phase meters. Either for CT (0.33Vac) or Rogowski coils.

### Warnings

Please, read carefully the technical specifications and the recommendations before connecting the device. This is a precision electronic device; do not install it near heat/cold sources, radiating sources, corrosive environments or explosive atmospheres that may damage the device. For security reasons, the cover of the equipment has to be grounded, preferably through DIN rail.

|                             |              |
|-----------------------------|--------------|
| Operating temperature range | -20°C..+60°C |
| Storage temperature range   | -30°C..+85°C |

### Warranty

Any internal modification of the device or the seal will void the warranty.

### Access to the management platform

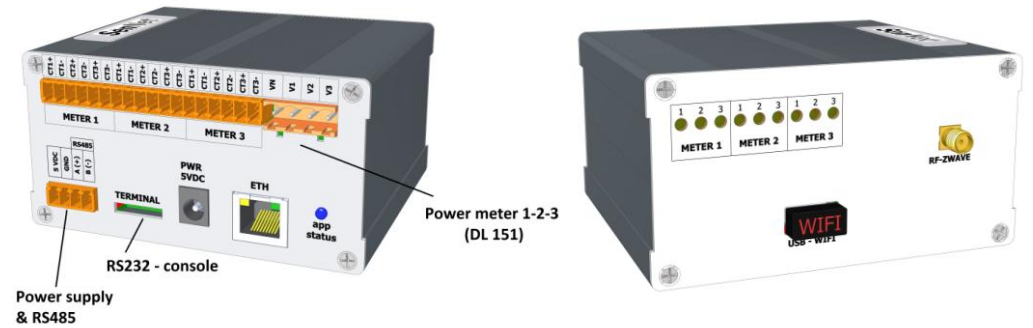
Access to the web server: <http://192.168.1.35:8080>  
 User: *admin* Password: *owasat*

Embedded management platform (**All-in-One**) <http://192.168.1.35:8000>  
 User: *Administrador* Password: *sennet85*

Management platform for the **Z-Wave** network <http://192.168.1.35:8083>  
 User: *admin* Password: *sennet*

### Antennas

The GSM/GPRS and RF antennas should be installed following the ESD protections to prevent damage to the device. Both connectors are SMA-male. See the figure to identify which connector corresponds to each antenna.



### Connexion

The device can be powered with a battery or with a stabilized power source. For greater safety it is recommended to use a 2A fuse in the power supply line.

### Description of the common terminals for models DL150 - 151

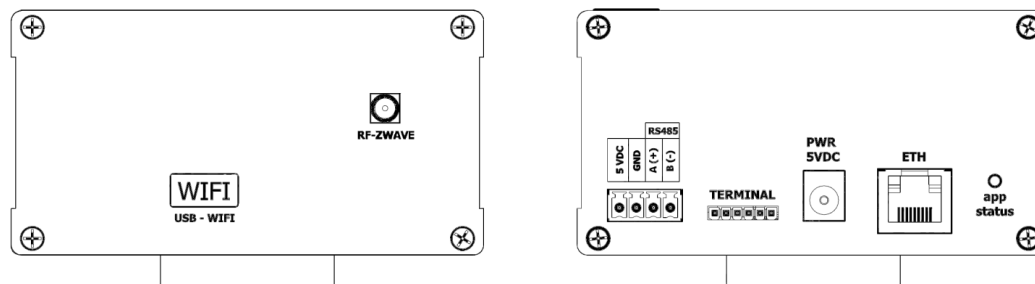
(See in the figure where the terminals for power supply & RS485 are located)

| Terminals |   | Descripción   |
|-----------|---|---|
| 1         | + | Power supply 5 Vdc!<br>(it is recommended the use of a 2A fuse in the line) |
| 2         | - |   |
| 3         | A | RS485 port  |
| 4         | B |   |

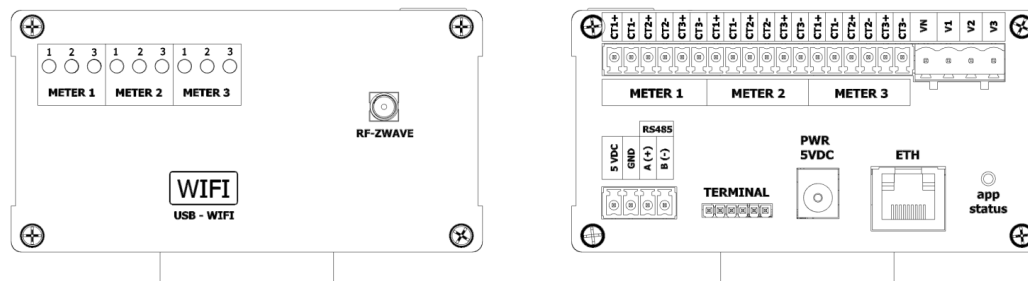
### USB - WiFi

The USB - WiFi may be used only with devices provided by Satel Spain.

**DL 150**



**DL 151** 3 internal 3-phase meters or 9 single-phase



| Features                                       |   |   |
|--|---|---|
| <b>Power supply</b>                            | <b>5Vdc</b>   | Powered through jack DC or through connector.   |
| <b>Conectivity</b>                             | Ethernet  | WiFi (USB port) HDMI (optional)   |
| <b>Communications</b>                          | RS485   | RS232 Terminal (levels TTL)   |
| <b>SO / processor</b>                          | Linux 3.8.13  | ARM® Cortex®-A8-based core (300MHz to 1GHz)   |
| <b>RAM memory</b>                              | 512MB   |   |
| <b>eMMC memory (SO)</b>                        | 2GB / 4GB   |   |
| <b>Internal memory expansion (internal-SD)</b> | 4GB (optional)  | Necessary for the embedded platform All-In-One  |
| <b>Battery</b>                                 | Internal backup battery (45 min. approx.)                           |   |
| <b>RTC</b>                                     | Real Time Clock   |   |
| <b>RF</b>                                      | SenNet RF 868MHz (optional)   | Zwave® (optional)   |
| <b>Internal energy meters DL151 (x3)</b>       | Current metering. Compatible with CT 0,33Vac or with Rogowski coils | Energy (reactive – active –apparent)<br>Power (reactive – active –apparent)<br>Power Factor<br>Current (intensity)<br>Voltage (electric tension)<br>Frequency |
|  | 3-phase voltage metering  |   |

### Terminals of the energy meters ( DL151 )

|       |                                   |            |            |            |            |            |                                   |            |            |             |             |             |                                   |             |             |             |             |             |                                      |            |            |            |
|-------|-----------------------------------|------------|------------|------------|------------|------------|-----------------------------------|------------|------------|-------------|-------------|-------------|-----------------------------------|-------------|-------------|-------------|-------------|-------------|--------------------------------------|------------|------------|------------|
| DL151 | Intensity reference level Meter 1 |            |            |            |            |            | Intensity reference level Meter 2 |            |            |             |             |             | Intensity reference level Meter 3 |             |             |             |             |             | Voltage reference level meters 1-2-3 |            |            |            |
|       | (1)<br>I1+                        | (2)<br>I1- | (3)<br>I2+ | (4)<br>I2- | (5)<br>I3+ | (6)<br>I3- | (7)<br>I1+                        | (8)<br>I1- | (9)<br>I2+ | (10)<br>I2- | (11)<br>I3+ | (12)<br>I3- | (13)<br>I1+                       | (14)<br>I1- | (15)<br>I2+ | (16)<br>I2- | (17)<br>I3+ | (18)<br>I3- | (19)<br>Vn                           | (20)<br>V1 | (21)<br>V2 | (22)<br>V3 |

### Connexion of the electricity meters. SenNet DL151

The device has 3 electricity meters, which can be configured as:

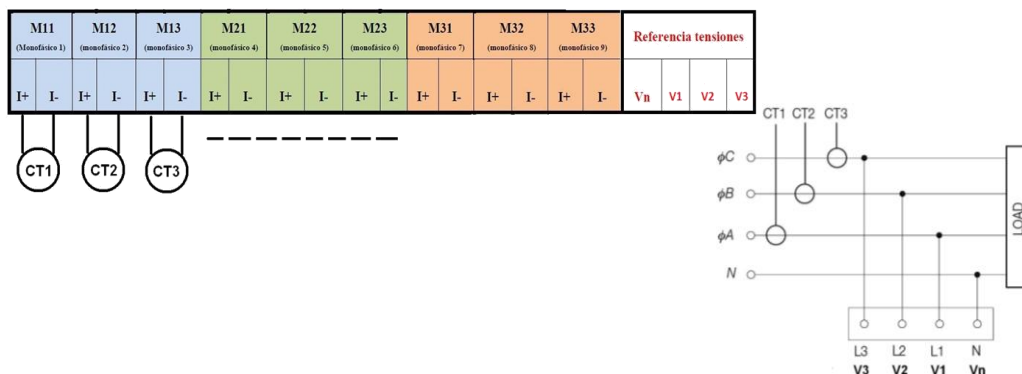
- 3 three-phase meters
- 9 single-phase meters
- Combination of three-phase and single-phase meters

The device needs to be connected to a reference level of voltage and intensity of each load. For this purpose, the terminals located in the upper part of the datalogger are used.

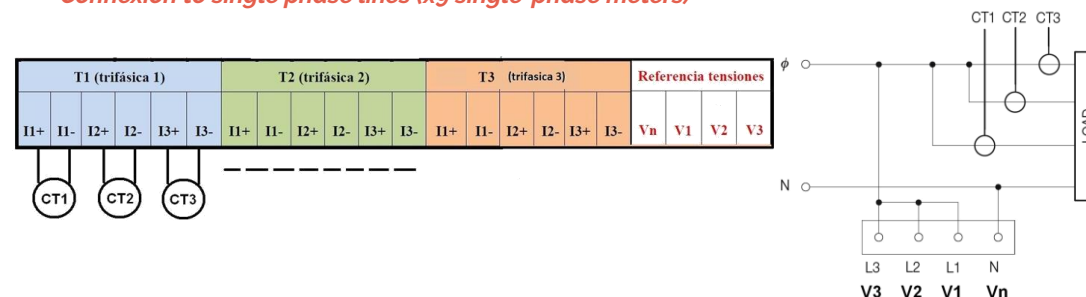
- Intensity reference level (terminals 1-18): CT (0,33Vac) or Rogowski coils can be used. (Rogowski coils need factory setting).
- Voltage reference level (terminals 19-22): connexion to the phase with electrical protection taking into account the right order of the phases.
- In case you CT SenNet (0,33Vac) are used, take into account that the label has to be oriented in the direction of the load, and the black cable has to be connected to 'I-' and the white one to 'I+'.

**WARNING:** Use a cable with a maximal cross section of 1,5 mm<sup>2</sup> for CT and 2,5 mm<sup>2</sup> for the intensity reference terminals

### Connexion to 3-phase lines (x3 three-phase meters)



### Connexion to single phase lines (x9 single-phase meters)



### Combination of three-phase and single phase lines

Taking into account the intensity reference levels of each meter, it is possible to meter both single-phase and three-phase loads. For instance:

