Programmable optical sensor N870
*Image Flux Sensor - IFX-S08 (Patent Pending)*

**Application:**
Used for the automatic control of the air-oil mixture in spray systems, jet lubrication and tool minimal quantity lubrication equipments.

- **Electronic monitoring**
- **Visual control through LED**
- **High precision**
- **Quick reaction time**
- **Programming through external controller or PC software**
- **Easy installation and compact block**

**Function:**
The sensor *IFX-S08* let the instantaneous detection of lubricant spray/jet. It is supplied as a programmed device according to order specifications.

The sensor is equipped with a light emitting diode (1) which projects a beam on an electronic receiver. Any image variation in the moving air-oil mixture under control is detected and monitored according to a patented and advanced technology.

The lubricant flow causes the green LED (2) to flash. In case of a system block or lack of lubricant, an alarm output is provided and red LED (3) goes on.

The sensor must be positioned and fixed in front of the spray nozzle as represented in the fig. 2. The check value is selected before delivery and remains fixed, adjustments of the pre-set value are possible with an external controller or a suitable PC software which are available as accessories.

**Technical data:**
- **Min. delivery volume:** abt. 10 mm/stroke
- **Programmable alarm output:** N.O. or N.C.
- **Connection:** M8x1 4 poles
- **Power supply voltage:** 12÷24 VDC ±20%
- **Max. absorption:** 30 mA
- **Connection:** standard PNP
  - NPN on demand
- **Installation:** any
- **Operating temperature:** 10 ÷ +60 °C
- **Materials: housing:** PA66 antistatic
- **Protection class:** IP 67
- **tropicalized electronics and optics PA 12 oil resistant**
- **EMV EN 61000-4-2 ESD** 4 kV CD/ 8 kV AD
  - EN 61000-4-3 HF irradiation 10V/m
  - EN 61000-4-4 explosion ±1-2 kV/m
  - EN 61000-4-5 overcurrent/voltage ±1-2 kV/m
  - EN 61000-4-6 HF conductivity 3V
**Electric connections:**
Connect the oil streak sensors according to the connection scheme beside.

**Attention: always attach the entrance (-3) to earth (GND).**

**Function of LEDs:**
The sensors have two signaling lights (green LED, red LED), whose meaning is described in the side table.
Sensors are equipped with a “Touch Light” button which allows the automatic numbering of the sensors; in that case the programming unit SMART IFX is needed (see Accessories page 3).

**Example of application:**
In the picture at the right side:
Coupling support to fix an optical sensor IFX-S08.

Thanks to the support, you can correctly collocate the sensor with respect to the oil jet you have to control and the sensor will be firmly fixed.
(see Accessories page 3).

With IFX sensors you can stop the running machine immediately and therefore starting up the control system, solenoid valves and other devices.
Order coding:

*Fluid Sensor IFX-S08*

<table>
<thead>
<tr>
<th>STOP output</th>
<th>Reaction time sec</th>
<th>Electric connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>① NC</td>
<td>① 1</td>
<td>① PNP</td>
</tr>
<tr>
<td>② NO</td>
<td>② 5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>③ 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>④ 20</td>
<td></td>
</tr>
</tbody>
</table>

Standard type: N87/1/2/1

Further versions are available by request.

Accessories (to be ordered separately):

- Connection cable to CN standard with connector male straight 4 poles (3 conn.) M8 female 4 poles (3 conn.) M8 with cable 3 m Pur N860062
- Connection cable to CN with connector straight 4 poles female M8 with cable 3 m loose end N860060
- Coupling support Fig. 6 N873101
- To mount the sensor linked to an injector
- Controlling and programming software PC LINK Flux Fig. 7 N860170
- External tool for controlling and programming SMART IFX 24VDC Fig.8 N860190
- Delivery cable for SMART 2000 mm FE10/200 N860080
- 5000 mm.FE 10/500 N860090

Order example:
Optical sensor for spray nozzle/sprayer, with stop output normally closed (open in case of fault), reaction time 5 sec and PNP connection

Order designation:
*Fluid Sensor IFX Code N87/1/2/1*

Supply conditions:
Before the delivery the sensors are tested and set according to order specifications. Each device is packed with its test report. The registration number and the installed software version are indicated for each sensor.
Accessories for electrical connections: Code (to be ordered separately)

Connection cable for optical sensor IFX N860075
M8x1 fem. 4 p./M12x1 mal. 4 p.
PVC L=500mm

Y-connection Cable N860072
for optical sensors IFX
M8x2 fem. 4 p. (3 conn.) / M12x1 mal. 5 p.
PVC L=500mm

Distribution box 8 inlets N860048
M12x1 fem. 4 poles
straight connector M23 mal. 19 poles

Shielded cable L= 1 m N860200
straight connector M23 fem. 19 pole
PUR cable (UL 300V) loose end