

## SMARTPROBE 2 - SP2X

Level Sensor for Pellets, Biomass, Granulars - Single Point Switch



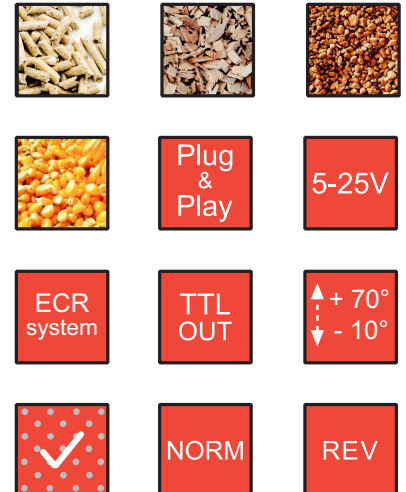
SmartProbe 2 comes from the experience with SmartProbe GR15SL, sold since 2005 in tens of thousands of units in Italy and abroad and appreciated for its performance, reliability and durability.

SmartProbe 2 has been designed and developed from scratch for applications on biomass stoves/ boilers; it detects all types of material, it is insensitive to dust and heat, easy mountable and it can be connected to all electronic cards currently on the market via standard interface.

SmartProbe 2 is very efficient: a unique plug configuration 5-25V, with standard output signal TTL (0-5V).

SmartProbe 2 integrates the innovative **ECR system** (Easy to Change or Reverse), which allows anyone (even the end user) to execute the substitution of the sensor in case of failure through simple and safe operations, without the on site intervention of a technician.

SmartProbe 2 is optionally available in 3.3V or open collector output configuration.



### TECHNICAL SPECIFICATIONS

|                           |                       |   |   |  |
|---------------------------|-----------------------|---|---|--|
| Voltage Supply (V)        |                       | 5 - 25  | Operating Temperature (°C)                  | -10 / +70  |
| ST-BY Current Supply (mA) |                       | < 20  | Protection                                  | ESD  |
| Output                    | Signal (V)            | 0/5 - On/Off (TTL)<br>High level $\geq 4,7$ V ( $V_{in} = 5V$ ) | Immunity to variations on Power Supply (db) | > 55   |
|                           | Max Current Load (mA) | 200   | Sensing Materials                           | Pellet, Wood Chips, Nocciolino, other biomasses, Granulars |
|                           | Type of Operation     | Normal / Reverse<br>(table on next page)                        |   |  |
| Response Time (sec)       |                       | 0,5   | Cable lenght (cm)                           | 100<br>(L max = 150 cm)                                    |
| Sensitivity               |                       | Pre tuned<br>Tuning not required (Plug and Play)                | L x W (mm)                                  | 42 x 45  |
| Material                  |                       | Polycarbonate   | D (mm)                                      | 17,5 (9.5 mm body + 8.0 mm threaded pin)                   |

OPTIONAL:

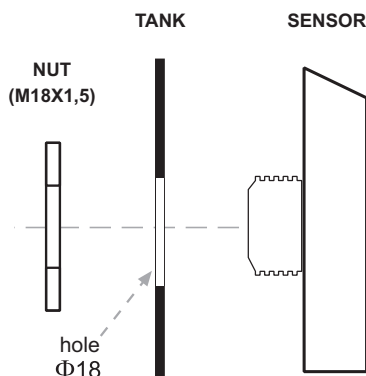
- Voltage supply 3,3 V
- Output Open Collector 30 V / max 200 mA

**SMARTPROBE 2 is a Syrion Technologies patent**

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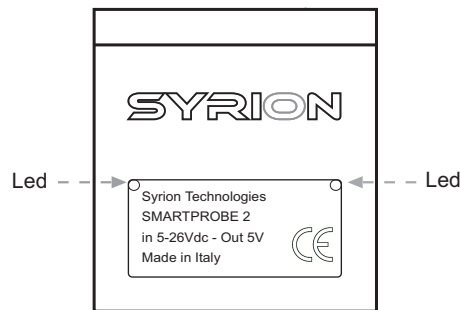
## Level Sensor for Pellets, Biomass, Granulars - Single Point Switch

### MOUNTING



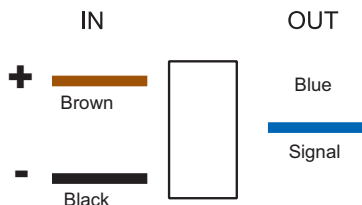
Side view with tank section

Recommended installation position



Front view

### CONNECTIONS



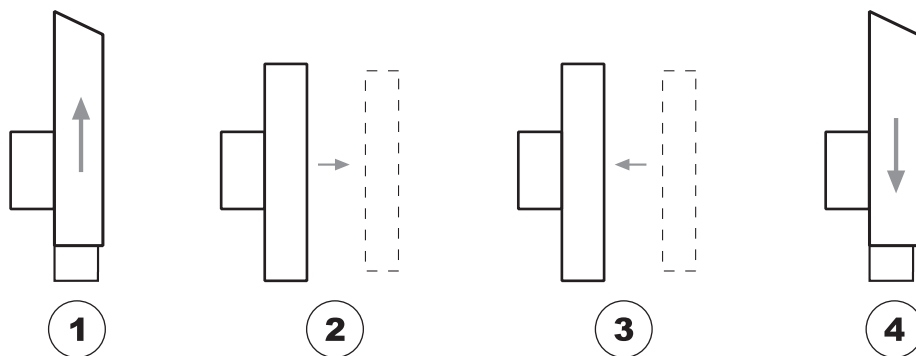
### TYPE OF OPERATION

The sensor has the ability to run in NORMAL mode or REVERSED, according to the table below:

| Type of Operation | Biomass | Front Led         | Signal on blue cable |
|-------------------|---------|-------------------|----------------------|
| NORMAL            | Present | OFF               | Low (+0 V)           |
|                   | Absent  | ON (on the left)  | High (+5 V)          |
| REVERSED          | Present | ON (on the right) | High (+5 V)          |
|                   | Absent  | OFF               | Low (+0 V)           |

### ECR System

Thanks to ECR system (Easy to Change and Reverse) it is possible to act directly on the device to replace the internal circuit in case of failure, without dismantling the stove/boiler and without any aid from a technician. All in four easy steps:



1. Remove the cover;
2. Pull out the circuit;
3. Align the circuit as desired - figs. 1 and 2 - and insert it again;
4. Slide the cover.

### ALIGNMENT OF INTERNAL CIRCUIT ACCORDING TO DESIRED OPERATIONAL MODE

Fig. 1 - Operation NORMAL

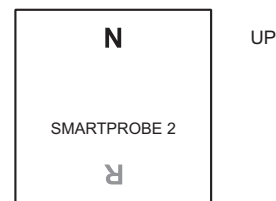
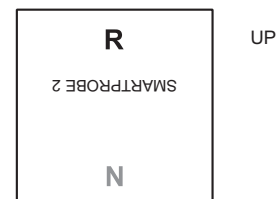


Fig. 2 - Operation REVERSED



CE RoHs