

## Technology Offer

### Pressure switch with capacitive transmitter

#### Summary

*A Romanian company has developed a special product which can be used in the automation of agricultural greenhouses to control air pressure between the roof sheets. The pressure switch is based on a capacitive transmitter that allows it to control pressure down to 2-5 mbar. The Romanian company is seeking for industrial partners to exploit the patent applied for product (license agreement) and to manufacture the pressure switch on large scale.*

<b>Creation Date</b>	21 May 2015
<b>Last Update</b>	02 July 2015
<b>Expiration Date</b>	05 July 2016
<b>Reference</b>	TORO20150521002

#### Details

##### Description

The pressure switch with capacitive transmitter element, based on a capacitive type sensor mounted between two circular metal plates, is placed face to face on a textolit support (where one of the wirings is fixed and grounded) and the second reinforcement can move parallel to the first under the action of an elastic membrane, made of thin rubber, ensuring the transformation of the area into a small piston, so that the force that pushes the mobile armature is proportional to pressure, thus obtaining a condenser that has a capacitance that is inversely proportional with the measured pressure.

The device was tested in laboratory conditions at a Romanian research institute and on field, as agricultural greenhouse automation equipment. The pressure switch with capacitive transmitter represents the subject of a Romanian patent due to be granted.

The partner sought is an SME willing to exploit the patent applied for product (license agreement) and to manufacture the pressure switch on large scale.

##### Advantages and Innovations

- sensitive to small pressure variations of 2-5 mbar;
- direct control without intermediate deck for equipments that compensate up to 1kW pressure;
- the device supply is made directly with 220V, without intermediate circuits (adapters, transformers, switching sources);
- simple and easy to manufacture. The support element for the construction of the pressure switch can be the the wiring, so that the device may be incorporated in a complex automation product;
- low production costs and technological needs;

The pressure switch is designed for use in industrial automation as part of a low air pressure control in 2.5 mBar.

##### Stage of Development

Field tested/evaluated

## IPR Status

Patent(s) applied for but not yet granted

## Comment Regarding IPR status

Patent applied for at the State Office for Inventions and Trademarks. IP protection at national level - Romania.

---

## Keywords

### Technology

09001009      Sensor Technology related to measurements  
09003          Electronic measurement systems

### Market

03004002      Components testing equipment  
08002002      Industrial measurement and sensing equipment  
08002003      Process control equipment and systems  
08003007      Other industrial equipment and machinery  
09005          Agriculture, Forestry, Fishing, Animal Husbandry & Related Products

### NACE

M.72.1.9      Other research and experimental development on natural sciences and engineering

---

## Network Contact

### Issuing Partner

NATIONAL INSTITUTE OF RESEARCH AND DEVELOPMENT FOR OPTOELECTRONICS

### Contact Person

Laura-Cristina Luca

### Phone Number

0040-264-420590

### Email

laura.luca@icia.ro

---

**Open for EOI :**    **Yes**

## Dissemination

---

### Send to Sector Group

Agrofood

---

## Client

---

### Type and Size of Organisation Behind the Profile

Industry SME 11-49

### Year Established

0

### Already Engaged in Trans-National Cooperation

No.

### Languages Spoken

English

### Client Country

Romania

---

## Partner Sought

---

### Type and Role of Partner Sought

- Type of partner sought: SME
- Specific area of activity of the partner: electronics
- Task to be performed by the partner sought:
  - the licensee will manufacture (assemble & engineer) the product, with technical consultancy offered by the Romanian company.

### Type and Size of Partner Sought

SME 11-50,SME <10,SME 51-250

### Type of Partnership Considered

License agreement  
Commercial agreement with technical assistance