

Fig. 1

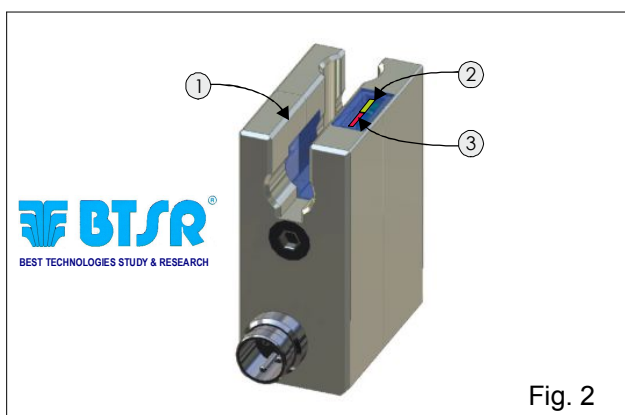


Fig. 2

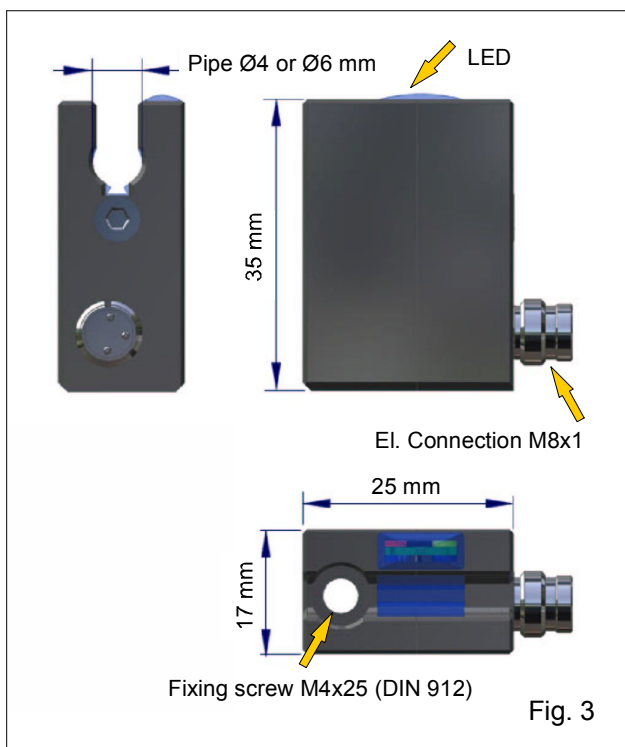


Fig. 3

### Oil streak sensor Series N860

Programmable optical sensor version 10.0 S 4.1

**Image Fluid Sensor IFX -C04 -C06 (Patent Pending)**

#### Application:

Used for the automatic control of oil flow in air+oil lubrication systems.

Suitable for installation on transparent pipes.

- **Electronic optical monitoring of air+oil mixture.**
- **Detection of image variation .**
- **Optical indicator through LED.**
- **High checking precision, quick reaction time.**
- **Easy installation on different flexible transparent pipes.**
- **Suitable for pipe Ø 4 and Ø 6 mm.**
- **Change of the internal program on demand.**

#### Function:

The streak sensor *IFX*, directly installed on the air+oil transparent pipe, detects the continuity of the oil flow in OL lubrication systems. The sensor is equipped with a light emitting diode, which projects a beam on an electronic receiver with electronic smart card.

Any image variation of the flowing air+oil mixture is detected and processed according to a patented and advanced technology. The pre-set value, which refers to the normal standard flow, determines the lighting of a green LED. The possible flow interruption or the lack of lubricant can cause a fault message that is optically indicated by a red LED.

#### Technical data:

Min. Delivery volume with pipe ø4 :

Continuous flow: 40 mm<sup>3</sup>/h

Intermittent flow, max 10 mm from the mixer: 10 mm<sup>3</sup>/h

El. connection: M 8x1, 4 poles

Power supply voltage: 12-24 V DC ±20%

Max. absorption: 30 mA

Output connection: PNP

Output-Signal: NC (standard) or NO

Protection class (according to EN 60529): IP 67

Installation: any

Operating temperature: +10 ÷ +60 °C

Materials:

Body: Al

Tropicalized electronics and optics: PA 12 oil resistant

EMV EN 61000-4-2ESD 4 kV CD/ 8 kV AD

EN 61000-4-3 HF radiated 10V/m

EN 61000-4-4 Burst ± 1-2 kV/m

EN 61000-4-5 Surge ± 1-2 kV/m

EN 61000-4-6 HF conducted 3V

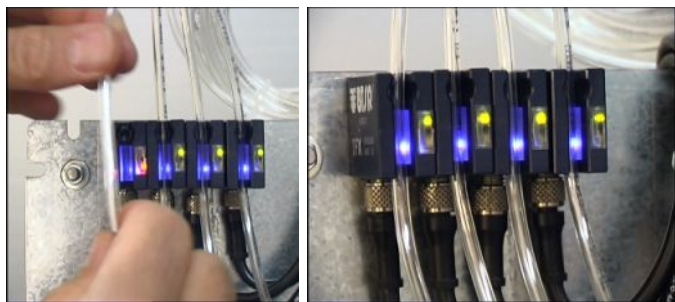


Fig. 4

#### Assembly:

Oil streak sensors can be installed in rows.

The transparent pipe must be inserted as represented in the picture and then the protection cap has to be mounted on (Fig. 1). After having started up the sensors and while they are working it is possible to check the red and green LED (Fig. 4). The sensor should be mounted so that LEDs are easily visible.

#### Electric connections:

Connect the oil streak sensors according to the connection scheme beside.

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

#### Function of the LEDs:

The streak sensors are equipped with two LEDs (green and red), whose function is described in the beside table.

The streak sensors emits a blue light which make easier the optical checking.

The starting value is set from the factory. Different values of the internal parameters can also be set with an external device.

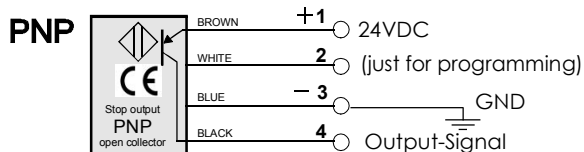
Changes of the internal parameters can be made with of an external controller or by a specific software.

The programmable controller SMART/IFX and the software PC Link Flux are available as accessories to change and check the internal parameters (see Accessories).

The IFX sensors makes possible the immediate stopping of the machines and the activation of testing devices such as solenoid valves, or other devices.

The "Touch Light" button makes possible operating on the sensors. It is possible to identify sensors, in order to control the program uploaded on them. In this case you need the Smart IFX or the PC Link Flux software.

#### Connection scheme



Sensor condition	LED		Output-Signals (4)	
	Green	Red	NO	NC
Normal operation	AN	AUS	Open	+ 24 V
Fault signal	AUS	AN	+ 24 V	Open

Fig. 5

	Green LED on	Normal operation: lubricant is flowing inside the system No error message detected by the sensor.
	Green and red LED on	During normal operation the sensor seized a provisional error message.
	Red LED on	Error message after the response time (see part coding): Permanent fault signal

IFX 04 on pipe Ø 4 mm



Fig. 6



Connection cable to CN

Fig. 7



Cap and fixing screw

Fig. 8



SMART IFX controller 24VDC

Fig. 9



PC LINK FLUX Software

Fig. 10



Connection cable to SMART

Fig. 11



Doubler cable

Fig. 12

**Accessories:** (to be ordered separately)

Connection cable to CN standard with  
connector straight 4 poles (3 connected)  
M8 with cable 3 m Pur N860062

Connection cable to CN with connector straight  
4 poles M8 with cable 3 m N860060

Closing cap N860061

PC LINK Flux SoftWare N860170

Controller SMART IFX 24VDC N860190

Cable for SMART  
2000 mm FE 10/200 N860080  
5000 mm FE 10/500 N860090

Connection cable SMART  
IFX100 FEC N860100

Doubler cable (connection  
of 2 sensors) MA2FE N860101

**Order-designation:**

**Oil streak Sensor - Fluid Sensor IFX**

N86			
Pipe diameter	Programming features		Electric. Connection
	STOP output	Reaction time sec.	
① Ø 4	① NC	① 1	① PNP
		② 5	
② Ø 6	② NO	③ 10	
		④ 30	

Standard: N86/1/1/2/1  
N86/2/1/2/1

Further versions are available by request

**Order example:**

Optical sensor for pipe Ø 4 mm, with Stop output normally closed (NC).  
Reaction time 5 sec., PNP connection.

**Order designation:**

**Fluid Sensor IFX Part No. N86/1/1/2/1**

**Supply conditions:**

Before the delivery the sensors are tested and programmed. Each sensor is packed with ist test report. The registration number and the installed software version are indicated for each sensor.